Sources of influence in climate change policymaking:

A comparative analysis of Norway, Germany, and the United States

by

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Dr. Polit thesis submitted to
The Department of Political Science, University of Oslo,
June 2003
Preface

The work with this thesis started as a result of my employment at CICERO (Center for International Climate and Environmental Research – Oslo), and the interest this spurred for the climate change issue. Understanding why countries make widely different climate policy choices has been the driving force behind this study. Many people have helped over the years it took to write the thesis, and deserve warm thanks.

Arild Underdal, my advisor at the University of Oslo, both inspired and challenged me. I am indebted to him for his guidance and support as my research developed, and for his insightful comments that helped me finish it.

CICERO has given me generous support in terms of flexibility, funds, and a professional environment to work in. Thanks to my colleagues for cooperation and assistance, and in particular to Camilla Bretteville for her collaboration and friendship! Lynn A. P. Nygaard, Jon Hovi, Asbjørn Torvanger, Kjell Arne Hagen, Guro Aandahl, Frode Rørvik and Jane Elin Brattland for helpful comments, discussions, and technical support. I am also grateful to Fredric Menz, visiting scholar to CICERO from Clakson College in New York, for his useful comments. Tora Skodvin at the Department of Political Science, University of Oslo has been very helpful for discussions, comments and encouragement.

Marvin Soroos’ advice and support during my research visit to North Carolina State University in 2000 is very much appreciated, and made my year there a vital part of my doctoral education. Thanks also to Roland Stephen and Holly Brewer for their Southern hospitality and friendship!

I thank the many officials, managers and civil servants who took time out of their busy schedules to speak with me, often at length (see Appendix). Their thoughtful insights helped me understand so much more of the complex policymaking processes in Norway, Germany, and the United States. The funding for this project was provided by the SAMRAM research program in the Research Council of Norway, project number 117011/730, the Norway-America Association’s “The Thanks to Scandinavia Cash Award,” and the Lise and Arnfinn Hejes Fund.

I would not have finished this project in a timely fashion without the enthusiasm and support of my family and friends. Thanks to my parents, Brit and Olav Bang. They
have been sources of inspiration for all their social and political engagement, and have always been willing to step in when the time-pressure was high. My husband’s parents, Else and Dagfinn Søfting, have also been of great help. A special thanks to Trine Bang, Jonas Alexander Bang, Gunn Helen Søfting, Kåre Nitter Rugesæther, Ruth Høyland and Knut Jønsrud, Iren Reppen and Hallvard Holmen, Marit Steen and Svein Arild Mevold, Tone Lise Brattbakk, Rune Grønvik and Jan Frode Aanes!

Most of all, however, this thesis has been realized as a result of the unconditional encouragement from my husband Finn Ove Søfting, and our two children, Frida and Sigurd. The thesis is dedicated to them.
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1. INTRODUCTION

In the formation of climate change policy, how can we explain the considerations policymakers take into account and the decisions they reach? Why do some countries adopt a more proactive climate change policy stance than others? If we are to understand how and why politicians meet the challenges that climate change poses, it is important to understand the political mechanisms and social processes that influence the policymaking process.

To highlight these processes and policy outcomes in a real-world context, this study adopts a comparative approach. Specifically, it focuses on differences in the climate change policymaking process in Norway, Germany, and the United States, as well as on the differences in degree of proactive climate change policy choice. As such, the analysis takes place at two levels. First, I focus on identifying potential differences in the policymaking process in the three countries, i.e. the process incorporating elaboration and assessments of how to address the climate change problem. Second, I focus on whether these differences were important for the level of proactiveness in climate change policy, i.e. the calculation of a particular policy outcome. The benefit added by separating the analysis of the policymaking process from the policy outcome analysis is that a more focused study of each element is allowed for. The potential differences in the three countries’ policymaking processes can be thoroughly discussed and compared, and function as reasoning for why they selected a particular policy approach to address climate change.

The reason why I have chosen to compare these elements in Norway, Germany, and the United States is that all three are rich, industrialized countries facing similar impacts from climate changes for future generations. They have all been active participants in the climate change negotiations, and have contributed with ideas and approaches for how to address the climate change problem. This suggests there might be some degree of similarity in their respective policy choices. The paths they have chosen, however, are remarkably different. Sources of explanation might be that these countries have different political systems, energy endowments, economic interests, institutional structures, and cultures. The general conception is that Germany is the most proactive of
the three, having both implemented a domestic policy program where emission reductions have been achieved, and had an active role in pushing the international negotiations towards strong emission reduction commitments. Likewise, Norway is generally conceived of as an active pusher for an international treaty, although it has been reluctant to push for equally strong emission reduction commitments as Germany. Domestically, Norway has implemented climate policies that are only partially successful; under these policies, emission reductions are expected to fall short of the country’s national emission reduction target. The third of these three countries, the United States, has generally been conceived of as the least proactive in terms of accepting emission reductions both domestically and in the international negotiations. However, the United States has been an important actor in designing the international regime.

The sources of differences in both policy process and outcome lie embedded in the distinctiveness of the climate change policy area. Policymaking in this field is particularly challenging, and the core of the challenge lies in the high degree of uncertainty encompassing this kind of decision-making. Uncertainty pertains to several key factors: the timing of potential climate change, the impacts climate changes will have on nature, society, and the economy, and the cost and effects of policies designed to mitigate climate change. All of these factors are important when it comes to making policy decisions, and the problem is that policymakers have uncertain information about them. Uncertainty therefore makes different evaluations of appropriate policy strategies inevitable, depending on the amount and quality of information deemed necessary for making decisions. In theory, the precautionary principle has been used as guidance for countries in environmental issues since the UN Conference on Environment and Development in 1992. However, when it comes to policy decisions that will have direct consequences on economy and national welfare for decades, it has proved difficult to use the precautionary principle in practice. The fact that the most serious consequences of climate changes may only affect people who have not yet been born increases the likelihood that the principle will not actually be applied in practice. The lack of a “smoking gun” – that is, a serious event that has made the public or politicians believe that climate changes are imminent and life-threatening – makes it difficult for politicians to push for mitigation policies that may have immediate economic consequences.
The uncertainty dilemma is certainly regarded as a major element in understanding why Norway, Germany, and the United States have chosen different ways of responding to the potential challenges of climate change, and portrayed different levels of proactivity in their climate policies. However, uncertainty is hardly the only element that should be considered. The literature abounds with suggestions for possible sources of influence in policymaking. Indeed, the complexity entailed in the range of factors influencing policy choice is a challenge. Using conceptual models, or explanatory approaches, that guide the research towards certain key independent variables that are assumed to have a causal effect on the policy choices of decision-makers helps systematize these factors. The choice of conceptual model thus necessarily focuses on some factors at the expense of others.

My next question therefore is: to what degree can we explain the differences in policy process and outcome in all three countries using a single approach? As an initial assumption in a broad and complex field of study, it hardly seems likely that one explanatory model would have sufficient explanatory power to allow us understand a broad range of the important variables influencing the policymaking process and policy outcome. I argue that it is better to use several models as partial contributions to an encompassing explanation. In other words, to fully explore the problem at hand I want to peel off several layers of potentially influential factors. The increased level of detail and different angles to the problem area that the use of several explanatory models can provide will help achieve that aim. For instance, I want to know how the national interests and considerations of the three countries interplay with institutions and actors at the international level of policymaking. I also want to understand in greater detail the domestic policy processes, and the relations between domestic institutions and actors. Furthermore, I want to relate these interest-based explanations to more culturally and norm-based explanations of how decision-making is shaped. This calls for an analysis at multiple levels of detail.

I also argue that we do not have to perceive of these models as competing, but rather as complementary, contributions to a broad analytical framework allowing alternative ways of understanding policy choice. By this I mean that several explanatory models will focus on different angles and levels of the problem, i.e. they account for the
variance in the policymaking process and policy outcome in different, but complementary ways.

This doctoral dissertation, therefore, uses three distinct social explanatory models, demonstrating how they can be used as maps to understand the differences in climate change policymaking processes and policy outcome in Norway, Germany, and the United States. I will show that the appropriateness of the respective models depends on the particular focal point of analysis: Each of the three explanatory models has its own strengths and weaknesses depending on the phases, circumstances, institutions, and actors in question. Hence, using several models give us different angles and levels of detail by which to understand the shaping of policy and the policymaking processes. The empirical data must be interpreted, and these three models allow us to understand the data from three different, but in the sense identified here complementary angles.

Climate change policy is hence explained consecutively from several angles and at increasing levels of detail. With the use of three explanatory models, it becomes possible to use empirical data in different ways. I ask two questions that demand analysis at two levels:

1. Were there significant differences in the climate policies of Norway, Germany, and the United States during the period 1988-2001?
2. How can differences in climate policy be explained and understood, i.e. what elements were important for the choice of different levels of proactiveness?

The three models I use to develop the two-level analysis necessary to answer these questions build on theories that assume rationality, i.e. the core assumption is that actors are rational. I use these particular models because each provides a clear set of assumptions that are useful in that they can produce interesting and valid predictions. First, the models have distinct assumptions about what elements are decisive for the development of the policymaking process in a country. Second, two of the models have distinct assumptions about what outcome (proactiveness in climate policy choice) a country will choose as a result of these elements dominating the policy process. I will examine if the assumptions of the models are supported the empirical data in this study.
Specific predictions about what level of proactiveness countries will choose can be extracted from both the URA and the DP model, both point predictions and directional predictions. This allows for a thorough comparative analysis of the three countries’ policy outcome. It would be irrational to expect all predictions of the models to be compatible with the data, since that would hinder all models from passing the hurdle. That would make it meaningless to compare predictions with empirical data. It will therefore not be possible to falsify a model on the basis of the empirical data applied here, but it is still possible and useful to apply the explanatory models as analytic tools.

The models to be used in the analysis are: Unitary Rational Actor (URA), Domestic Politics (DP), and Social Learning and Ideas (SLI). After describing the main assumptions of each of the models, I establish distinct sets of predictions from each of the models related to the two questions above, and then discuss the consistency of these predictions using empirical data. From the models, then, I deduct sets of assumptions that constitute configurations of causes that are thought to enlighten us as to the motivation behind development of the policymaking process and policy outcome. First, I deduct assumptions about the policymaking process, then about climate change policy outcome. However, the SLI model does not predict outcome in terms of level of proactive climate change policy very well, but can be useful to explain differences in other aspects of policy outcome – like the choice of policy instruments. Assumptions about the level of proactiveness (outcome) are therefore drawn from the URA and DP models only.

To what degree the empirical data can be explained according to these causal assumptions will be interpreted as a signal of what factors were important in different phases of the policymaking process in each of the three countries. First, the Unitary Rational Actor model provides a set of assumptions about the state’s interest in assessing costs and benefits as a basis for decision-making. By avoiding the inclusion of sub-actors in the analysis, it is possible to analyze behavior while assuming that the actor is unitary and in full control of the situation. Second, the Domestic Politics model presents a set of assumptions where domestic actors and institutions have different preferences, and where the internal distribution of costs and benefits between them is crucial for decisions on climate policy strategies. And third, the Social Learning and Ideas model assumes that the learning processes climate policy actors are involved in shapes their interests and
preferences as the policy process unfolds. The concern is not only with analyzing policy formulation patterns as a material calculus to maximize self-interest, but also with taking into account action as a result of social norms and the social environment.

I seek to explain the differences in policymaking process and policy choices between the three countries by following these three paths of research used to describe and understand actors’ choices. The starting point is a perception of explanation as a function of understanding and describing the problem issue, the actors involved, and the situational logic of the actors. In addition to giving a richer form of explanation, the advantage of applying more than one explanatory approach to policymaking behavior is that I can investigate how much of the actor behavior each of the approaches can account for, and which provides the most fruitful approach given my particular purpose of analysis.¹

The use of these three models can help focus the analysis of the complex set of variables that influence policymakers in the closely related policy areas of energy production and consumption, and the development of responses to the threat of climate change. More specifically, the three explanatory models function as sets of assumptions about decision-making behavior. They are perceived and applied as being to a large extent complementary in terms of the different focus they provide, and they hypothesize different but simultaneous elements of policy conduct. The feedback processes that invariably exist between the phases of the policymaking process indicate a partial overlap of the three models as analytical tools. By applying the three models to a particular situational setting, it is possible to outline and identify some important political mechanisms at work, mechanisms that are decisive for climate policymaking conduct.

The thesis is organized as follows: In part one, chapter two I develop the analytical framework. The three explanatory models are described in detail, and I explain how they will be used in the analysis of the empirical material. I then present the methodology of the analysis, and explain in detail how I intend to operationalize and measure the independent variables.

In part two, the analytical framework is applied to the empirical data. In chapter three I discuss the theoretical assumptions and predictions of the URA model, specified for the policymaking process and policy outcome, for all the three countries. The same procedure is done in chapter four and chapter five, measuring the DP and SLI assumptions respectively.

In part three, chapter six I compare the results for each model across the countries, and draw conclusions as to whether there were indeed differences between the three countries’ policymaking processes. Furthermore, I conclude whether the elements that the models predict were decisive for policy outcome. Finally, I elaborate on the respective power of the three models in explaining the policymaking process and policy outcome in the three countries.
PART ONE: ANALYTICAL FRAMEWORK
2. **ANALYTICAL FRAMEWORK**

2.1 **Theory and explanatory models**

I have chosen to use three explanatory models to establish six sets of causal factors that are commonly thought to be useful for explaining actor behavior within the international relations field of policy analysis. The three models all incorporate the rationality principle, although drawn from different aspects of rationality based research. The Unitary Rational Actor model has the strictest rationality assumption, assuming states to be unitary and value maximizing entities. The Domestic Politics model, on the other hand, relaxes that strict assumption seeing national policy as the aggregate of domestic actor preferences, while still assuming that the various domestic actors maximize their own welfare based on their interests and preferences. The Social Learning and Ideas model focuses on the origins and dynamics of rational actors’ understanding of the world. The essential assumption is that both rationality and social norms shape actions. Elements like culture, knowledge level, and norms influence the way policymakers find it appropriate to handle a policy issue. This logic of appropriateness shapes both their conceptual understanding and ideas about solutions. Hence, the rationality principle guides this research inquiry by focusing the attention on rational actions in problem-solving situations, and by illuminating those features of the situation which clarify the subsequent action.

A research inquiry of this nature requires understanding the interests of the actors. However, these interests may be obscured by confusion on the part of the actors themselves or the researcher, non-clarified connections, and misinformation. In such situations it becomes important to be able to reveal hidden or uninvestigated beliefs, meanings, theories, or problems that must be brought to light in order to describe adequately the actor’s situation. The explanatory models will be helpful in giving structure and focus to the process of establishing a careful and comprehensive

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comparison of differences in policymaking process and policy outcome in Norway, Germany, and the United States.

From each of the models, then, I derive sets of assumptions that constitute configurations of causes that may explain the rationale behind policy choice. To what degree the empirical data can be explained according to these configurations of causes will be interpreted as a signal of what causal factors were important in different phases of the policymaking process in each of the three countries.

2.1.1 Unitary Rational Actor
The unitary rational actor (URA) model provides an interest-based and agent-focused explanation to the development of climate change policies. It can shed light on what drives and constrains the state as a decision-maker both at the national and international levels. The limitation of its explanatory power to the state as actor follows directly from three primary assumptions underlying the model: First, the model assumes that states are unitary, rational actors. Second, decision-makers are assumed to evaluate options in terms of costs and benefits to their nation, and only in those terms, and choose whichever option is believed to maximize net national gain. Third, states are assumed to be in full control of “their” societies.

The state, in other words, expresses the joint preferences of the individuals on the whole range of social issues. The state functions as a collective rational political actor, able to secure solutions that are better for all than individual rational solutions. These three assumptions imply that states calculate their policy behavior according to welfare gains and costs, seeking to maximize value. The actor selects the alternative that has the highest-ranking consequence in terms of its goals and objectives. The assumptions above also imply that explanation is sought in terms of the context in which countries operate, rather than in terms of internal, domestic policy processes or structures alone.

International structures guide behavior in certain directions and impose limitations on the number of options for action. What distinguishes the various forms of maximizing behavior is therefore both dependent on the nature of the environment that surrounds the national policymaking and on the extent to which this environment is

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known to the policymakers. A central proposition is that, when making policy decisions, rational actors seek to have the best possible information available about the preferences of other actors, the issue area, and the range of options available.

Furthermore, it is assumed that states have one set of specified goals, one set of perceived options, and a single estimate of the consequences that follow from each alternative. Action is chosen in response to the strategic problem the nation faces. The various courses of action relevant to a strategic problem provide the spectrum of options, and the enactment of each alternative course of action will produce a set of consequences. The relevant consequences constitute benefits and costs in terms of strategic goals and objectives.

Applying these assumptions when accounting for a country’s policy assessments in the climate change context, we must keep in mind that the initiative to proceed with any kind of national climate policy comes as a result of international climate change commitments. In an anarchical world, a rational actor will not take on commitments if others do not do the same, since such commitments could be disadvantageous to the actor himself. Therefore, assuming that all states embark on developing a climate policy, we can deduce an important proposition from the unitary rational actor model: The main incentive for a state to adopt policy measures is that the international regulations or agreements they are based on must provide expectations to reap net benefit, or at least not lose. The state will therefore implement policy measures according to what it has promised to do internationally only as long as the costs of doing so do not exceed the costs it would incur by defecting.

Although simplistic, and not representative of the full political reality of countries, this model can help us understand some basic features about countries’ behavior in the international climate change policy arena. Two main sets of assumptions are drawn from the model, allowing a focused analysis of their respective explanatory power: 1) cost and benefit assessments influence the policymaking process and outcome, and 2) information and interdependence issues shape the policymaking process and outcome.

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2.1.1.1 Assessing national costs and benefits

A central precondition for deciding on any kind of climate policy is for policymakers to understand what the consequences will be for the country in terms of economic welfare: to establish the potential costs inflicted on the society both by changes in the climate and by abatement policies. For Norwegian policymakers, for example, being able to tell how vulnerable Norway is to increased extreme weather events will be important as a basis for policy decisions. Equally important will be to know if an abatement policy measure leads to reductions in national welfare. If it does, the presumption here is that politicians will avoid or postpone implementation of that policy. The costs of abatement policies must be balanced against the potential costs that adaptation to climate changes will involve. Adaptation is more gradual and does not imply the same difficult prioritizing between investing money in uncertain measures that give only long-term results instead of spending the same money on other important, near-term social issues like education or health.

The central issue for a rational decision-maker will be to try to balance marginal abatement costs against marginal damage costs. The rational actor will pursue abatement policies only as long as it is more rewarding than facing damage costs, or at least does not incur losses in welfare compared to other policy actions. More specifically, the state is assumed to consider the net costs of environmental action compared with the net costs of inaction and status quo in the policymaking phase. For instance, a climate policy that includes regulations that affect the energy market means that important regulated interests will be affected. While total national costs from climate regulations per se may not be high, one must also expect the state to consider the costs that changes in the energy market will also incur on society. In addition, a state will consider its emissions, vulnerability, and costs as functions of how the economic impacts of emission restraints vary among other countries. Countries react differently to targets related to the emissions of greenhouse gases and the introduction of general abatement measures because national economies are affected differently by such policies.10

In the climate change context, the problem for most countries is that it is difficult to know for certain what the damage costs or effects of climate change will be in the future. A direct comparison of abatement costs and future benefits of reduced damage costs is challenging, if not impossible. Model calculations show that the effects on concentration levels in the atmosphere of reduced emissions if Kyoto targets are reached will be only minimally lower than would have occurred without the protocol. The possibility, then, for one country to assess its own benefits from reducing emissions according to the Kyoto Protocol would be extremely slim.

The core objective for all three countries included in this study in the climate change negotiations has been to work for policy solutions that can be implemented at a reasonable cost. Economic assessments of the costs of climate policy action to reach the Kyoto targets have been produced, with different results for each of the three countries. Some of these studies rest on the claim that the lack of quantified commitments for the developing countries renders the protocol ineffective and that the costs of such emission reductions would greatly exceed the benefits. There has been substantial dispute among economists about which parameters to include in economic analysis of climate policy, since this will have bearing on the predicted costs abatement policies will incur.

Countries are assumed to assess the difference in costs and benefits between prevention of serious climate change impacts and adaptation to climate changes. It could for instance be beneficial to wait and see what climate changes will entail for the country, or make minor investments in mitigation and then adapt, rather than to invest large sums of money in prevention-policy initiatives with uncertain future benefits. The problem is, however, that there is significant uncertainty about the time-range, speed, and gravity of future climate changes, and differences within the countries about the costs of potential damages from climate change, despite the conclusion of the Third IPCC report (IPCC 2001: Houghton et al.) that confirms a rapid change in the global climate. The science indicates that global warming in the 21st century will be significantly greater than in the 20th century. In the long run, an adaptation strategy could turn out to be more costly than a prevention strategy.

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The prediction for decision-making under uncertainty in the URA model is that the first choice for policy design would be “no regrets” options. This means that proposed policy measures would be equally profitable also if negative climate change effects do not emerge. When the question of extra costs become relevant, i.e. doing more than “no-regrets” measures, the policy-maker will have to take into account the elements of uncertainty in a cost-benefit calculus. In making these means-ends assessments, the state is operating according to the logic of consequences where social norms or structures like environmental sustainability or preservation of nature do not count as much as material goods.

The logic of assessing policy choices would suggest that there is reason to expect political synergy effects in policymaking considerations. For example, implementing abatement measures that affect the energy sector will have economic effects on both the industry and the general public. It is therefore not likely that abatement measures can be successfully implemented unless they harmonize with other policy concerns in the country's energy sector. A multiplicity of mutually reinforcing political considerations must, according to the Unitary Rational Actor model, be expected to influence the formation of national positions on climate change. It would be better to choose a policy design that has benefits in addition to those related to climate change. A policy proposal is therefore more likely to find support if it serves several policy needs at the same time. Urgency and timing of the issue also play a role here.

How I measure the explanatory power of this set of assumptions on climate change policymaking is described in detail in the methodology section (2.2). As described above (p. 13), the three basic assumptions of the Unitary Rational Actor model allow empirical focus on the cost and benefit assessments a unitary rational actor makes in deciding on climate policy action. However, even though the state is in control of “its” society, structural context and situation restrict it. For example, international structures guide behavior and impose limits on the number of possible options for action. Therefore we need to establish a second set of assumptions deducted from the URA model: “interdependence and information.”

2.1.1.2 **Interdependence and information**

The Unitary Rational Actor model has as a central proposition that rational actors seek to have the best possible information available when making policy decisions: information about the preferences of other actors, the issue area, and the range of policy options available. The central assumption is that policy choices are dependent on what other actors do. The steps that other countries take to mitigate climate change will have a bearing on the state’s own policy decisions. This means that to be a rational participant in international negotiations, a country needs to assess the marginal utility of additional information (based on level of detail and certainty) against the marginal costs of acquiring it. Policymakers have to settle at what they perceive to be an optimal level. The international negotiating process shows that the inherent uncertainty that characterizes the climate change problem can lead to a search among states for additional information to reduce uncertainty.

In rationality theories it is assumed both that a rational actor’s policy preferences are ordered consistently, and that the actor has preset conceptions and beliefs about possible outcomes of the situation he is entering. These two elements have consequences for policy choice, and are based on the available information the actor has, as well as his perception of the likelihood of a certain outcome. Several social scientists underscore the importance of information for participation in cooperative action. Elster writes that “if the parties have less than full information about each other’s preferences and information, bargaining may break down as each party forms unrealistic expectations about the concessions the other is willing to make,” and furthermore that “to get cooperation on a purely voluntary basis, individuals must be able to anticipate that others will cooperate. To do so, something like common knowledge about their situation is required – a condition that is rarely satisfied in social life.”

Information and probability perceptions depend partly on what other actors do: the optimal amount of information that it is rational to collect varies according to the complexity of the issue, and the degree of exchange of information between the involved

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parties. In climate change research, for instance, the assessments of research made by the IPCC have been highly important for the countries’ perception of the policy issue. Full information is an unrealistic expectation in almost any cooperative arrangement at the international level, and in the climate change negotiations it is impossible both because there are scientific uncertainties and because of strategic considerations by the parties in the negotiations. However, countries have made serious efforts to obtain the best possible information available at acceptable costs.

According to the logic of the URA model, domestic policy and negotiation positions are chosen in response to the strategic problem the nation faces (in this case, climate change) and are based on the best possible information available to the policymakers – about the preferences of other actors, the issue area, as well as the range of options available. In this respect, what a country does to acquire and handle new information becomes an important feature for understanding decision-making behavior.

The URA model assumes that a country evaluates benefits and costs to determine whether and what new information is to be acquired. Arrow has argued that the benefits can be related to the increasing returns in the uses of information.\(^\text{16}\) It is cheaper to continue using acquired information than to invest in acquiring new information. Costs are related to the scarcity of the relevant information; to the fact that human resources are required to obtain additional information, but are limited in capacity; and to the irreversibility trait of investments in time and effort to acquire and sort information.\(^\text{17}\) Hence, whether a country seeks more information depends on the marginal costs of information for that country, which is related to factors such as the size of the country and the scope of its research efforts.

Furthermore, we should look for explanation and understanding of policy decisions in terms of international structures that guide behavior in certain directions and impose constraints. Allison suggests that a country selects the policy alternative that has the highest-ranking consequence in terms of the country’s goals and objectives. In determining goals and objectives, one must look at the context in which countries operate, rather than just internal policy processes or structures. The state is the agent, but

the international community provides the structure in which the state must defend its interests.\textsuperscript{18}

The international community is the structure that limits the options of policy choice available to the country. An international treaty or framework that regulates action in an equal way for all ratifying countries will both reduce uncertainty and influence probability calculations for the countries. Thus, according to this model, structural changes and influences rather than changes at the domestic level affect the incentives for policy choice.

This makes it interesting to study how the three countries have tried to influence the structure, and to what degree they have acted to establish a stable framework for knowing how other states will handle the climate change challenge. A climate change treaty will regulate the behavior of all signatories, establishing a framework of cooperation among sovereign states. The assumption is that the countries’ behavior is to a large extent steered by the degree to which they find the international structure – a binding climate change treaty – \textit{necessary} and \textit{useful} for the national interest. It can be important for a country to establish and participate in a treaty to regulate both their own and other’s opportunities in a harmonized way, and thereby maximize individual welfare. For instance, a country that considers a policy strategy to address a global environmental issue like climate change would want to know what other countries will do as part of this strategy. Unilateral action could be difficult to perform, both in terms of evaluating national costs and environmental benefits. Therefore, the country would want cooperation as broad as possible among countries to address the problem, securing regulation of both own and other’s opportunities in a harmonized way to maximize individual welfare.

Countries operating within the international structure determine both the effectiveness and outcome of the negotiation process.\textsuperscript{19} Therefore, the degree to which we can understand the countries’ interests in the outcome of the process (the need for a treaty to regulate their individual and collective behavior) will increase our understanding of their actions in the negotiation process. Olson has argued that collective action might come about in two ways: One of the agents might have sufficient interest in the public

\begin{footnotesize}
\begin{itemize}
\item\textsuperscript{17} Ibid., pp. 33-43.
\item\textsuperscript{18} Allison (1971): pp 32-33
\end{itemize}
\end{footnotesize}
good to provide it single handedly, even though benefits would also be provided to others. Or some subset of the actors might be able to force or induce the others to cooperate by providing them with negative or positive incentives.\textsuperscript{20}

Underdal has argued that “where international management can be established only through agreement among all significant parties involved, and where such a regulation is considered only on its own merits, collective action will be limited to those measures acceptable to the least enthusiastic party.”\textsuperscript{21} This implies that as long as all parties must agree on the sets of rules that form the regime, the prescription of behavioral roles and constraints on activity will not be stricter than what is acceptable to the least ambitious party or parties.\textsuperscript{22} The least ambitious will suffer the smallest losses should the negotiations break down, which gives them bargaining power and incentives not to yield. The shortcoming of international environmental cooperation in terms of effectively addressing environmental problems is that the need to reach unanimous consent places the final word with the parties who are least inclined to cooperate. The other parties that want an agreement will therefore accommodate such interests as much as possible with the intention of \textit{securing broad participation}.

A country’s decision to participate in an international treaty comes from the relationship it has with other countries and world markets. For instance, we can expect that initiatives to implement national climate policy come as a result of considerations both about competitiveness in international markets and requirements of international climate agreements. Climate change is characterized by an asymmetrical distribution of abatement or control costs across countries. There are significant differences in national emission profiles – that is, the types and amounts of gases emitted by various countries. There is also an asymmetrical distribution of climate damage costs, especially between industrialized and developing countries. Coupled with uncertain cause-and-effect relations and potentially significant costs of climate policies affecting a range of key

\begin{itemize}
  \item [\textsuperscript{20}] As described in Elster, J. (1989): p. 37.
  \item [\textsuperscript{21}] Underdal, A. (1980): p.36.
  \item [\textsuperscript{22}] See Hovi, J. (2000) for a thorough discussion of this argument. See also Bretteville, C., (2001).
\end{itemize}
economic sectors, the result is the complex dynamics characterizing the case of climate change.23

Norway, Germany, and the United States have had different approaches and strategies towards the international climate change treaties (the UN Framework Convention on Climate Change in 1992, and the Kyoto Protocol in 1997). All have participated actively in the negotiations, but have evaluated the benefits for national welfare of signing and ratifying quite differently. Likewise, all three countries have initiated climate change research programs, but to a varying extent. The details about how I intend to measure “interdependency and information” are described in part 2.2.

2.1.2 Domestic Politics

In this doctoral thesis I want to take a more detailed and nuanced look at the policymaking process in Norway, Germany, and the United States than the URA model allows. The Domestic Politics (DP) model facilitates that. The focus of the DP model is on the political system, the role of domestic actors and their interests, and their relationships to the institutions that comprise domestic politics. The assumption is that in the process of deciding on national policy and negotiation positions, policymakers have to take into account and weigh the considerations of interested domestic political actors. The domestic political debate among actors and groups both inside and outside the government influences climate change policy, especially since the issue has domestic consequences and concerns significant domestic political interests.24 Putnam, in his metaphor about a two-level game wrote that at the national level, domestic groups pursue their interests by pressuring the government to adopt favorable policies, and politicians seek power by constructing coalitions among those groups. At the international level, national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments.25

The assumption I make here is therefore that understanding domestic politics – the distribution of power and influence among domestic actors, as well as their preferences – is critical for understanding climate change policymaking.

The focus of the DP model implies that all three core assumptions of the unitary rational actor model are relaxed, but that the rationality assumption is kept intact. First, the model perceives the government not as one single decision-maker, but rather as a complex organization where domestic actors pursue multiple objectives that are sometimes in conflict. Second, the domestic politics model assumes that the domestic actors are not primarily concerned with the national welfare or “interests” as such, but rather evaluate options with the aim of fulfilling a more subjective set of goals. The actors’ perspectives and interests are to some extent shaped by role and position, or as Allison pointed out: “where you stand depends on where you sit”. This may be amplified because political systems tend to distribute power and influence unequally, and therefore produce outputs that deviate systematically and predictably from those that would maximize national welfare as it is conceived in the unitary rational actor model. Third, the model assumes that states are not in full control of “their” societies, but on the contrary that the state has only partial control and is influenced and constrained by society.

For the purpose of this analysis, the DP model is useful to explain the national climate change policy process, and to a certain degree also to understand the realm of possible positions taken by the three countries in the international negotiation process. The most important difference from the unitary rational actor model is that the distribution of power among domestic actors and their degree of influence can hamper and sometimes even control the government’s ability to implement climate change policy. Two main sets of assumptions are drawn from the model, allowing a focused analysis of their respective explanatory power: 1) public demand and support for climate change policy influences the policy process; and 2) the governmental supply of policy alternatives influences the policy process.

2.1.2.1 Public demand and support
In democratic, pluralist societies, we expect politicians and government agencies to be concerned with public opinion concerning policy issues they face, including the case of

global warming. However, there are differences in public opinion both as to who is interested in being heard, and who gets the ear of policymakers. Following a pluralist tradition of argumentation, I focus on political pressure from potential beneficiaries—in this case to avoid dangerous impacts of climate changes—and from potential losers, i.e. people who prefer the status quo.29

The pluralist perspective assumes that one can infer the operation of a societal system from its parts, although they differ on the level (individual or societal) regarded as primary.30 Pluralism focuses on the observable behavior of individuals making decisions, and perceives of power as decision-making on issues where there is an observable conflict of interest. The interests are expressed by voicing policy preferences and participation in policy decisions.31 Related to this, then, is the structure-agency problem. The focus here is on agency/individual behavior: I look strictly at decision-making in key policy issues concerning climate change. According to Lukes, such a focus indicates that pluralism accepts and reproduces the bias of the system that is being studied by only focusing on key issues and overt conflicts of interest.32

The pluralist perspective does not include latent conflict and covert pressures by some social actors over others’ perception of the realm of possibility and the political agenda into its explanatory repertoire. A major difficulty here, as Lukes points out, is the problem of identifying “the mechanism or process of an alleged exercise of power.”33 This can be at least partially overcome by assessing what would have occurred if actors had acted, or by acknowledging that some kinds of non-action may have policy consequences.

Assuming that public demand and support influence the policymaking process, several aspects of how public pressure and interest groups have succeeded in influencing the policymaking processes become important. First, the assumption is that public demand and support of climate change policy is likely to be decided by the values, interests, and knowledge of the public and the degree to which a clean environment is

32 Ibid., pp. 36-39.
33 Ibid., p. 41.
valued can vary from one country to another. Therefore, public opinion and pressure on politicians may vary greatly between different countries. The level of knowledge and interest about climate change in different groups of the society also plays a role, specifically with regard to the willingness of people to make economic and/or welfare sacrifices to achieve a better environment or avoid the potential dangers of global warming. Public opinion and the degree to which people are willing to endure economic sacrifice to achieve environmental benefits indicates the degree of public pressure for an active and ambitious climate change policy in the three countries under study.

Second, the distribution of damage and abatement costs in society is important for the outcome of the policymaking process. The general public concern about the degradation of the environmental condition of the country or any irreversible damages must be considered and balanced by the policymakers against the concern of domestic actors who will suffer from heavy abatement costs incurred by climate policy measures. Major industry associations and firms that expect adverse effects from climate change abatement policies spend millions of dollars on lobbying efforts to influence the decision-making of politicians. Environmental non-governmental organizations (ENGOs) do the same, often combined with large public campaigns trying to involve and engage the public opinion. The voice of different groups and interests in society must be balanced and weighed by the politicians.

Geography and resource dependency help to explain why actors have different expectations about damage costs caused by climate change. For instance, local business and energy interests strongly affect the way constituency-attentive politicians handle the climate change issue. The degree of pressure from proactive vs. reactive interest groups in society determine what politicians perceive to be pressing issues that they need to attend to. But countering, or more likely combined with, such pressure we must consider the relative power and influence of actors, since sizable and economically important actors tend to have more influence on the policymaking process than more obscure pressure groups. Actors like the mass media, environmental organizations, political parties, and stake-holder organizations shape and influence people’s knowledge and attention to political issues like global warming, and must be expected to play a role in

domestic policy making. So even if a government would want to implement, for instance, a comprehensive climate policy strategy, it may be unable to go through with its plans because of domestic political constraints. The details about how I intend to measure “public demand and support” in an effort to compare it in Norway, Germany and the United States are described in part 2.2.

2.1.2.2 Governmental supply

Although governments are influenced by the public in the decision making process, it is perhaps even more important to learn about the governmental supply of policy preferences and political agendas. How governmental institutions operate can be an important factor in explaining differences in the policymaking processes and policy outcomes in Norway, Germany, and the United States. At an organizational level of analysis, it becomes important to analyze the formation and operation of formal, bounded bureaucratic structures within a society. Dominant causes of policy formation are sought for in the structures of the state, i.e. in the constitutional division of powers within the political system, as well as in the distribution of power and influence between different institutions within the government. The country’s capacity for carrying out objectives and policies is central.

In this analysis, governmental supply of policy alternatives is perceived to be a function of several determinants: First, the design of the political system of the country is important, in that the different branches of the governing system of the country have distributed power between them in a particular way that restricts their ability to influence policy choice. The distribution of power between the executive, legislative, and judicial branches may be especially important. In federal systems of government, like the United States and Germany, each level of government has sovereignty within its sphere of responsibility. In contrast, in a parliamentary system like Norway’s, the executive branch is formed by the party or coalition of parties that hold the majority in the legislative branch.

The issue of particular interest in this analysis is to study to what extent these institutions share power, or whether the system allows one branch to achieve supremacy over the others. The U.S. system is said to be designed for legislative supremacy, making Congress the predominant branch indicated by its powers over revenue bills and appropriations. The German system, on the other hand, was designed to allow for executive dominance, mainly as a result of the country’s weak traditions for representative institutions combined with the authoritarian character of the Federal republic’s first chancellor, Konrad Adenauer, although the legislature has gained more power during the last decades. The Norwegian parliamentary system of government, or cabinet government, can be defined as a constitutional democracy in which executive authority emerges from and is accountable to the legislative. This system allows for executive dominance when the majority party constellation in the Parliament also has the cabinet, whereas the legislative branch is dominant in situations where a minority coalition has the cabinet.

A second element for understanding governmental supply of policy alternatives is the distribution of power and influence among the different agencies of government. A great deal of policy is in fact made, or modified, in the implementation process. Between the decision to take some policy action and when the policy program is formed, governmental institutions are heavily involved. It follows that we should understand how institutions in domestic climate change politics work. Government agencies deal with specific policy programs that have their own specific budgetary allocations, although they interact and perhaps conflict with other programs. Moreover, new policy initiatives generally also entail modifications of older initiatives with which they might conflict, and most, but not all, policy areas are dominated by single agencies which take intra-organizational decisions about how to shape policy initiatives and programs. Issue specialization often allows a few ministries or agencies to dominate participation and influence in the policy process. The influence of a ministry or agency depends on factors such as staff size on the issue within the agency, as well as budget size and the political

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influence of the agency’s staff. Hence, institutional capacity and degree of involvement are important determinants of the degree of influence an agency has over policy formulation and implementation. The government has many concerns in addition to climate policy, as has the general public, so climate policy has to ‘compete’ with other issues for a place on the policy agenda. The most likely way for a policy proposal to find support is, therefore, through serving several policy needs at the same time. Issue linkages can develop both as a result of strategic or tactical considerations, or as a result of the situational context into which the issue is framed. These elements can determine what perspectives and premises are considered relevant, and which institutions will have greater influence over the policymaking process.42

A third element that is important for understanding governmental supply of policy alternatives is the government’s control over state policy. Government leaders preside over the many governmental agencies, and many issues require leaders to decide what institutions will be responsible for certain policy programs.43 Factors like the degree of internal unity in the administration/cabinet, the degree of agreement with the political opposition, and the political authority of the head of government can determine the government’s ability to make sound policy decisions and reach agreement among domestic political actors.44 Furthermore, questions of political preferences, ideology, and policy platform are important for whether a political issue is put high on the agenda. In the United States, the president has the power to appoint the principal executive officers of the administration and to require them to report on subjects relating to the duties of their departments. In this way the president can steer attention to policy issues that he finds important. The president also has a range of formal (the cabinet, the White House staff, the executive offices, etc.) and informal (appointments, initiatives, use of the media, etc.) resources available to control the policy agenda.

In both Germany and Norway, the cabinet is the government in that it makes collective decisions. The internal unity of the cabinet hence becomes pivotal to create and preserve authority to influence the political agenda. In both federal and parliamentary

41 Ibid., p. 102.
systems, it is important for the administration/cabinet to have either a majority to push issues through the decision making channels, or to be able to construct a majority through coalitions or case-to-case cooperation with the opposition. All of these complex issues of governmental supply are important to understand the policymaking process, and will be addressed in this analysis. The details about how I intend to measure “governmental supply” in an effort to compare it in Norway, Germany and the United States are described in part 2.2.

2.1.3 Social Learning and Ideas
I have called the third explanatory model employed in this doctoral dissertation Social Learning and Ideas (SLI). The model allows an additional level of nuanced understanding of the climate change policymaking process in addition to the URA and DP models. The SLI-model focuses on the origins and dynamics of rational actors’ understanding of the world. The essential assumption is that both rationality and social norms shape actions.45 Policy action depends on the policymakers’ perception of the particular problem in question, which is partially produced by their beliefs about causation and normative values. These beliefs, in turn, are considered to be independent of actors’ material environment – e.g. the distribution of power and wealth.46 In other words, elements like culture, knowledge level and norms influence the way policymakers find it appropriate to handle a policy issue. This logic of appropriateness shapes both their conceptual understanding and ideas about possible solutions.

The SLI model is used in this analysis to supplement the two previous rationalist accounts of policymaking behavior, which take preferences and options as exogenously given. It attempts to fill a gap in interest-based theorizing by supplying a theory of interest change. The SLI model sees actors as rational utility-maximizers, but focuses on the perception that utility depends on knowledge, which is not reducible to material structures, and thus possesses the status of an autonomous causal factor.47 Behavior can be motivated by norms and values, but to understand how this occurs, it is important to take into account the following: First, the material utility of actors to some extent must be

interpreted through the social context it is embedded in; the social context is crucial for understanding the role of material resources and the value that actors ascribe to them. Second, the interaction between structure and agency can provide a richer understanding of behavior; the rigid focus on agency in the rational choice approach makes a focus on the role of norms and values in society difficult. Third, the rational choice approach to norms has been that they constrain the strategies and behaviors of self-interested actors engaged in a process of strategic interaction; the assumption of the SLI model is that norms also have the effect of supplying actors with a better understanding of their own interests. ⁴⁸

Before policy choices can be made, decision-makers must assess circumstances and identify interests – just as in the URA and DP models. Unlike the other models, however, interpretation of the issue and alternative policy options is here assumed to depend on the body of knowledge held by actors at a given time and place. This body of knowledge shapes the perception of reality and informs decision-makers about linkages between causes and effects and thus, between means and ends. ⁴⁹ The knowledge that actors incorporate in international cooperation/negotiations significantly shapes their behavior, ideas, and expectations.

Another SLI assumption is that there is a growing demand by decision-makers for scientific information and other supposedly reliable knowledge. Complex interdependence and the increasingly technical nature of international issues make decision-makers experience enduring uncertainties about their interests and how to realize them. In order to make intelligent choices in unfamiliar, uncertain situations decision-makers need – and often demand – high quality information and expert advice. Those who are in a position to supply such knowledge can exert considerable influence over choices made by policymakers. ⁵⁰ Uncertainty decreases politicians’ abilities to assess the likely consequences of their decisions or non-decisions. Scientists and other experts are often in a position to reduce, but also to create or intensify, this kind of uncertainty. Reduction of uncertainty due to scientific consensus can lead to higher levels of cooperation.

Two main sets of assumptions are drawn from the SLI model, allowing analysis of their respective explanatory powers: 1) Culture and knowledge-induced ideas influence the policy process, and 2) the learning processes within the climate change issue area influence the policy process.

2.1.3.1 Ideas

Emile Durkheim wrote that “society is bound together, not by a material relation, but by the ties of ideas.” Ideas are here defined as normative beliefs about right and wrong behavior. People’s behavior and choices are guided by cultural ties. This implies that we cannot study decision making isolated from culture, norms, and ideas. For instance, economic phenomena cannot be adequately studied in the manner of classic economic theory, as if these were separate from the moral norms and beliefs which govern the life of individuals in society. In other words, what actors believe and conceive of as right concerning a particular causal connection in society will be an important reason for the choices they make. Policymakers are therefore here assumed to be guided in their decisions by ideas, cultural and conceptual understandings of the issue at hand, and in how they try to achieve their policy objectives.

Following this logic, the assumption I make in this analysis is that ideas may serve as road maps. Out of the universe of possible actions, decision-makers select those which fit best with their normative and analytic understandings. Ideas influence policy choice when actors do not know with certainty the consequences of their actions, and it is the expected effect of actions that explain choice. Under conditions of uncertainty, expectations about the effect of actions depend on causal beliefs as well as on institutional arrangements for authoritative decision making. Causal ideas help determine which of many means will be used to reach desired goals and therefore help to provide actors with strategies with which to further their objectives. Ideas embodied in institutions shape the solutions to the problems. In other words, a country that faces a complex policy issue like climate change has many options available to it. Yet the

assumption here is that not all options are even considered, while others are preferred, both as a result of prior understandings. Behavior is guided by preconceptions about possible best solutions to a problem. What develops, then, is a pattern of policy choices and solutions consistent with the ideas of the country. Thus, differences in culture and problem conception between Norway, Germany, and the United States can account for different climate change policy choices.

In the analysis, I study where the conceptual ideas come from that the three countries’ climate change policies have focused on. Are they a result of prior experiences with handling environmental issues, or a result of habitual treatment in the bureaucratic tradition of the country? These kinds of issues are raised in the analysis in chapter five. In addition to the assumption of ideas as road maps, I assume that widely shared ideas may facilitate cooperation in the absence of total agreement, serving as focal points which help define acceptable solutions to collective action problems.\textsuperscript{54} Actors not only try to influence others through direct conflict or bargaining efforts, but also by influencing them through devoting energy to “creating or reinforcing social and political values and institutional practices that limit the scope of the political process to public consideration of only those issues which are comparatively innocuous to themselves.”\textsuperscript{55} Bachrach and Baratz focused on non-decision making, where power is used as a means to keep issues latent and outside the policymaking agenda.

I will focus here on how social and political values are instrumental in forming policy positions and options that the countries have tried to push on to the international climate change negotiations agenda. This implies a situation where one actor or group of actors is able to dominate the agenda of the cooperative situation by introducing ideas and positions that best suit them, while managing to keep other ideas and positions off the agenda. Dominant issues are over time established as shared ideas, or focal points, that facilitate cooperation in the absence of total agreement. Thus, a country able to shape the ideas that become dominant in international negotiations fulfills more of its own interests and preferences.

\textsuperscript{54} Hasenclever, A. et al. (1997): p.144.
Once ideas have become embodied in institutional frameworks, they constrain public policy unless they are undermined by new scientific discoveries or normative change.\textsuperscript{56} It is therefore important for the countries involved in international negotiations to frame the issue at hand, so as to create possible pathways for further development of the negotiations. Generally, one would expect all countries to try to influence the international climate change negotiations by shaping the agenda and negotiation topics. These efforts will be limited by access to both human and economic resources. However, the three countries included in the study are all rich, resourceful countries with ample opportunity to influence the agenda. Therefore, I focus on how they attempted to control the agenda, create possible pathways for the negotiations, and introduce ideas for solutions and agreements. Whether the country managed to provide more ideas to the policy agenda than it was forced to accept will be a pivotal part of the analysis. The details about how I intend to measure “ideas” in an effort to compare it in Norway, Germany and the United States are described in part 2.2.

### 2.1.3.2 Learning

The climate change problem, when it became a theme for international negotiations, was ill-structured, meaning that the goals were multiple and vaguely characterized; several constraints were vaguely defined; information was complex, encompassing, and incomplete; and information was lacking about how a solution to the problem might be achieved. In this situation, the actors in the negotiations received much new information about global warming, a condition which has continued (and will continue) during the several stages of the negotiations due to the complexity of the problem. My assumption is dual in that I assume that new information affects prior understandings of the issue, and that the way new information is received and interpreted is also affected by prior knowledge. Learning in this sense is the construction of new representations of the problem, the development of causal relations among the factors that address the problem, the identification of constraints, and the organization of relevant knowledge.\textsuperscript{57}

\textsuperscript{56} Hasenclever, A. et al. (1997): p. 144.
I use Levy’s (1994) definition of learning, viewing it as “a change in beliefs, or the development of new beliefs, skills, or procedures as a result of the observation and interpretation of experience.” Explaining the difference between simple and complex learning, Nye points out that simple learning uses new information merely to adapt the means, without altering any deeper goals in the ends–means chain. The actor simply uses a different instrument to attain the same goal. Complex learning involves recognition of conflicts among means and goals in causally complicated situations, and leads to new priorities and trade-offs. Complex learning is more difficult to ascertain objectively, because perceptions and ideology play a larger role in assessing consequences when policy issues have long and complex causal chains. Learning can, according to this definition, be perceived as a new understanding of the policy issue that may stimulate decision-makers either to alter their strategies to achieve basically unchanged goals, or to redefine the very content of national interest, which involves selecting new goals and searching for appropriate strategies. It is important to remember that this definition allows for studying both negative and positive learning. The question is whether the new information or skills have enabled policymakers to achieve their objectives better, regardless of whether the observer likes the objectives or not.

In the analysis of the climate policymaking process, the learning issue becomes relevant through a focus on how the governments have perceived and described the climate change issue. Furthermore, I study whether policy descriptions and the conception about policy options have changed during the negotiations as a result of new knowledge about the climate change problem or about other actors in the negotiations. It is assumed that the extent and accuracy of learning depends on the strength of prior beliefs and the quantity and quality of new information. In the climate change issue, a major disadvantage in this respect has been that the science has been and continues to be uncertain. Complex relationships in the atmosphere and the effect of human activity on these relations are not likely to be understood completely within the lifetime of the current generation. To be able to assess if learning has taken place, I have to ask questions about the parameters of both new information and prior beliefs that affect the

likelihood of government learning. Moreover, not only prior beliefs but also structures of power can have a bearing upon actors’ receptivity to new information.

For knowledge to have an impact on policy choice, it must be widely shared by key policymakers. Skodvin points out that scientific consensus does not always lead to policy consensus: first, consensus in science with relevance for policy is very difficult and second, even if scientific communities manage to come to some sort of agreement, this will not necessarily lead to consensus along the political dimensions of the issue in question. In other words, the relationship between science and politics is not clear-cut. The transformation of scientific knowledge into decision making in the policymaking process involves an interaction of the behavioral systems of both science and politics, where science can no longer be perceived as objective and value-free, de-linked from social and political controversy. Policy advice is most often tainted with the ideological and/or political values and ideas of the advisor, and sometimes also by the receptor. A proliferation of competing research results can lead to a situation where all claim to provide scientifically sound policy advice on an issue like climate change.

An assumption about tentative preferences in this analysis indicates that decision-makers may enter policymaking processes with imperfect information and a willingness to learn. Accordingly, they engage in active search for information, as well as in persuasion of other actors. It is general believed that actors with a high knowledge level are able to control the shaping of policy alternatives to a greater extent than actors with less knowledge. Thus, it should be expected that the policy measures carried out in countries possessing the highest level of relevant knowledge will be duplicated by others. This implies that social learning will lead to diffusion of policy measures and ideas between countries. The details about how I intend to measure “learning” in an effort to compare it in Norway, Germany and the United States are described in part 2.2.

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62 Ibid., p. 80.
2.2 Methodology and research design

The aim of this section is to specify the research design. First I elaborate on the method used to compare the three countries: the comparative method. I then explain why and how I divide the three cases into two periods each, creating six cases. Lastly, I explain how appropriate measures are specified for defining to what degree the assumptions outlined in part 2.1 explain climate policymaking behavior in the six cases being studied. In other words, I operationalize the sets of assumptions to see how they can account for and explain differences in the climate change policymaking processes and policy outcomes in Norway, Germany, and the United States.

2.2.1 Why comparative case studies?

Comparing goes on all the time in social science. In comparative case studies, researchers try to characterize social systems by describing and explaining similarities and differences. This knowledge is key to understanding and explaining why historical events took place, and for further development of theories about society and human relationships. In statistical analysis, for instance, it is common to compare variations in a limited set of variables across a large number of cases. In this study, I compare more complex sets of variables across a small number of cases. Intensive analysis of a few cases can often produce more detailed knowledge than a more superficial statistical analysis. However, the problem often associated with small-N analysis is that it may produce detailed knowledge about a particular case that is not possible to generalize from, and hence does not contribute to theory development.64 My argument is that with a focused, structured comparison of cases I can avoid the pitfalls of small-N analysis.

What is meant by a focused, structured comparison of cases? The most important thing is to organize the study so that it brings out a broad picture of the causes influencing the outcome. In this study, this means that I develop sets of causal factors that can describe and explain the policymaking process and the policy outcome. In other words, to focus the research specific causal patterns are sorted out according to the assumptions of the theories, as presented in part 2.1. In the following, I will explain in

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64 This is a debate that has gone on for years. See for instance Smelser, N. in Warwick, D. and Osherson, S. (1973, chapter 2), Lijphart (1975, pp.165-172) or Andersen, S. (1990, pp. 367-378) for a discussion.
detail what a structured, focused comparison means, which will incorporate the research design of this study.

2.2.2 The comparative method
Some political scientists and sociologists have defined the comparative method to be similar to the statistical method in many respects. According to Smelser, “like the statistical method, the comparative method is a substitute for experimentation. Their logics are identical in that they both attempt to develop explanations by the systematic manipulation of parameters and operative variables.”\(^{65}\) Similarly, Lijphart defines the comparative method as “the method of testing hypothesized empirical relationships among variables on the basis of the same logic that guides the statistical methods, but in which the cases are selected in such a way as to maximize the variance of the independent variables and to minimize the variance of the control variables.”\(^{66}\) In this study the comparative method is regarded as preferential to the statistical method not only because the study involves only three countries, but also because the comparative method brings out a different sort of information about the cases.

The definition I use here is based on both George and Ragin. Ragin argues “cases are viewed as configurations – as combinations of characteristics. Comparison in the qualitative tradition thus involves comparing configurations. This holism contradicts the radically analytic approach of most quantitative work.”\(^{67}\) Similarly, George focuses on how the comparative analysis of cases is “both structured and focused. Focused because it deals selectively with only certain aspects of the case, and structured because it employs general questions to guide the data collection and analysis in that historical case.”\(^{68}\) My approach to comparing differences in climate change policymaking and outcome is to structure the comparison by restricting the data collection and analysis to some general questions. From those general, theoretically based assumptions I develop sets of causal factors – or causal sets - that are used to describe and explain the complex cases. Furthermore, they are used to measure the degree to which there is accordance

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between assumptions and empirical findings. A focus on a specific set of causal relations allows for a comparative analysis without compromising the complexity in the causal relations that lie behind policy choices, but still allow for focus and structure in the approach to understand differences between the selected cases. The objective is to explain differences in the countries’ climate policies.

2.2.3 The elements in the comparison
This section describes precisely which elements in the cases will be compared. I will start with the outcome – what is to be examined. Then I define the phases of the policymaking process underlying the definition of the cases in the study. Finally I characterize the causal sets – the elements assumed to describe and explain the policymaking process and the outcome.

2.2.3.1 Outcome
This analysis seeks to describe and explain the climate change policy decisions in three countries: Norway, Germany, and the United States, in a specified time-frame: 1988 to 2001. Climate change policy decisions were made continuously during this period, and the objective is to get a better understanding of why decisions were made and why they were formed in a particular way, i.e. differences in the development of the policymaking processes and different policy outcomes. Rather than studying this as a set of independent variables influencing a dependent variable, a better way to achieve good answers is to study the cases as configurations.

From the perspective of variable-oriented social science, the idea that the score on a variable must be interpreted in context essentially argues against the common view that aspects of cases can be evaluated separately from each other, especially with respect to their “independent” causal effects on some outcome. Conventional variable-oriented research usually does not pay close attention to the context of a score on a variable. For instance, if a variable-oriented research strategy were used, determining a score on a variable would first entail identifying important features of the cases, and then pointing out key dimensions of cross-variation. In the climate change context, I would try to establish key variables like the cost of fulfilling the Kyoto targets in percent of GDP, or
the degree to which the countries have a record of complying with international environmental agreements. Next, I would develop a measure or indicator of this feature and establish a score for each case. In this case, I could use economic modeling results of GDP costs, and statistics for degree of compliance of targets in a sample of international environmental agreements.

The concept of studying cases as configurations, on the other hand, makes it possible to discuss the degree to which the sets of causal factors I derive from the explanatory models can explain differences between cases. When cases are perceived as configurations of characteristics, the several angles to answering the research questions can be determined through measurement of membership. In other words, cases have multiple causes for their outcomes, and I want to understand as much as possible of this whole. Therefore I want to measure membership in several causal sets instead of establishing scores on single, separable independent variables. The key is establishing cross-case patterns showing how the different parts or aspects of a case interconnect, which can be compared across several cases. More specifically, I want to explain difference in climate change policymaking and outcome in three countries. The explanatory models included in this study have assumptions and predictions about different aspects of the cases, pointing my attention to a broad range of aspects that may be interconnected – thus making this research strategy theory dependent.

By analyzing the cases included in this study as configurations, I set out to describe and explain the differences in climate change policy decisions in the period 1988 to 2001. Now, let us examine the distinct stages or phases of the climate change policymaking process that indicate the need for dividing the three cases into six.

2.2.3.2. Determining phases and cases

International environmental problems typically involve policy concerns at both international and domestic levels. International cooperation is most often required to address a global or regional environmental problem. International environmental cooperation requires decisions by policy-makers triggered by different levels of the political system in a state. In the study of climate change policymaking, I therefore need

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to consider both the domestic setting of decision-making and the interaction between countries at the international level. Domestic actors have preferences and demands that limit the range of possible policy actions by the government. At the same time, the government has to participate in and try to influence international negotiations in the direction that takes into account national interests. This dual feature of making policy decisions can be analyzed as two distinct phases.

One phase of the policy-making process is when national positions are shaped and presented at the international bargaining level (here called ‘the agenda-setting phase’). Another phase is when international environmental agreements are transferred into national policy through a domestic bargaining process (here called ‘the domestic bargaining phase’). The negotiation process as such, where the cooperative agreement is settled among nations, will not be part of this analysis as the focus will be on national policy-making behavior.

Certain ideal assumptions can be drawn about the policy process in the two phases under scrutiny:70 In the *agenda-setting phase*, the policy process typically consists of certain stages that frequently overlap. First, the problem must be identified and perceived. Second, the character of the problem must be determined and its causal mechanisms distinguished. And finally, alternative remedial measures must be considered and policy ideas developed at the national level. In the *domestic bargaining* phase, the stages of the policy process are ideally sequential, but policy action in the first stage is almost invariably influenced by expected reactions and action in the next stages. In stage one, international agreement is established. Second, governments develop policy to respond to the international agreements/commitments. Third, society responds to the governmental policy decisions. And fourth, governmental policy measures have an impact on the environmental problem. The policies undergo evaluation in terms of their impacts, and the evaluation can lead to policy adjustments.

Based on the features developed above, the study of each of the three countries is divided into two phases. Norway passed through the stages of identifying and framing the climate change problem relatively quickly compared to the other two countries. Norway’s prime minister had served as chair of the UN World Commission on Environment and

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70 I have based these ideal assumptions on Underdal, A. and Hanf, K. (2000): pp.12-15
Development (WCED) in the mid 1980s, and as a result Norway had an early start in focusing on global environmental issues, including climate change. Taking on the role as frontrunner, Norway was actively involved in all major international environmental policy and research conferences before 1992. By the time of the Rio Conference in 1992, Norway had framed and characterized the climate change problem, evaluated policy options, and even implemented a carbon tax. I have therefore put the limit between the agenda-setting phase and the domestic-bargaining phase at 1992. After 1992, the Norwegian government has struggled to establish a national policy program to comply with the aims of the UNFCCC. Domestic actors have become increasingly involved in responding to the government’s positions. Since 1993, therefore, Norway has been in the domestic-bargaining phase of the policymaking process. The limit of the study to 2001 has been made for both practical and historical reasons. The historical reason is that a final agreement in the Kyoto Protocol negotiations was reached in Marrakech in 2001, and the practical reason is that data collection has to end at a definite point.

Germany experienced a slightly longer agenda-setting phase than Norway. The Enquete Commission\textsuperscript{71} was initiated in 1987, and this helped to shorten the framing and characterizing period, which, as in the case of Norway, was more or less completed by 1992. The development of alternative policies and measures had begun in 1990/91, but was not shaped in a comprehensive form until the first national report to the UNFCCC was ready in 1993. The most compelling reason for drawing the line between the agenda-setting and the domestic-bargaining phases between 1994 and 1995, however, is the degree of involvement from domestic actors. Since 1995, a broad range of domestic actors have been involved in responding to the government’s policy decisions, as in the case of the voluntary agreement between the government and industry associations to reduce GHG emissions.

In the United States, the agenda-setting phase lasted much longer than in Norway and Germany. The identification and framing of the problem was prolonged as a result, giving the elements of uncertainty far more weight both in the scientific community and in public debates. The development of alternative policy measures and ideas was shadowed by the framing debate, since domestic actors like industry associations and

\textsuperscript{71} See chapters 3, 4, and 5 for more details on the countries’ climate policy.
environmental NGOs were involved in this debate. It was not until 1997, when the Kyoto conference was approaching and the probability that the United States was going to sign the agreement increased, that the country entered the domestic-bargaining phase. Policy options became clearer, in the form of emission trading and a quantified target. This moved domestic actors in the direction of getting involved and responding to the government’s proposed policy alternatives.

As a consequence of the above definition of phases, I have split the three country-cases into six based on my empirical knowledge of the climate change history in each country: Norway in the agenda-setting phase 1988 to 1992; Norway in the domestic-bargaining phase 1993-2001; Germany in the agenda-setting phase 1988 to 1994; Germany in the domestic-bargaining phase 1995-2001; United States in the agenda-setting phase 1988 to 1997; and United States in the domestic-bargaining phase 1997-2001.

2.2.4 Measuring membership

2.2.4.1 Causal sets

This thesis investigates causal relationships that are complex and hard to measure numerically. The outcomes studies could potentially have come about in a number of different ways. It is therefore important that attention is paid to the causal complexity of the cases. However, my goal is to strike a balance between complexity and generality, since I do not want to describe the cases in such detail that they are portrayed as unique. A beneficial way to strike such a balance is to develop causal sets that allow comparison of similarities and differences. The causal sets that I use in the study are based on the theoretical framework developed in part 2.1. From each of the three explanatory models, two main assumptions were established. Each of these was thoroughly discussed, laying out the groundwork for using them as causal sets in the analysis. I will now discuss how I intend to measure the membership in the sets, i.e. how to measure correspondence between theoretical assumptions and empirical data. Furthermore, I develop measurements for the point predictions the URA and DP models make about the outcome. Each of these models makes clear predictions about what kind of outcome we can expect from countries.
2.2.4.2 **Fuzzy sets**

To measure membership, categories that can be used to establish the *degree of membership* in each of the causal sets (the sets of causal factors that are assumed to influence actor behavior) for all of the cases under study must be developed. In other words, to establish the degree to which the theoretical assumptions find empirical support for each of the cases. This must not be done on an *a priori* basis, but rather inductively, via detailed examination of how the correspondence between theoretical assumptions and empirical data in a particular causal set varies for different cases. The objective is, in other words, to know not only whether a case is in or out of a causal set, but the degree of membership.\(^{72}\) A conventional, crisp set establishes distinctions that are wholly qualitative, pointing to a case as a member (in=1) or a non-member (out=0) of a set.

Fuzzy sets, on the other hand, extend crisp sets by permitting membership scores in the interval between 1 and 0. For example, a country might receive a membership score of .83 in the set of “interdependence and information” and a score of .33 in the set of “assessing national costs and benefits.” The basic idea is that fuzzy sets allow scaling of membership scores and thus allow partial (or fuzzy) membership.\(^{73}\) Fuzzy sets are simultaneously qualitative and quantitative. They address the degree to which a case belongs to a causal set, not how the case differs from other cases along quantifiable dimensions of open-ended variation. In this way, fuzzy sets identify qualitative states while at the same time assessing the degree of membership.\(^{74}\)

Figure 2.1 below illustrates the logic behind fuzzy sets. Norway in the agenda-setting phase of policymaking is a member in the set of countries in the agenda-setting phase of policymaking, and is partially a member in the set of how “ideas” influence countries in the agenda-setting phase of policymaking.

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\(^{72}\) The discussion about how to measure membership degree is largely based on Ragin, C, 1987 and 2000, mainly because Ragin is the prime contributor and author of the concept of diversity-oriented research and the fuzzy-set method.


\(^{74}\) Ibid., p. 154.
2.2.4.3 **Qualitative anchors**

When operationalizing a concept as a fuzzy set, it is important that the fuzzy membership scores preserve the core of the theoretical concept as closely as possible. In other words, the “correspondence between theoretical concepts and the measurement of set membership is decisively important. The researcher must pay careful attention to the meaning of the concept, the empirical evidence used to index membership, and the criteria used to establish qualitative breakpoints.”

In this study, this means that careful correspondence must be insured between the three explanatory models, the concepts in the six causal sets that were established on the basis of the explanatory models, and the criteria used to measure membership.

Such “qualitative anchors” distinguish between relevant and irrelevant variation, allowing measurement of only the variation in the scores that are relevant to the theoretical concepts defined as important in the study. The aim is to develop scores that show as closely as possible the degree to which the cases belong to the six causal sets that represent the main assumptions of three explanatory models. In this way, it is clear that fuzzy sets are interpretative tools that “ operationalize theoretical concepts in a way that enhances the dialogue between ideas and evidence.”

The basic evaluation is to consider

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76 Ibid., p. 162.
whether a case is fully in (a score of 1) or fully out (a score of 0) of a set. The next step is
to establish the crossover point (a score of 0.5) between “more in than out” and “more out
than in.” A more fine-grained definition of scores (between 1 and 0.5, for instance)
depends on the quality of the data. The distinct score that can be assigned to a case – for
instance a score of .67 in the set of “assessing national costs and benefits” – must
therefore be perceived as the best evaluation of the researcher to define where a case
should be placed on the fuzzy membership scale.

In the process of establishing qualitative anchors that define the criteria for degree
of membership, it is important to have good empirical data, especially since measurement
of fuzzy membership is a fundamentally interpretive act and not a mechanical exercise.
Using the knowledge about the theoretical concepts as well as knowledge about the cases,
I will, first, identify pertinent evidence for assessing fuzzy membership scores, and
second, specify appropriate qualitative anchors defining full membership, full non-
membership, and the crossover point.

2.2.4.4  Data sources
The empirical analysis in chapter three is based on four main sources. First, a central
source of data is official governmental documents produced in Norway, Germany, and
the United States that have been used as basis for policy decisions. Documents like White
Papers, agency reports and national communications to the UNFCCC have been very
useful sources of knowledge. Equally important have been the research reports from
various research institutes and universities that governments might use as background
material for developing policy alternatives, as well as papers and written material
produced by both business and environmental NGOs.

Second, two valuable primary sources of data have been my personal participation
as an observer at international climate change negotiation meetings (AGBM 6 and 7, and
COP 5), and personal interviews with central participants in the policymaking processes
in the countries. Participation at the international negotiation meetings allowed me to
observe the dynamic of the negotiations, and provided a first hand opportunity to learn
about the countries positions. Personal interviews have been the second primary source of
data in this study. I have conducted approximately 12 interviews per country,\textsuperscript{77} that have provided information about what people experienced in the process perceive as important aspects of policymaking. The method used in these interviews was to ask open-ended questions, allowing the interviewees to focus on elements they considered vital within the specified context of climate change policymaking.

These primary sources have been related to and checked against secondary literature – such as academic literature, journal articles, and newspaper articles – about climate change policy in Norway, Germany, and the United States.

Statistical data sources have also been employed to describe and explain public concern about global warming. I have used the International Social Survey Programme (ISSP) surveys “ISSP 1993 Attitudes towards the Environment” and “ISSP 2000 Attitudes towards the Environment,”\textsuperscript{78} where the advantage of equally phrased questions in all three countries in both 1993 and 2000 is important. Use of descriptive statistics illustrates similarities and differences in the countries with respect to attitudes to climate change. I also use polls, where available, and assessments of media attention that show the degree of public concern about global warming in each of the phases under scrutiny. The polls and media attention vary from country to country in terms of weight and shape of questions. They are, therefore, not as directly comparable as the ISSP survey results.

2.2.4.5 \textit{Seven-value fuzzy sets}

I have chosen to measure membership degree applying seven-value fuzzy sets because of the nature of the empirical data gathered, which would make it near impossible to set scores as precisely as fine-grained fuzzy sets would demand (i.e. applying all values between 0 and 1). Defining membership on a seven value scale is hard enough, especially considering that it is an interpretative act assessing empirical data for complex cases. In this study, therefore, the assignment of a score on the seven-value scale signalizes my best definition of membership degree for the cases in the six causal sets. The difference

\textsuperscript{77} The names and affiliation of people interviewed are listed in the Appendix, along with the date of the interview.

\textsuperscript{78} The data from the International Social Survey Programme (ISSP) surveys “ISSP 1993 Attitudes towards the Environment” and “ISSP 2000 Attitudes towards the Environment,” were provided by the Norwegian Social Science Data Services (NSD). ISSP and NSD are not responsible for the analysis of the data or the interpretations that I do in this study.
between two neighboring values on the scale (for instance .67 and .83) is subjectively assessed and is perceived to be not as important as the patterns that can be detected from comparing the score for all cases in a particular causal set. In other words, if all the cases have scores that are more in than out of the same causal set, that is perceived here to be a more interesting observation than two cases having a one-value difference in scores in a particular causal set. A pattern showing the same direction of scores for all cases would indicate support for the theoretical assumptions of the explanatory models. Similarly, large discrepancies between scores for the cases would indicate low support. The seven-value scale applied here is comparable to the more traditional ordinal scale, where the distance between the scores is not necessarily the same. In other words, the weight is put on defining the approximate degree of membership for the cases. The numerical and verbal labels of the seven values are as follows:

<table>
<thead>
<tr>
<th>Verbal labels</th>
<th>Membership score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully in</td>
<td>1</td>
</tr>
<tr>
<td>Mostly but not fully in</td>
<td>.83</td>
</tr>
<tr>
<td>More or less in</td>
<td>.67</td>
</tr>
<tr>
<td>Neither in nor out</td>
<td>.50</td>
</tr>
<tr>
<td>More or less out</td>
<td>.33</td>
</tr>
<tr>
<td>Mostly but not fully out</td>
<td>.17</td>
</tr>
<tr>
<td>Fully out</td>
<td>0</td>
</tr>
</tbody>
</table>

The verbal labels guide and structure the translation of empirical evidence to membership scores. The membership scores could just as well have been on a scale between 1 and 7, but I have found it more intuitively logical to use scores between 0 and 1 since that is most often used in social science analysis. On the basis of the above definitions, I now proceed to define the qualitative anchors of the six causal sets. I define carefully where the qualitative breaking points are and what criteria I evaluate when setting the scores of membership degree on the cases in each of the six sets.
First, I have to establish the range of fuzzy set membership scores. The question to ask is whether there is a realistic maximum. For instance, in the set of “governmental supply” a full score of 1 would logically mean that all parts of the political system (the executive and legislative branches, agencies, political parties, etc.) worked together in harmony to develop climate change policy. However, the chances of finding empirical cases that match such an ideal situation are slim. The realistic maximum in this set is therefore set at .83. Second, I have to establish the realistic minimum. For instance, it is not likely that a country would have a score of 0 in the set of “assessing national costs and benefits.” The lowest possible score here will be set at .17, since a country would not ignore the economic effect of climate change and fail to carry out assessments of national costs and benefits, and be fully out of the set (a score of 0). Third, the crossover point is qualitatively defined as a point in the distribution of membership scores. It is not decided by the mean, as in conventional variable-oriented research, but relies on theoretical and substantive knowledge.

To receive a high score in a fuzzy set, a case would for instance have to display high scores on all the relevant variables or assumptions defined for a causal set. A low score on any one of the variables/assumptions would give the case a low score of membership.

2.2.4.6 Measurement of “assessing national costs and benefits”
To assess the membership degree in this causal set for Norwegian, German and U.S. climate policy in the two phases, I move forward in two rounds and consider the relevance of central URA assumptions about national costs and benefits. First, I evaluate to what extent and in what way cost assessments - and to the extent that they have been made, benefit assessments - have been employed by the government as a central part of the policymaking process to design domestic climate policy and negotiation positions at the international level. The URA prediction is that governments employ such assessments, and that economists will recommend policies where the expected benefits outweigh the expected costs, or no-regrets solutions where there are no extra costs involved. Second, I look at policy outcome by investigating whether certain economic advice has been heeded more than other economic advice. In all three countries there
have been a number of studies estimating the potential costs for the national economy of abatement policies and climate change impacts. I assess whether policy advice predicting expected abatement and damage costs for the country has been important in the policy process, and to what degree this advice shaped the decision makers’ perceptions of whether or not the country could afford to adopt a proactive climate change policy. Hence I deduce, first, a measure for analyzing whether the model’s assumptions about what elements were important in the policymaking process fit with the data in this study, and highlight differences between the six cases. Second, I deduce a measure for analyzing whether the model’s assumptions about what elements were decisive for policy outcome, i.e. the level of proactive climate change policy, fit with historical evidence.

First then, to measure if the policymaking process happened the way the URA model predicts, i.e. that cost and benefit assessments are decisive elements, I define that to be fully in (a score of 1) this “costs and benefit assessments matter in the policy process” causal set, a case must have used cost (and to some extent benefit) assessments very actively in the policymaking process. Furthermore, policy advice predicting expected abatement and damage costs for the country must have been decisive, and led to a focus on cost effectiveness and no-regrets solutions. To be mostly but not fully in (a score of .83), a case must have used some cost (and to some extent benefit) assessments in the policymaking process. Furthermore, policy advice predicting expected abatement and damage costs for the country must have been important but not decisive, and led to focus on cost effectiveness and no-regrets solutions. If a case employs cost (and to some extent benefit) assessments in the policymaking process, and policy advice predicting expected abatement and damage costs for the country were only partially important and led to unclear use of policy advice that focus on cost effectiveness and no-regrets solutions, the case will be defined as more or less in (a score of .67).

The crossover point (a score of .50) is defined to be when use of cost (and to some extent benefit) assessments can be identified, but where on balance the empirical data show that the case is equally in and out, i.e. that policy advice predicting expected abatement and damage costs for the country was sometimes important and sometimes not. The same goes for the focus on cost effectiveness and no-regrets measures in the policymaking process.
The realistic minimum in this causal set is .17, since a country would not ignore the economic effect of climate change and mitigation policy, fail to carry out assessments of national costs and benefits, and be fully out of the set (a score of 0). A case is more or less out (a score of .33) when cost (and to some extent benefit) assessments are not important in the policy process, combined with policy advice predicting expected abatement and damage costs for the country being less important than other kind of policy advice, leading to only partial focus on cost effectiveness and no-regrets solutions.

A case is mostly but not fully out of the set (a score of .17) when use of cost (and to some extent benefit) assessments are not important in the policy process, combined with policy advice predicting expected abatement and damage costs for the country being less important than other kind of policy advice, leading to prioritizing policy advice that is contrary to the focus on cost effectiveness and no-regrets measures.

Second, to quantify policy outcome, I measure how well the URA model’s predictions fit the empirical data material with respect to what extent cost and benefit assessments influence a country’s level of proactiveness. In other words, I examine to what degree the “predicted cost-benefit balance” was decisive for outcomes in each of the six cases in the study. Assuming it is important, a rational actor would adopt a very proactive climate policy stance if heeded cost (and benefit) assessments of expected abatement and damage costs show that the predicted benefits of abatement policies would be very high and the expected costs very low. This would mean a score of .83 (mostly but not fully in) in the “predicted cost-benefit balance” causal set. Benefits can include benefits for the environment, health benefits of reduced emissions, economic benefits, etc. I define this as the realistic maximum since to be fully in (a score of 1) would mean an overweight of benefits and lack of costs that is not found in industrialized countries, since there always is a minimum expectancy of costs related to policy action to abate climate change given the close connection between energy use and GHG emissions. To be more or less in (a score of .67), heeded assessments of expected abatement and damage costs must have shown that predicted benefits of a proactive policy was higher than the predicted costs, but not necessarily much higher. These predictions were decisive for a medium to high level of proactiveness.
The crossover point (a score of .50) is defined to be when on balance the case is neither in nor out of the causal set, identified as when assessments of expected abatement and damage costs display a near balance between predicted benefits and costs of abatement policies. These predictions were decisive for a medium level of proactiveness.

A case is more or less out (a score of .33) when heeded assessments of expected abatement and damage costs show that predicted costs would be higher than predicted benefits, although not necessarily much higher. These predictions were decisive for a medium to low level of proactiveness. A case is mostly but not fully out of the set (a score of .17) when heeded assessments of expected abatement and damage costs show that predicted costs would be very high and predicted benefits very low. In other words, abatement policies would be very expensive for this country. These predictions were decisive for a low level of proactiveness. This also constitutes the realistic minimum of the causal set, since a definition as fully out (a score of 0) would mean that there will be no benefits of reducing GHG emissions or adapting to climate changes, a situation that is not realistic.

2.2.4.7 Measurement of “interdependence and information”

The degree of membership in this causal set is discussed in terms of establishing measurements and assessing membership in two causal sets. First, I assess the degree to which the URA assumptions about interdependence and information were decisive in the policymaking process. Second, I evaluate to what degree interdependence was important for the countries’ choice regarding level of proactive climate change policy. To ascertain this, I will discuss the degree to which a country has pushed for an agreement and been willing to modify negotiation positions to bring the process forward to achieve a comprehensive and binding climate change treaty in terms of participation. This says nothing about the content or environmental ambitiousness of the treaty, but focuses on the perceived need for a treaty to regulate cooperation to maximize their own welfare and national interests. The size of the country plays a role in this assessment, as the general assumption of the URA model is that small, open economies are more interdependent than large, open economies.
Furthermore, I establish the extent of funding for environmental research compared to total research funding. The information basis that decisions are made from matters to the rational actor and the research effort of the country can be taken as a sign of this. The amount of funding directed towards environmental research to maximize information quality and quantity is a measure of a country’s interest in information. This factor relates to the size of the country: the prediction is that small countries have a more limited research capacity than large countries, since human resources are fewer and research efforts on the research frontiers entail higher costs. It is difficult to separate climate change research from environmental research, since climate change issues touch upon very many other environmental problems in society. Therefore, I consider funding for environmental research to measure membership, and point to climate change specific research when possible.

To measure whether the policymaking process happened as predicted by the URA model, I establish some definitions as to what behavior one should expect from highly interdependent countries versus not interdependent countries. The measurement is based mainly on the interdependence factor, since it has the highest potential to bring out differences between the three countries. To be fully in (a score of 1) in the “interdependence and information matter in the policy process” causal set, a case must have an unambiguously high presence of the following elements: Negotiation positions, speeches, government documents, and other important policy documents signifying political weighting and importance of working for a comprehensive and binding treaty, as well as willingness to modify negotiation positions to move the process forward. This must be combined with funding of environmental research relative to the country’s size and human resources. To be mostly but not fully in (a score of .83), a case must have put political weight and importance on conducting a considerable push in the international negotiations toward achieving a comprehensive treaty, but also shown less willingness to modify its own positions to push the process forward. This must be combined with funding of environmental research adjusted for a country’s size and human resources. If a case put only some political weight and importance on working for a comprehensive and binding treaty, as well as only some willingness to modify negotiation positions to bring the process forward, combined with funding of environmental research relative to the
country’s size and human resources, the case will be defined as more or less in (a score of .67).

The crossover point (a score of .50) is defined to be when a country has a pending, “go with the flow” approach towards reaching a cooperative agreement, signifying that the country only needs an agreement if everybody else participates, and shows willingness to compromise on negotiation positions to bring the process forward only when a decisive majority of other countries do the same. This must be combined with funding of environmental research adjusted to the country’s size and human resources.

A case is more or less out (a score of .33) when the country signals only limited interest in participating in international cooperation as a result of a policymaking process marked by assessments finding unilateral action to be equally or more beneficial, and the country has some capacity to carry out such unilateral action. It also shows less willingness to adjust negotiation positions to move the negotiations forward, combined with less funding of environmental research than anticipated from the country’s size and human resources. A case is mostly but not fully out of the set (a score of .17) when the country shows even less interests in working towards a comprehensive and binding treaty as a result of a policymaking process emphasizes the comparative benefits of leading a unilateral policy, and it has capacity to carry out such unilateral action. The country also shows no willingness to adjust negotiation positions to bring the process forward, combined with less funding of environmental research than anticipated from the country’s size and human resources. To be fully out (a score of 0) of this causal set, a case must have an unambiguous presence of the following elements in the policymaking process: Negotiation positions, speeches, government documents, and other important policy documents signifying political weight on working against a comprehensive and binding treaty, since it seems comparatively clearly more beneficial to lead a unilateral policy, and the country has good capacity to do so. The country must also show no willingness to adjust negotiation positions to bring the process forward, combined with less funding of environmental research than anticipated from the country’s size and human resources.
Second, I measure whether the predictions of the URA model that interdependence is a
decisive element for the level of proactive climate change policy a country chooses fit
with the empirical data material. When it comes to information, I find that measuring
predicted versus actual effect on outcome would not be fruitful, since all three countries
in this study have put substantial effort into acquiring updated information pertaining to
the climate change problem.

The URA model predicts that a country will be mostly but not fully in the
“predicted effect of interdependence” causal set (a score of .83) if the economic benefits
from a comprehensive international treaty in terms of broad participation are expected to
exceed the costs of leading unilateral policies. It largely depends on country size and type
of economy, and the prediction of the model is that a small country with an open
economy would be more interdependent than a large country with an open economy. This
would result in policies that were designed to include as many parties as possible in the
treaty, and compromises to make this happen. To achieve this, the country would lead a
medium or medium to low level of proactive climate change policy. A score of .83 is the
realistic maximum in this set, since to be fully in (a score of 1) would mean a lack of
ability to carry out unilateral policy that is unrealistic. To be more or less in (a score of
.67), the country must be partly dependant on an international treaty to benefit from
climate change policies, and more so than being able to lead unilateral abatement policies
in terms of costs and benefits. This would lead to policies that signalize more willing to
push for ambitious targets and less willingness to compromise to achieve broad
participation, and to a medium to high level of proactiveness.

To be neither in nor out (a score of .50), the empirical data show a balance for
whether or not a country would benefit or lose from participating in a comprehensive
international treaty compared to lead a unilateral policy. This would result in policies to
promote a treaty, but not necessarily broad participation and not necessarily with
stringent targets. This would lead to a medium level of proactive climate change policy.

To be more or less out (a score of .33), the country has a slight excess of benefits
from following a unilateral policy and a corresponding slight excess of costs from
participating in an international climate treaty, based on predictions of high costs both
from participation in a treaty and carrying out emission reductions domestically. This
would lead to less willingness to accept targets and less willingness to compromise on policy positions to achieve broad participation in an international regulatory regime and would result in a medium to low or low level of proactiveness. To be mostly but not fully out (a score of .17), the country has a clear economic incentive, as well as capacity, to take unilateral action. Predictions show that the costs of both participating in an international treaty and from making emissions reductions at home would be high. It is a general assumption of the model that a large country with an open economy would be less interdependent than a small country with an open economy, leading to very low willingness to accept targets in the international negotiations or to compromise to secure broad participation in a treaty, and to a low degree of proactive climate change policy. This is the realistic minimum of the causal set, since to be fully out (a score of 0) would mean lack of interdependence, a situation that is not found among OECD member countries.

2.2.4.8 Measurement of “public demand and support”

Three factors are used to assess degree of membership: First, I evaluate the degree of public concern about global warming. The International Social Survey Programme (ISSP) surveys “ISSP 1993 Attitudes towards the Environment” and “ISSP 2000 Attitudes towards the Environment” were carried out in all three countries in both 1993 and 2000 using equivalently phrased questions, and illustrate similarities and differences in the countries concerning attitudes to climate change. By combining the results of these surveys with other polls and assessments of media attention, I draw some conclusions about the degree of public concern about global warming in each of the phases under scrutiny.

Second, I assess the degree of special interest lobbying, and third, consider the degree of ENGO activism on climate change. Concentrating on these two groups as representatives of societal interests, I examine if the assumptions of the DP model fits with the empirical material or if it turns out that other elements or interest groups mattered more in policymaking process or for policy outcome. The DP prediction is that the combination of the distribution of damage and abatement costs, and the power relations between domestic actors determines which interest groups have most influence
in the policymaking process and on outcome. It is a general feature in all democracies that politicians are concerned with public opinion. It is therefore not fruitful to look for differences among the six cases on that variable. Rather, I focus on the extent to which the predicted patterns of influence (i.e. which groups are predicted by the model to wield influence) matched the actual exercise of influence.

Applying the factors mentioned above, I first establish degree of membership in a causal set defining in what way public demand and support mattered in the policymaking process of the three countries. Second, I establish membership degree pointing out how public demand and support was decisive for policy outcomes, i.e. level of proactive climate change policy.

First then, I measure whether the policymaking process followed predictions of the DP model, i.e. that the distribution of abatement and damage costs between domestic actors together with power relations between interest groups are decisive elements. To be fully in this “public demand and support matters in the policymaking process” causal set (a score of 1), a case must have had a policymaking process where public opinion pressure was important in policy debates. There must have been a clear weighting by policymakers of the pressure from economically important and powerful interest groups, such as industrial associations, and less weighting of less powerful and/or less well organized social interests, such as ENGOs or the public at large. Concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors must have been particularly important. To be mostly but not fully in (a score of .83), a case must have put much weight on public opinion in the policymaking process, and had a less clear weighting of pressure from interest groups predicted to be important. Furthermore, concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors must have been important for who had influence, although less decisively than if the case is fully in. To be more or less in (a score of .67), a case must have put substantial weight on public opinion in the policymaking process, and have only slightly more weighting of pressure from interest groups predicted to be important than of other stakeholder groups. Furthermore, concerns for the distribution of costs and benefits resulting from climate
change and abatement policy between domestic actors must have had some consequence for who had influence in the policymaking process, but not been decisive.

To be neither in nor out (a score of .50), a case must have put weight on public opinion pressure, but on balance the empirical data does not determine if predicted pressure or stakeholder groups have been more important than others in the policymaking process. Furthermore, it does not determine if the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors has been decisive in the policymaking process or not.

To be more or less out (a score of .33), a case must have clearly weighted public opinion pressure in the policymaking process, and there must have been slightly more weight from other groups than from interest groups predicted to be important by the DP model. To be mostly but not fully out (a score of .17), this tendency in the policymaking process must have been clearer. Public opinion pressure must have been important in the policymaking process, whereas pressure from economically important interest groups predicted to be important (as well as concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors) have not been important. Policymakers have clearly put more weight on other elements. This is the realistic minimum in the causal set, since no country has a policymaking process where distributional concerns between economically important societal groups are completely missing.

Second, I measure whether the predictions of the DP model that public demand and support determines how proactive climate change policy will be fit with the empirical data. To be fully in (a score of 1) the “predicted effect of public demand and support” causal set, a case must show strong public pressure to employ proactive climate policy and be characterized by the unambiguous presence of the following three features: high levels of public concern about global warming, a low degree of special interest lobbying, and strong ENGO activism with actual influence on government policy positions. This would lead to a very high level of proactive climate change policy. To be mostly but not fully in (a score of .83), a case must have high levels of public concern about global warming, a low degree of special interest lobbying and medium ENGO activism with
some influence on government policy positions. This results in public pressure to have a proactive climate change policy, and a highly proactive stance. To be more or less in (a score of .67), a case must have high levels of public concern about global warming, a medium degree of special interest lobbying and medium ENGO activism with some influence on government policy positions. This results in a less clear public pressure in favor of a proactive climate change policy, and a medium to high level of proactiveness.

The crossover point (a score of .50) is identified by low levels of public concern combined with low degree of special interest lobbying and impact, and weak ENGO activism and influence. In other words, there is no consistent public pressure, not making it possible to say if there was public pressure in favor or against having a proactive climate change policy, leading to a medium level of proactiveness.

A case more or less out (a score of .33) is equal to weak public pressure not to employ proactive climate change policies, and is characterized by medium public concern about global warming, combined with medium ENGO activism with only some impact, and high degree of special interest lobbying resulting in actual influence on government policy positions. This leads to a medium to low level of proactive climate change policy. A case is mostly but not fully out of the set (a score of .17) when public concern about global warming is medium, combined with low ENGO activism with no impact, and high degree of special interest lobbying resulting in actual influence on government policy positions. This means public pressure against a proactive climate change policy, and leads to a low level of proactiveness. To be fully out (a score of 0) of this causal set, a case must have unambiguous presence of all the following three features: strong public pressure not to employ proactive climate change policies, characterized by low public concern about global warming, combined with low ENGO activism and high degree of special interest lobbying resulting in actual influence on government policy positions, leading to a very low level of proactiveness.

2.2.4.9 Measurement of “governmental supply”

The Domestic Politics model assumes that the distribution of power and influence among the institutions of the political system determines the development of the policymaking process and policy outcome. The political preferences of government declared in its
political platform are important for policy outcome. Furthermore, the design of the political system shapes process and outcome in a particular way, so we would expect differences between, say, a parliamentary system and a federal system. The degree to which the DP model’s assumptions fit with the data in this study is discussed in two rounds, establishing measurements and assessing membership in two causal sets. Assessment of the degree of membership will be based on three factors: First, the constitutional division of powers between government branches, particularly the degree to which political system design allows one governmental branch - executive or legislative - to dominate the policymaking process; second, the degree of centralization of authority within the state bureaucracy, and cooperation or conflict about climate change issues between ministries/agencies in the administration (the institutional capacity and degree of involvement are considered important for the clout an agency has over policy formulation and implementation); and third, the possibility in the system for strong political leadership from the head of government. In addition to ideology and political platform, the degree of internal unity in the administration, the cooperative relationship with the political opposition, and the political authority of the head of government are considered decisive for ability to come to agreement among the many domestic political actors.

Applying these factors, I discuss the design of the political system, and how ideology and political platform of the government matters. First, I establish membership degree in a causal set defining in what way governmental supply mattered in the policymaking process in the six cases. Second, I discuss degree of membership in a causal set defining how governmental supply mattered for policy outcome.

In the “governmental supply matters in the policymaking process” causal set then, I measure the degree to which the distribution of power and influence among the institutions of the political system was decisive for the development of the process. To be fully in (a score of 1) would mean that political system traits were decisive for the development of the policymaking process. The constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change are factors that must have
played a decisive role. To be mostly but not fully in (a score of .83) would mean that the constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change were factors that were important but not decisive in the policymaking process. A case is more or less in (a score of .67) if the constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change were factors that had some influence on the policymaking process, but where other, issue-specific factors also mattered.

A case is neither in nor out (a score of .50) if, on balance, the empirical data show that the policymaking process was dominated partly by how the constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change worked, and partly by relevant issue-specific elements.

To be more or less out (a score of .33), power and influence distribution among political system institutions mattered less on balance for the development of the policymaking process than issue-specific factors. In other words, the perspectives and interests of policymakers were not as clearly marked by role and position (“where you stand depends on where you sit”), neither in terms of the division of powers between the executive and the legislative, the degree of centralization of authority and resource allocation within the state bureaucracy, nor internal unity of administration/cabinet or ability to secure coalitions with the political opposition parties. Furthermore, political ideology and preference of the government was not in favor of addressing climate change. To be mostly but not fully out (a score of .17), this combination of traits must have been even less influential, causing the distribution of power and influence among political system institutions to not matter much for the development of the policymaking process. Furthermore, political ideology and preference of the government was not in favor of addressing climate change. Climate change-specific issues must have been decisive. This is the realistic minimum of the set, since in democracies with multiple
political institutions that are constituted to speak for a range of social interests, the
distribution of power and influence always to some degree matter for how the
policymaking process develops.

Second, I measure how the predicted effect of governmental supply matches with actual
policy outcome for the six cases. The main prediction is that all institutions of the
political system (executive, legislative, agencies, political parties, etc.) have perspectives
and interests clearly marked by their roles and positions, and that the distribution of
power and influence among the institutions is decisive for climate change policy
outcome. To be fully in the “predicted effect of governmental supply” causal set (a score
of 1), a case must have had either clear executive or legislative domination, combined
with high centralization of authority within the state bureaucracy with clear dominance of
sector-specific agencies/ministries with ample resources representing economically
important societal interests in favor of proactiveness. Furthermore, it must also have
shown a head of government with strong authority enforcing unity in the administration,
and securing political majority in the legislature that made the administration/cabinet
independent of pressure from the political opposition. This would open for a very high
level of proactive climate change policy. In addition, to actually realize this potential, the
political ideology and preferences of the cabinet must have been in favor of a proactive
climate policy. To be mostly but not fully in (a score of .83), a case must have had either
clear executive or legislative domination, combined with high centralization of authority
within the state bureaucracy and a weighty influence from sector-specific
agencies/ministries with ample resources representing economically important societal
interests in support of a proactive policy. Furthermore, it must have shown a head of
government with some authority enforcing mostly unity in the administration, and
securing stable cooperation/coalitions with the political opposition. This would open for a
high level of proactive climate change policy. In addition, to actually realize this
potential, the political ideology and preferences of the cabinet must have been in favor of
a proactive climate policy. A case is more or less in (a score of .67) if it had either
executive or legislative domination most of the period, combined with high centralization
of authority within the state bureaucracy with some influence from sector specific
agencies/ministries with ample resources representing economically important societal interests more or less positive to a proactive policy. Furthermore, it must have shown a head of government with some authority struggling to enforce unity in the administration, and struggling to secure cooperation/coalitions with the political opposition. This would open for a medium to high level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a proactive climate policy.

The crossover point (a score of .50) is identified as when a case experience executive or legislative domination. Furthermore, when on balance the empirical data show that both issue specific elements and influence from sector specific agencies/ministries with ample resources representing economically important societal interests matter for outcome. This must have been combined with coalitions of political parties that were not supported by strong political leadership in any particular direction. This would open for a medium level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a medium proactive climate policy.

To be more or less out (a score of .33) of the set, is equal to non-consistent governmental supply of climate policy, and is characterized by legislative or executive domination, incidents of interministerial conflict on central issues caused by issue specific matters rather than the power and influence rank between them, and few possibilities to perform strong political leadership from the head of government. This would result in weak political authority of the head of government, and case-to-case cooperation between political parties, opening for a medium to low level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a medium to low level of proactive climate policy. A case is mostly but not fully out (a score of .17) when there is legislative or executive domination, strong conflict within the state bureaucracy on central issues caused by issue specific matters rather than the power and influence rank between them, and inability to perform strong political leadership from the head of government. This would result in weak political authority of the head of government, and lack of stable coalitions between political parties. This would open for a low level of
proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a low level of proactive climate policy. This also constitutes the realistic minimum of the fuzzy set, since a score of 0 would entail a degree of overt conflict between central governmental institutions and political actors that would lead to the resignation of the cabinet/administration in the democratic countries under study here.

2.2.4.10 Measurement of “ideas”

I assess degree of membership in this causal set in the following way. First, I discuss to what extent positions and policy approach of the country can be said to be guided by cultural and normative understandings of that country, hence indicating whether ideas have worked as road maps in the policymaking process under the uncertainty circumstances that the climate change issue incorporates. Is policy approach for instance a result of prior experiences with handling environmental issues, or a result of habitual treatment in the bureaucratic tradition of the country? Second, I define the country as an idea exporter or importer, i.e. if the country has a greater extent of creative contributions to the negotiations than being a receptor of new ideas. This will indicate the degree to which the country managed to provide ideas as focal points in the international negotiations.

To be fully in (a score of 1) this causal set a case must have a high degree of policy positions that clearly mirror cultural and normative understandings of that country. In other words, there must be clear indications of the existence of ideas as road maps having been decisive in the policymaking process. Furthermore, the country must be clearly defined as an ideas exporter, i.e. there must be clear indications that the country have tried to introduce focal points into the negotiations to control the agenda. To be mostly but not fully in (a score of .83) requires a lower degree of policy positions that clearly mirror cultural and normative understandings of that country. It is also required that the country can be clearly defined as an ideas exporter. A case is defined as more or less in (a score of .67) when only a low degree of policy positions mirror cultural and normative understandings of that country. Furthermore, the country can only weakly be defined as an ideas exporter.
The crossover point (a score of .50) is defined as when on balance the empirical data show that membership degree is neither in nor out, and that policy positions reflecting cultural and normative understandings are equally present and missing, i.e. policy positions also mirror imported cultural and normative understandings. This is reflected in no clear dominance of culturally based ideas as road maps, combined with equal incentives to make a definition of the case as either an ideas exporter or importer.

A case is defined as more or less out (a score of .33) when some of its policy positions mirror other countries’ cultural and normative understandings. In other words, when there are indications of the existence of imported ideas as road maps having been decisive in the policymaking process. Furthermore, the country can be clearly defined as an ideas importer i.e. there must be clear indications that the country have failed to introduce focal points into the negotiations to steer the agenda. A case is defined as mostly but not fully out (a score of .17) of the set when a high degree of policy positions mirror imported cultural and normative understandings, combined with a clear definition as an ideas importer. This is also the realistic minimum of the set, since a definition of fully out (a score of 0) would require a degree of passivity that is not found for the three countries under study here.

2.2.4.11 Measurement of “learning”

To establish the degree of membership in this causal set, questions have to be asked about the parameters of both new information and prior beliefs that affect the likelihood of governmental learning. All countries gather new information about policy issues over time, so what I am looking for is special efforts of knowledge-building that have influenced the policymaking process and choice of policy instruments. I will assess whether the government’s description of domestic climate change policy options have changed as a result of new information and research, and whether there is a high degree of consensus within the scientific community in the country about the science of climate change and the options for climate change policy.

To be fully in (a score of 1) this causal set, a case must have an unambiguously high presence of both elements: the government’s description of domestic climate change policy options did change as a result of new information and research, and there was a
high degree of consensus within the scientific community in the country about the
science of climate change and the options for climate change policy. To be mostly but not
fully in (a score of .83), a case must have an unambiguously high presence of one of the
elements, and a lower or less clear presence of the other. If both elements can be defined
as present, but not unambiguously, the case will be defined as more or less in (a score of
.67).

The crossover point (a score of .50) is defined as consistency in the government’s
description of domestic climate change policy options despite new information and
research, combined with a high degree of conflict within the scientific community in the
country about the science of climate change and the options for climate change policy.

A case is more or less out (a score of .33) when consistency in description of
national climate change policy options is identified along with evolution toward a
consensus within the scientific community in the country about the science of climate
change and options for climate change policy, signifying a low willingness to change the
status quo despite new information. A case is mostly but not fully out (a score of .17)
when there is a clear conflict between the description of domestic climate change policy
options from the government and a high degree of consensus within the scientific
community in the country about the science of climate change and alternative options for
climate change policy. This will also be conceived of as the realistic minimum of the set,
since a definition of fully out (a score of 0) require negation of scientific results and
advice by a government indicating full rejection of scientific expertise, and probably also
protests from the public opinion, that is not found empirical cases of in developed
democratic countries.

2.2.4.12 Summary
As can be seen from the exercise above, the use of qualitative anchors to identify key
breakpoints to determine fuzzy set membership allows for a tight dialogue between
theoretical concepts and empirical data, making it possible to establish a close fit between
them. In the fuzzy set logic, the conceptual formulations are the most important features,
and the central problem is to assess the membership of selected cases in the sets using
empirical and theoretical knowledge.\textsuperscript{79} This allows a focus on the variation of membership degree that is all relevant, as opposed to conventional variable-oriented research where substantial amounts of variation on a variable can be irrelevant for the explanation.

It is challenging to develop a research design that makes sense of the diversity across cases in a way that unites similarities and differences in a single, coherent framework. The research design and analytical framework developed above is the one I have found to be optimal to study climate change policymaking across several cases. By using three explanatory models I have adequate causal complexity to investigate the richness of the historical cases, and to capture and record the essentials of a causal explanation of the outcome.

2.2.5 Ascribing scores according to the measurements

The main objective of the analysis in chapters three, four, and five is to explain the differences in the development of both phases of policymaking and discuss differences in policy outcomes. The explanation will identify how national positions presented in the international climate change negotiations are shaped, and whether and how the international agreement leads to crystallization of national policies to curb emissions of GHG gases. The two policy-making phases must be treated as sequential, although the feedback between them should be kept in mind. In the next chapters I translate empirical evidence into scores for all the causal sets.

In chapter six, having established the membership degree in the causal sets, and the correspondence between point predictions and actual policy outcome, an examination of the rank of the cases and how ranks correlate on the independent and dependent variables can engender a fruitful comparative analysis. Measurement of bivariat correlations is performed by applying \textit{Spearman’s rho}, to examine the relationship between the pairs of ordinal variables in this study. The measure provides information on both the strength and direction of relationships,\textsuperscript{80} in other words the degree of correlation will tell us how well the model could predict the ranking on the actual policy outcome.

2.2.6 Theory development
The use of the comparative case study method partly rules out possibilities for
generalization, as explained above, but this does not automatically mean that it does not
contribute to theory development. Partial contribution to generalizing is a useful first
step, and this study will generate partial generalizations by identifying a range of
explanatory factors that are valid to varying degrees in my comparison of six cases. The
generalization lies in the hypothesis that these causal sets have explanatory power across
all six cases.

The objective here is not to test the theories as such, but rather to apply theory to
cases in order to interpret them. The interpretations are my contribution to enhanced
understanding, and further development of the theories. Testing is therefore performed in
the sense of systematizing by restricting the number of causal sets according to
theoretical assumptions. Distinctive aspects of the explanatory models for each case are
formulated in terms of general variables. In this way, a particular value of a general
variable that is part of a theoretical framework of causal configurational sets is employed
to describe and explain the empirical data.81 The question as to whether this form of
explanation is adequate will be addressed in chapter six, where the explanatory power of
the three models is discussed in more detail.

PART TWO: COMPARATIVE CASE STUDIES
3. THE UNITARY RATIONAL ACTOR MODEL

3.1 Introduction

The objective of the analysis in part two is to explain the differences in the development of both phases of policymaking, and to discuss differences in policy outcomes for each case. Translating empirical evidence into membership scores for all the causal sets is the method by which this is done.

First, however, having established how to measure the degree of membership in the causal sets, and explained how fuzzy set logic can be helpful in that respect, it is necessary as a reference point to define the membership in the outcome: a proactive climate change policy. In other words, I define what I mean by the term “proactive climate change policy” and the score for all of the cases defining what their actual level of proactivity was in both phases, as opposed to the predictions on proactivity level that will be deduced from the explanatory models.

In chapter one, I discussed the countries’ proactivity in a general manner saying that the general conception of the three countries’ climate policy is that Germany is the most proactive; it has not only implemented a domestic policy program where emission reductions have been achieved, but has also taken on an active role in pushing the international negotiations towards strong emission reduction commitments. Norway is generally conceived of as an active pusher for an international treaty, but not for equally strong emission reduction commitments as Germany. Domestically, Norway has implemented climate policies that are only partially successful and have led to emission reductions that have fallen far short of the country’s national target of stabilization at 1990 levels. The United States has been the least proactive country in terms of accepting emission reductions both domestically and in the international negotiations.

To specify this general conception of the three countries’ degree of membership in a fuzzy set of “proactive climate change policy,” I use a seven-value scale, as in the causal sets defined above. Here, too, I have split the three cases into six by looking at the agenda-setting and the domestic-bargaining phases separately.

To be fully in (a score of 1), a case must demonstrate the unambiguous presence of two elements: strong domestic policies to reduce emissions, and strong promotion of
stringent emission reductions in the international negotiations. To be mostly but not fully in (a score of .83) a case must show unambiguously strong promotion of stringent emission reductions in the international negotiations, and a less clear presence of strong domestic policies to reduce emissions. To be more or less in (a score of .67) a case must show a less clear presence of both the elements, but still achieve emission reductions. The crossover point (a score of .50) is defined as introducing domestic policies that have only a symbolic effect – not leading to actual emission reductions, and promoting only moderate emission reductions in the international negotiations.

To be more or less out (a score of .33) a case must promote low emission reductions in the international negotiations, and implement only symbolic domestic climate change policy programs to reduce emissions. To be mostly but not fully out (a score of .17), a case must promote the status quo, and refuse to accept reduction targets in the international negotiations and implement only symbolic domestic policies. To be fully out (a score of 0) a case must reject international cooperation to reduce emissions and fail to implement any domestic policies.

According to this measure, I determine the score of the six cases as follows:

Table 3.1: Level of proactiveness

<table>
<thead>
<tr>
<th>Cases</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway: Agenda setting 1987 - 1993</td>
<td>.83</td>
</tr>
<tr>
<td>Norway: Domestic bargaining 1994-2001</td>
<td>.50</td>
</tr>
<tr>
<td>Germany: Agenda-setting 1987 - 1994</td>
<td>.83</td>
</tr>
<tr>
<td>Germany: Domestic bargaining 1995 - 2001</td>
<td>.67</td>
</tr>
<tr>
<td>USA: Agenda-setting 1987 - 1996</td>
<td>.33</td>
</tr>
<tr>
<td>USA: Domestic bargaining 1997 - 2001</td>
<td>.33</td>
</tr>
</tbody>
</table>

Norway is given a score of .83 in the agenda-setting phase because it was a strong supporter of establishing an international treaty throughout the UNFCCC negotiations. The country pushed for targets and timetables to be included in the treaty, and for all
industrialized countries taking on such targets. Domestically, Norway was the first country in the world to introduce a carbon tax to reduce emissions.

In the domestic bargaining phase, on the other hand, Norway’s score is at the crossover point, since it promoted only moderate emissions reductions in the international negotiations. The flexibility mechanisms and differentiated targets that Norway promoted would lead to no more than moderate emission reductions. Domestically, Norway did not achieve emissions reductions but rather experienced growth in GHG emissions.

Germany is given a score of .83 in the agenda-setting phase, since the country worked continuously for stringent emission reduction targets in the international negotiations. When it comes to domestic politics to reduce emissions, Germany gained a significant amount of reductions from the unification process, which affects the estimation of the impact that the domestic climate protection policy program to reduce emissions has had. Germany’s score in the domestic bargaining phase drops to .67, since the implementation of abatement policies was weaker in this phase.

The United States gets a score of .33 in the agenda-setting phase, since the country accepted the UNFCCC treaty that has as a central objective to reduce emissions, and since a range of symbolic climate change programs were implemented during the Clinton administration.

In the domestic bargaining phase, the score remains the same because it promoted low emission reductions in the international negotiations in and after Kyoto, and implemented only symbolic domestic climate change policy programs to reduce emissions. The case borders on a score of .17, but since the country has ratified the UNFCCC treaty and still honors that ratification, I define it as within the “more or less in” range.
3.2 The Unitary Rational Actor Model

The objective of the analysis in this chapter is to use the Unitary Rational Actor model to explain the differences in the development of both phases of policymaking, and to discuss differences in policy outcomes for each case. Translating empirical evidence into membership scores in causal sets for all six cases is the method by which this is done.

In the “assessing national costs and benefits” set, the central assumption is that a rational decision-maker will try to balance marginal abatement costs against marginal damage costs. More specifically, the state is assumed to consider the net costs of environmental action compared with the net costs of inaction and status quo. The problem for most countries in the climate change context is that it is difficult to know for certain what the damage costs or impacts of climate change will be in the future. Hence, a direct comparison of abatement costs and future benefits of reduced damage costs is challenging, if not impossible.

Furthermore, countries are assumed to assess the difference in costs (and to some extent benefits) between prevention of serious climate change effects and adaptation to climate changes. It could for instance make better economic sense to wait and see what climate changes will entail for the country, and then adapt, rather than to invest large sums of money into mitigation policy initiatives with uncertain future benefits. In the long run, however, an adaptation strategy could turn out to be more costly than a mitigation strategy.

Under uncertainty, the first choice for policy design would be “no regrets” solutions. When the question of extra costs becomes relevant, i.e. implementing more than no-regrets measures, the policymaker will have to consider the elements of uncertainty involved when making cost and benefit calculations. The bottom line is however to maximize net national gains. It would therefore be better to choose policy design that has many advantages beyond the climate change aspect. A multiplicity of mutually reinforcing political considerations must be expected to influence the formation of national positions on climate change, and a policy proposal is more likely to find support if it serves several policy needs at the same time. Urgency and timing of the issue also play a role here.
In the “interdependence and information” set the central assumption is that policy choices are dependant on what other actors do. What other countries decide to do to abate the climate change problem will have a bearing on a country’s own policy decisions. In rationality theories it is assumed both that a rational actor has preferences for policy that are ordered consistently, and that the actor has preset conceptions and beliefs about possible outcomes of the situation he is entering. These two elements have consequences for policy choice, and are based on the available information the actor has, as well as his perception of how large the probability is for a certain outcome. Information and probability perceptions are in part dependant on what other actors do: the optimal amount of information that is rational to collect varies according to the complexity of the issue and the degree of exchange of information between the involved parties. In climate change research, for instance, the assessments of research results made by the IPCC have been highly important for the countries’ perception of the policy issue.

Hence, an international treaty or framework that regulates action in an equal way for all ratifying countries will both narrow down uncertainty and influence probability calculations for the countries. It is, then, structural changes and influences rather than changes at the actor level that affect the incentives for policy choice. We should look for explanation and understanding in terms of international structures that guide behavior in certain directions and pose limitations on the number of options for action.

The degree of interdependence – to what extent the countries depend upon other’s actions to make policy choices – is here perceived as the degree to which the countries have worked to achieve a comprehensive and binding climate change treaty that embraces as many countries as possible. This as an expression of to what degree the country finds this international structure to be important to establish and participate in to regulate own and other’s opportunity space in a harmonized way, and hence maximize own welfare.

3.3 Assessing national costs and benefits

To assess the membership degree in this causal set for Norwegian, German and U.S. climate policy in the two phases, I move forward in two rounds and consider the

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relevance of central URA assumptions about national costs and benefits. First, I evaluate to what extent and in what way cost assessments - and to the extent that they have been made, benefit assessments - have been employed by the government as a central part of the *policymaking process* to design domestic climate policy and negotiation positions at the international level. The URA prediction is that governments employ such assessments, and that economists will recommend policies where the expected benefits outweigh the expected costs, or no-regrets solutions where there are no extra costs involved.

Second, I look at *policy outcome* by investigating whether certain economic advice has been heeded more than other economic advice. In all three countries there have been a number of studies estimating the potential costs for the national economy of abatement policies and climate change impacts. I assess whether policy advice predicting expected abatement and damage costs for the country has been important in the policy process, and to what degree this advice shaped the decision makers’ perceptions of whether or not the country could afford to adopt a proactive climate change policy. Hence I deduce, first, a measure for analyzing whether the model’s assumptions about what elements were important in the policymaking process fit with the data in this study, and highlight differences between the six cases. Second, I deduce a measure for analyzing whether the model’s assumptions about what elements were decisive for policy outcome, i.e. the level of proactive climate change policy, fit with historical evidence.

First then, to measure if the policymaking process happened the way the URA model predicts, i.e. that cost and benefit assessments are decisive elements, I define that to be fully in (a score of 1) this “costs and benefit assessments matter in the policy process” causal set, a case must have used cost (and to some extent benefit) assessments very actively in the policymaking process. Furthermore, policy advice predicting expected abatement and damage costs for the country must have been decisive, and led to a focus on cost effectiveness and no-regrets solutions. To be mostly but not fully in (a score of .83), a case must have used some cost (and to some extent benefit) assessments in the policymaking process. Furthermore, policy advice predicting expected abatement and damage costs for the country must have been important but not decisive, and led to focus on cost effectiveness and no-regrets solutions. If a case employs cost (and to some
extent benefit) assessments in the policymaking process, and policy advice predicting expected abatement and damage costs for the country were only partially important and led to unclear use of policy advice that focus on cost effectiveness and no-regrets solutions, the case will be defined as more or less in (a score of .67).

The crossover point (a score of .50) is defined to be when use of cost (and to some extent benefit) assessments can be identified, but where on balance the empirical data show that the case is equally in and out, i.e. that policy advice predicting expected abatement and damage costs for the country was sometimes important and sometimes not. The same goes for the focus on cost effectiveness and no-regrets measures in the policymaking process.

The realistic minimum in this causal set is .17, since a country would not ignore the economic effect of climate change and mitigation policy, fail to carry out assessments of national costs and benefits, and be fully out of the set (a score of 0). A case is more or less out (a score of .33) when cost (and to some extent benefit) assessments are not important in the policy process, combined with policy advice predicting expected abatement and damage costs for the country being less important than other kind of policy advice, leading to only partial focus on cost effectiveness and no-regrets solutions. A case is mostly but not fully out of the set (a score of .17) when use of cost (and to some extent benefit) assessments are not important in the policy process, combined with policy advice predicting expected abatement and damage costs for the country being less important than other kind of policy advice, leading to prioritizing policy advice that is contrary to the focus on cost effectiveness and no-regrets measures.

Second, to quantify policy outcome, I measure how well the URA model’s predictions fit the empirical data material with respect to what extent cost and benefit assessments influence a country’s level of proactiveness. In other words, I examine to what degree the “predicted cost-benefit balance” was decisive for outcomes in each of the six cases in the study. Assuming it is important, a rational actor would adopt a very proactive climate policy stance if heeded cost (and benefit) assessments of expected abatement and damage costs show that the predicted benefits of abatement policies would be very high and the expected costs very low. This would mean a score of .83 (mostly but not fully in) in the
“predicted cost-benefit balance” causal set. Benefits can include benefits for the environment, health benefits of reduced emissions, economic benefits, etc. I define this as the realistic maximum since to be fully in (a score of 1) would mean an overweight of benefits and lack of costs that is not found in industrialized countries, since there always is a minimum expectancy of costs related to policy action to abate climate change given the close connection between energy use and GHG emissions. To be more or less in (a score of .67), heeded assessments of expected abatement and damage costs must have shown that predicted benefits of a proactive policy was higher than the predicted costs, but not necessarily much higher. These predictions were decisive for a medium to high level of proactiveness.

The crossover point (a score of .50) is defined to be when on balance the case is neither in nor out of the causal set, identified as when assessments of expected abatement and damage costs display a near balance between predicted benefits and costs of abatement policies. These predictions were decisive for a medium level of proactiveness.

A case is more or less out (a score of .33) when heeded assessments of expected abatement and damage costs show that predicted costs would be higher than predicted benefits, although not necessarily much higher. These predictions were decisive for a medium to low level of proactiveness. A case is mostly but not fully out of the set (a score of .17) when heeded assessments of expected abatement and damage costs show that predicted costs would be very high and predicted benefits very low. In other words, abatement policies would be very expensive for this country. These predictions were decisive for a low level of proactiveness. This also constitutes the realistic minimum of the causal set, since a definition as fully out (a score of 0) would mean that there will be no benefits of reducing GHG emissions or adapting to climate changes, a situation that is not realistic.

3.3.1 Norway in the agenda-setting phase (1988–1993)

3.3.1.1 Policymaking process
Norway’s Prime Minister, Gro Harlem Brundtland, acted as chair of the UN World Commission on Environment and Development (WCED) in the middle of the 1980s, which contributed to putting climate change on the policy agenda in Norway quite early.
As part of a national effort to find ways to implement the WCED report, the first comprehensive national study of the climate change problem (SIMEN 1988-1989) was led by Statistics Norway. The study set out to assess whether it was possible to pursue an ambitious environmental policy and simultaneously achieve economic growth. Macroeconomic modeling and cost-benefit assessments were used in the study. In the years 1988-1990, therefore, SIMEN was the main economic analysis of climate change policy alternatives in Norway, and it concluded that a stabilization of CO\textsubscript{2} emissions at 1987 levels was possible by 2000, and compatible with continued economic growth. The study recommended use of carbon taxes to achieve the reduction.

In 1989 the parliament debated the national CO\textsubscript{2} stabilization target. The SIMEN research project report was important background material and was referred to in the debate. The same was the case for a white paper on Norway’s implementation of the WCED report. Both of these reports were optimistic about the possibility for Norway to stabilize energy use and CO\textsubscript{2} emissions by 2000 without heavy costs for the national economy. Proposals from political parties ranged from doing nothing to reducing emissions 50% by 2005, and the parliament finally agreed on a national target: to stabilize CO\textsubscript{2} emissions at 1989 levels by 2000, and to gradually stabilize total national energy use towards 2000. In other words, a slightly more cautious target than the one recommended in the SIMEN report. The parliament decided in 1990 to introduce a carbon tax, as the first country in the world. The carbon tax came into effect in 1991, and still functions as today’s main climate policy measure. Thus, policy advice about stabilizing CO\textsubscript{2} emissions and introducing a tax to achieve that objective, advice that took abatement costs and benefits into account, were important elements in the policymaking process.

The main political focus in 1988-91 continued to be on carbon taxes as an instrument of indirect regulation leading to emission reductions. In February 1992, the environmental tax committee – a parliamentary policy advisory committee consisting of researchers, economists, and civil servants – released its assessment “Towards a more

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cost-effective environmental policy in the 1990s."\(^\text{87}\) The assessment concluded that the environmental taxation system at that time deviated significantly from the criteria of cost-effectiveness. The assessment pointed out that a total of 40 percent of the CO\(_2\) emissions and 60 percent of the SO\(_2\) emissions were exempted from taxation. The committee raised the important point that the principle of cost-effectiveness dictates that all sectors should be subjected to the same rate of taxation per unit of CO\(_2\) emitted (across-the-board taxation), if the objective is cost-effectiveness in terms of environmental policy objectives.\(^\text{88}\)

When the carbon tax was introduced, the government had decided to exempt some industries – mainly process industries – to prevent competitive disadvantages for them in the international markets. This was politically and economically important, since process industries provide local employment opportunities in communities dependent on cornerstone industry in the remote regions of the country. However, the exemptions and differences in tax levels between emission sources have caused its potential as a cost-effective regulatory measure to reduce CO\(_2\) emissions to not be achieved. So, even though policy advice was important for introducing the tax, the exemptions that were allowed meant that explicit economist advice on how the tax would function cost-effectively as a regulatory instrument was not followed. Other political considerations proved to be more important for the government, such as employment opportunities, international market competition, and accommodating export-oriented industries. Political attention to maintaining Norwegian industries’ competitiveness in international markets was, in other words, judged to be reasonable and more important in terms of optimizing national economic welfare than achieving a cost-effective climate policy regulatory instrument which would have imposed extra costs on politically influential and economically important industries.

Politically, the carbon tax had become a signal of Norway’s status as a frontrunner in climate change issues, and proof that introducing carbon taxes would not lead to economic disruption. However, the years 1991-1992 became years of change in the government’s basic economic conception of the climate change problem, and cost-benefit analysis.

\(^{\text{87}}\) Finans- og toldepartementet (1992).
\(^{\text{88}}\) Ibid., p. 3.
assessments were important drivers in that change. The KLØKT research project (1990-91) applied macroeconomic calculations that provided a basis for economic estimations of some of the effects of planned national and international abatement policies to avoid climate changes. Both the SIMEN and KLØKT studies were employed, along with 38 other studies, when an interministerial working group on climate change worked out a report on how the climate change problem would affect Norway, and proposed strategies for climate policies. The Interministerial Climate Group’s (IMCG) report became a very influential document. Although the report gave some predictions of impacts costs, such as migration of arctic plants and effects on fish stocks, the main focus of the report was on the economic and structural effects of climate abatement policy. The focus was still to a larger degree on estimating the costs of abatement policy rather than on estimating Norway’s vulnerability to adverse effects of temperature increase, or costs incurred by climate change impacts. There were large uncertainties in impacts research, especially when it came to region or country-specific data.

The major conclusions of the IMCG were twofold, based on the projected effects on Norwegian economy from an international climate treaty versus the effects of unilateral policy. As a domestic policy strategy, carbon taxes were the preferred instrument with which to achieve GHG emission reductions. The IMCG concluded that a carbon tax would have only a slightly negative effect on Norway’s economy, provided that the income from the tax would be redirected to allow a reduction in other taxes and levies. An income-neutral transformation of the tax system would ease the transition that would follow from a carbon tax introduction, and encourage a transition to less use of fossil fuels.

The carbon tax was only part of the assessments made by the IMCG, government agencies like Statistics Norway and the Ministry of Finance, and a range of economic research institutes. They all focused on the relationship between Norway’s set of special circumstances – the petroleum sector, hydro-based electricity, and transportation – to

89 Participants in this project were Statistics Norway, IFE (Institute for Energy Technology), NVE (Norwegian Energy and Water Directorate), and SAF (Centre for Applied Research).
90 The Interministerial Climate Group was established in the fall of 1989, and finalized its report in February 1991. The group consisted of 10 representatives from 9 ministries (Foreign Affairs, Prime Ministers Office, Fisheries, Transportation, Environment, Trade, Finance, Oil and Energy, and Agriculture).
underline that all policy choices had to be made knowing that Norway had high marginal costs compared to other industrialized countries. Because of these special national circumstances, there were few readily available low-cost policy measures that could be implemented.

The petroleum sector is both the most emission intensive and the most important sector of the economy in terms of income from exports and share of GDP. In the years 1988-1993, the export of crude oil and natural gas increased significantly, from 23% of the country’s total exports in 1988 to a level of 33% in 1993. The product before tax from the petroleum sector represented about 12 % of GDP in the years 1990-1993. Given how important this sector was and is for the Norwegian economy, the dilemma for policymakers becomes evident when we also know that the energy-producing sector emits 30% of CO₂ emissions, 22% of NOₓ emissions and 61% of NMVOC emissions. Reductions in oil and gas production would lead to less emission, but at the same time to revenue losses for the Norwegian economy. Also, since Norway is so dependant on the income from petroleum exports it would be expensive if other countries reduced their consumption of oil and natural gas as a result of national climate policies. Despite this, the carbon tax was introduced to the petroleum industries in 1991, disregarding protests.

Almost 100% of electricity in Norway is generated by hydropower, which produces no GHG emissions. Increased precipitation as a result of changed weather patterns could open for increases in electricity production in some areas, although this gain would be seasonal. The capacity to produce more electricity in existing facilities is, however, not correlated to increases in precipitation because of elements like the capacity of the water-magazines, turbines, etc. Norwegians use more electricity per capita than any other nation in the world, and have become accustomed to having near unlimited access of clean electricity at low prices. The high degree of hydro-based electricity puts severe limits on the possibility for Norway to reduce emissions through policy measures with low marginal costs that are relevant for other Annex B signatories, like cuts in coal subsidies in Germany, or switching from coal-fired to natural gas-fired power plants in the UK.

Transportation costs are relatively high in this geographically challenging and sparsely populated country with long distances between cities and towns. An explicitly stated policy objective since World War II has been that population levels should be maintained in the rural and fjord districts. More and more cargo transportation is being carried out by heavy trucks rather than shipping or railroad. GHG emissions from transportation have increased over the last years as a result. In 1988 the emissions from all mobile sources represented 26% of total emissions, and in 1998 they had increased to 37.5%. Thus, in the transportation sector as well, politicians faced balancing between economic and environmental considerations when the climate change issue entered the agenda. As part of the 1991 parliamentary negotiations on the national budget, the government introduced carbon taxes on gasoline and mineral oil. These carbon taxes came into effect in 1992.

The correlation between a petroleum-dependant economy, hydro-based electricity, and high transportation costs resulted in expectations of high marginal costs for climate policy for Norway. This was emphasized by policy advisers in national cost assessments – such as SIMEN, KLOKT, and IMCG – that became decisive in the policymaking process for the perception of the political feasibility of climate policy in the agenda-setting phase.

In 1990-91 policy rhetoric shifted towards increasing focus on how a cross-sector and multinational policy approach could increase the cost effectiveness for all countries, and towards an increasing interest in how an international climate treaty would affect the Norwegian economy. The argument was that Norway’s total contribution to global emissions was minuscule. Therefore the country could do a better job for the environment if it contributed to finding multilateral solutions to the problem. It would be more cost effective to reduce emissions at a lower price in another country than Norway, with the important modifier that Norway and other industrialized countries should pay for such reductions. This became the core of the new direction in Norwegian climate policy: the flexibility strategy. So, prior to 1990-91, the country was a pusher for both international initiatives and rather extensive domestic reduction policies, also in terms of CO2 taxes.

93 1998 numbers, Ibid., p. 39.
After 1991, the focus on domestic action became more and more relaxed throughout the 1990s. There was a continuous focus on cost-effectiveness in the policymaking process during the agenda-setting phase.

3.3.1.2 Score
Policy advice from the SIMEN report was an important part of the hefty debate in the parliament when the stabilization target was established in 1989. Another policy assessment document that was used in the debate was the white paper on Norway’s implementation of the WCED report. The policy decision of a stabilization target was within the range of what the two reports recommended. The IMCG and KLØKT recommendations were followed when the carbon tax was introduced in 1991. However, the tax was not designed in a cost effective way, as 40% of emissions – mainly from process industries – were exempted from the tax against explicit policy advice. This flaw in cost effectiveness was pointed out by economists in several studies. When some sectors do not have to pay the tax, it means that other have to pay more to obtain the effect of the political measure. However, the exemptions increased the political feasibility of the tax because it ensured the international competitiveness of the export industries, which had already been given high priority. It was rational to maximize national economic welfare, and avoid being put at a competitive disadvantage compared to other countries. Cost-effectiveness was a major focus in the policymaking process.

At the same time, however, research reports and government agency policy advice in 1990-91 began to take into account the necessity for Norway to focus on international approaches to mitigate climate changes. There were few domestic low-cost options for reducing CO₂ emissions. Because the idea of an internationally harmonized carbon tax was rejected, other multilateral measures were discussed. New policy advice underlined the need for international harmonization of climate policy. A focus on international cost effectiveness became the basis for Norway’s positions in the international UNFCCC negotiations. Norway thus pursued a dual strategy, introducing taxes at home, and at the same time working for other types of multilateral solutions in the international negotiations.
In the analysis I find that use of cost (and to some extent benefit) assessments can be identified as being important in the policymaking process. Furthermore, I find two kinds of policy advice: first, recommendations to use carbon taxes as a cost-effective domestic emissions reductions strategy, and second recommendations to pursue a multilateral agreement to achieve cost-effectiveness and avoid high abatement costs. Policy decisions followed the second type of advice, but not the first. Cost-effectiveness was, however, found to be an important focus in the policymaking process, which was rational for maximizing national economic welfare. In other words, I found that cost assessments were important in the policymaking process, and policy advice predicting expected marginal abatement and damage costs for the country was important but not decisive, and led to focus on cost effectiveness and no-regrets solutions. The degree of membership in the “costs and benefit assessments matter in the policy process” causal set is therefore mostly but not fully in, and the score is set at .83.

3.3.1.3 Policy outcome

The URA prediction is that Norway should have chosen a medium to low level of proactive policy in the agenda-setting phase because the cost-benefit balance was predicted to be negative (a score of .33). More specifically, cost (and benefit) assessments in early research reports showed that Norway would suffer economic losses if implementing abatement policies to achieve reductions (not stabilization) of emissions.

Macroeconomic top-down abatement cost studies predicted that Norway would experience economic loss from introducing high carbon taxes. For example, the SIMEN study by Bye, Bye and Lorentsen (1989) estimated a 1.5% cost as GNP impact if CO₂ emissions were reduced with 16% by 2000, but no significant costs if emissions were stabilized in that period. A study by Glomsrød et al. (1990), part of the KLØKT research program, estimated a 2.7% cost as GNP impact if CO₂ emissions were reduced 26% by 2010. 95 A bottom-up abatement cost study by Unander (1993) estimated the cost of reducing CO₂ emissions 10% from 1990 level by 2005 to be 0.65% of the GDP, and the

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cost of reducing 20% from 1990 level by 2010 to be 0.95%. In other words, macroeconomic estimates showed that Norway would incur more costs than benefits from implementing abatement policies.

The main reasons for the predicted high abatement costs were the national economic dependency on the petroleum sector, the high degree of hydro-based electricity production, and far distances necessitating increasing transportation of goods and people. The policy advice was to use carbon taxes as a cost-effective domestic emissions reductions strategy, but also to pursue a multilateral agreement to achieve cost-effectiveness and decrease the expected high abatement costs. The international agreement would be needed to maximize national welfare gains or avoid losses. The URA prediction is that such a cost-benefit balance (a score of .33) would lead to only a medium to low level of proactive climate change policy, since predicted costs would outweigh predicted benefits.

Looking at what level of proactive policy was actually chosen, I find that in the late 1980s Norway was among the leading pushers internationally for CO₂ emission reductions. For instance, during the Toronto “Conference on the Changing Atmosphere” in 1988, Norway was among the few countries in the world that pushed for international cooperation to seriously address the issue of emissions reductions. Furthermore, Norway implemented a carbon tax as the first country in the world in 1991. This is a rather surprising stance for a small country like Norway, according to the URA assumptions on cost-benefit calculations. A small and open economy like Norway would not stand to gain much from unilateral emissions reductions and policies, neither economically nor environmentally. In fact, according to such assumptions the policy of choice for a small country, which emissions have miniscule effect for the global problem, and that face costs from unilateral mitigation action would be to act as a free-rider.

We saw in the previous section that with reference to economic advice predicting national costs (and benefits), a carbon tax was introduced in 1991 on grounds that national costs would not be very high. This indicates high proactivity since other

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96 Ibid., p.175. A general note of caution to cost assessments in the early 1990s was mentioned in the IPCC second Assessment report, and said that bottom-up analyses often showed lower costs than top-down analyses as a result of the methodology employed in the different types of studies.

countries did not introduce similar taxes at that time. Politically, the carbon tax became a signal of Norway's status as a frontrunner in climate change issues, and was referred to as verification that a carbon tax would not lead to economic disruption.

However, as described in the section above, there were some flaws in the design of the tax – namely that 40% of emissions, mostly from the process industries, were exempt from the tax against explicit policy advice. These exemptions were made to protect the international competitiveness of Norway’s export-oriented industries. Hence, economic considerations had an effect on what degree of proactive climate policy Norway chose when it came to comprehensiveness of carbon taxes. The fact that Norway introduced a carbon tax while the rest of its trade partners waited signifies high degree of proactive policy, but the design of the tax secured minimal harm to economically vital sectors.

The correlation between a petroleum-dependant economy, hydro-based electricity, and high transportation costs resulted in expectations of high marginal costs for climate policy for Norway, and few opportunities to employ low-cost policies. This was emphasized by policy advisers in national cost assessments that became decisive for the perception of the political feasibility for climate policy in the agenda-setting phase. In taking policy decisions, therefore, Norway came to appreciate that to optimize cost-effectiveness, international harmonization of climate policy would be the best way for the country to approach the climate change problem. Because the IMCG report had concluded that without international coordination of climate policy several sectors of the economy could be severely affected, the government implemented a negotiation strategy after 1991 based on multilateral solutions and flexibility mechanisms where the objective was to secure cost effectiveness in a climate change treaty, which was now perceived to be the best way to secure national economic welfare.

In the UNFCCC negotiations, which represented the first opportunity to establish an international climate change treaty, Norway became an active pusher to influence the international negotiations in a direction that incorporated the desired flexibility features. Norway focused the efforts on pushing argumentation about the importance of cost-effectiveness in an international agreement, both across countries and across sectors. Norway introduced the idea of joint implementation – or a clearing house for joint actions
as it was called at the time. The basic idea was that abatement measures should be taken where the costs are lowest, and that the industrialized countries could invest in such projects in developing nations.98

The same rationale lay behind the other main element in Norway’s strategy at the time: If emissions reductions were to be regulated through an internationally harmonized carbon tax or joint implementation, which were the topics on the agenda, Norway would then prefer to include all gases in the equation since this would even out any country-specific cost disadvantages due to sector-related emissions. This strategy was called the comprehensive approach.99 These two elements comprised Norway’s preferred negotiation strategy in the UNCED negotiations in 1991-92. However, it soon became clear that the United States, the EU, and other central actors in the negotiations rejected the thought of an internationally harmonized carbon tax, and Norway decided to abandon that negotiation position. The focus on national abatement targets and joint implementation was continuously pursued. In the UNFCCC treaty, signed in 1992, countries agreed to work for a return of emissions levels to 1990 levels (Article 4.2 b), although this was not legally binding in terms of specific national targets. Norway continued to push for binding targets and timetables in the international negotiations both during the UNCED negotiations and later.

3.3.1.4 Summary

The point prediction of the URA model was for a medium to low level of proactive climate change policy, because the balance of costs and benefits showed an overweight of costs (a score of .33 in the “predicted cost-benefit balance” set). Actual policy decisions were stronger—at a medium to high level of proactivity (a score of .83 in the “level of

proactive climate change policy” set) because Norway did more than no-regrets policies, like introducing carbon taxes before other countries, and pushing for binding targets and timetables in the international negotiations. Pure URA assumptions can not fully explain Norway’s policy choice in this phase, and the actual policy outcome was a more proactive climate policy than the model predicts.

3.3.2   Norway in the domestic bargaining phase (1994-2001)

3.3.2.1  Policymaking process
The national carbon tax was in force as the main climate policy instrument during this phase, and various cabinets repeatedly sought expert advice on how to maximize the environmental effect of the tax. One important policy advice group was the Green Tax Commission, with a mandate from the parliamentary majority to look more closely at how a green taxation regime could improve both environmental standards and rates of employment. The main conclusion of the green tax commission was a recommendation to shift the burden of taxation from red to green taxes. It presented a number of specific recommendations as to how such a reform could take place. It recommended both new and expanded environmental taxes and cuts in subsidies that had a negative impact on the environment. The green tax commission’s report received a great deal of attention when first released, but some time passed before it was followed up with proposals on tax policy reform.

99 The UNFCCC states that policies and measures to address a human-induced climate change shall stabilise atmospheric concentrations of greenhouse gases “at a level that would prevent dangerous anthropogenic interference with the climate system” (Art. 2), and that the measures should be “comprehensive” and “cost-effective” (Art. 3.3). In the 1997 Kyoto Protocol, the target is formulated in terms of “CO₂ equivalents”, and the principle of comprehensiveness and cost effectiveness are made operative as the aggregate anthropogenic carbon dioxide equivalent emissions of six specified greenhouse gases or groups of gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) (Art. 3.1., Annex A). This implies that parties can implement policies and measures to reduce emissions of any of these gases to fulfill their Kyoto Protocol commitments. Thus, the approach adopted in the UNFCCC and made operational in the Kyoto Protocol is a multi-gas abatement strategy.

100 See chapter 3, table 3.1.

101 The Green Tax Commission was a parliamentary commission working from 1994 to 1996. The mandate of the commission was to look at “how the interests of both increased employment and an improved environment can be protected by shifting the burden of taxation from employment to activities that imply increased use of resources and increased pollution.” (NOU 1996:9, author’s translation) In other words, the commission was to look into the possibilities of a shift from red to green taxes.
Several studies at this time focused on the effect of carbon taxes and recycling of revenue. They all showed that lump-sum recycling of tax revenue does not give a double dividend effect, whereas if recycling is done via reduction of social security contributions, a double dividend effect was predicted. Studies with such conclusions, including those by ECON (1997) and Håkonsen and Mathiesen (1997), along with the green tax commission’s report were important background material that put the focus of the policymaking process on how carbon taxes could work cost-effectively. Using this background material, at the end of its term in executive power in 1997 the Labor Party presented the case for an expanded carbon tax. In two key white papers, the carbon tax was promoted as the main climate policy instrument.

As a follow up and strengthening of national policies in an effort to comply with the target of no more than a 1% increase in emissions from 1990 that Norway had agreed to in the Kyoto protocol in December of 1997, attempts by the Center-coalition government failed in 1998 to make the carbon tax more cost-effective for the national economy by introducing it as an across-the-board tax that would include all economic sectors. In spring 1998, following the green tax commission’s advice, the government proposed a small tax (NOK 100 per ton of CO2) on all CO2 emissions that had previously been exempted from environmental taxes. Out of consideration for potentially competitively disadvantaged industries, however, they agreed that the tax should be fully compensated in the first years, after which the compensation would be gradually reduced, and finally phased out in 2010 at the very latest. The proposal was flatly rejected by the majority in the parliament. Not unexpectedly, the proposal to expand carbon taxes incited a storm of protest from special interest groups representing heavy industry. The process industry’s national association (PIL) calculated that the tax, after the completion of the compensation plan, would cost up to NOK 180,000 per industrial employee. They protested strongly and predicted bankruptcies and relocation of export-oriented industry abroad. The figures developed by the Ministry of Finance for various industries,

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104 Dagens Næringsliv, April 24, 1998.
however, showed that the companies would keep most of their profit, even if the government’s proposal should be passed.\textsuperscript{105}

The proposal to expand carbon taxes was never implemented. The Labor Party cooperated with the two conservative parties – the Progress Party and the Conservative Party – to block the proposal during the parliament’s preparation of the Center-government’s proposition during the summer 1998. Instead they proposed the introduction of a system of emission quotas to regulate untaxed CO\textsubscript{2} emissions. Hence, up to 1998 the discussion of the benefits of carbon taxes was central, and after that the focus shifted towards a system of tradable quotas.

Influenced by the development in the international negotiations, the Norwegian parliament decided to consider the consequences of establishing a national system of tradable emission quotas for greenhouse gases to achieve the commitments of the Kyoto Protocol, and an advisory committee was established. The “Quota Commission” released its report in December 1999. The commission recommended a system that would include all emissions suitable for regulation by quotas, which would cover about 90\% of Norwegian emissions of the six Kyoto Protocol greenhouse gases. The majority further recommended that all sources should pay market price, in line with the polluter-pays-principle, and that no quotas be allocated free of charge. A minority in the committee recommended that the yet untaxed emitters should be granted free quotas, whereas the majority decided that the question about free quotas should be left to politicians.\textsuperscript{106}

Studies like Bye and Nyborg (2000) and Hagem and Westskog (1998)\textsuperscript{107} analyzed how an emissions trading system would affect the economy, and also discussed how such the design of such a system could increase cost-effectiveness. Studies by Hoel (1998) and Holtsmark (1999) compared the benefits of taxes versus emissions trading as climate policy instruments. Furthermore, a joint study by ECON and CICERO (1999)\textsuperscript{108} discussed various forms of issuing of permits, and pointed out effective criteria for giving out free permits when organizing an emissions trading system. All of these assumed that

\textsuperscript{106} Miljøverndepartementet (2000).
\textsuperscript{108} Holtsmark, B. and A. Torvanger (1999).
abatement policies would be implemented to achieve the commitments of the Kyoto Protocol.

In summary, these studies found that Norway must expect much higher costs from abatement policies than most other industrialized countries. Particularly expensive would be a domestic abatement policy system of either carbon taxes or domestic tradable permits because of the country’s economic dependence on the petroleum sector, and intensive use of hydropower for electricity production. These studies stated that the most beneficial way for Norway to reduce its potential costs was to participate in an international emissions trading regime. Studies like these were actively employed by the Quota Commission in its work, and were later referred to in the policymaking process.

With the emissions trading debate, Norwegian climate policy entered a new era. Important political and industrial actors have had a positive attitude to an emissions trading system throughout the domestic bargaining phase, in spite of the fact that it might imply high costs for some sectors and industries. For others, like the petroleum industry, a transition from taxes to quotas would most likely mean reductions of costs. The costs mainly depend on the conditions attached to the use of the quotas, and also whether or not they are allocated free of charge. Allocating non-tradable free emission quotas to some sources would violate cost effectiveness interests. It would also decrease the government’s revenue, revenue that could be used to lighten the burden of taxation in other parts of the economy. In spite of these warnings, politicians debating the emissions trading system in the parliament in 2001 gave signals about introducing free, non-tradable quotas to some industries to secure their trade competitiveness. In two White Papers on climate policy, the government suggested that restrictions should be put on tradability for some of the free quotas to prevent relocation of corporations out of the country, but that a sufficient number of the free quotas be made tradable to secure incentives to undertake emission reductions. Hence, policy advice about securing quotas as a cost-effective regulatory instrument was not taken into account. As in the agenda-setting phase, political considerations focusing on a broader evaluation of what would maximize the national economic welfare weighed more.

Like green taxes, a system of tradable quotas is a policy instrument that has potential for a cost-effective outcome. Tradable emission quotas will also equalize marginal abatement costs across sources, provided the market is perfectly competitive. The argument for cost effectiveness is thus an argument for emission taxes or tradable quotas on the one hand and non-tradable quotas and other types of direct regulations on the other hand.110

All in all, we see that policy advice concluded that a tradable quota system can function well to reduce emissions in a cost effective way. However, politicians signaled in 2001 that they would put restrictions on the tradability of the free quotas allocated to the export industries. This would compromise cost-effectiveness and be contrary to the advice from the quota commission.111 The Norwegian parliament came to precisely that conclusion when the specifics about an emissions trading system were decided in June 2002 (which is outside the time-range of this study.) The decision was that a domestic emissions trading system would replace the carbon tax partly from 2005, and fully from 2008.

We saw earlier that Norway in the agenda-setting phase placed increasing focus on international solutions based on the principles of cost-effectiveness, such as the comprehensive approach and flexibility mechanisms for joint implementation between countries, to achieve reductions.112 The main argument for this policy direction was that hydro-produced electricity, combined with the economic dependence on the petroleum sector makes Norway vulnerable to high climate policy abatement costs. It would be expensive for Norway to comply with the Kyoto Protocol by undertaking solely domestic abatement. The Norwegian Pollution Control Authority (SFT) in a study pointed out that marginal costs would exceed NOK 1000 per metric ton of reduced CO₂ equivalent emissions. Average costs of domestic emission reductions would, however, be lower. Sectors of the economy that would be hardest affected are petroleum production and export, process industries, and transportation.113

111 Miljøverndepartementet (2002).
The largest cost of complying with an international climate treaty like the Kyoto Protocol would come from the reduced income from the petroleum sector. Assessments have been made of what this would cost. Expectations are that increased consumer prices, reduced demand, and therefore also reduced producer prices on fossil fuels would have extensive consequences for Norway, which in 1998 was the world’s seventh largest oil producer and second only to Saudi Arabia in terms of oil exports. The Ministry of Petroleum and Energy has calculated that the value of Norwegian oil export in 1998 was as large as NOK 123 billion, and constituted approximately 30% of Norway’s income from exports. The costs of decreased income from the petroleum sector as a result of the implementation of an international treaty have been assessed to be 15 to 18 times higher than the costs of buying emission permits and implementing domestic policy programs in 2010.\textsuperscript{114} In other words, as long as the Kyoto Protocol is implemented, Norway will lose income from oil and natural gas even if the country should choose not to comply with its commitments.

Since the end of the 1990s, increasing focus has been put on another kind of policy advice affecting cost assessments – namely assessing potential damage costs. Damage costs will depend on the country’s vulnerability to physical impacts of climate change. Vulnerability in this sense is a function of three things; first, the expected degree of exposure to climate changes like more frequent extreme weather events in certain regions of the country; second, the sensitivity of the Norwegian economy – and different economic sectors – to climate changes; and third, the economic and institutional capacity for adaptation to climate changes. Vulnerability studies\textsuperscript{115} show that even though there will be some regional differences in the impacts of climate changes, the general physical vulnerability is rather low in Norway because of factors such as the relatively small share of the GDP from agriculture, and high adaptive capacity in terms of being a rich, well-functioning society with institutional structures capable of meeting the challenges posed by climate changes.

To fully understand the country’s vulnerability, we need to explore its adaptive capacity. This relates closely to the national economy, since a strong economy will

\textsuperscript{114} Kolshus, H., A. Torvanger, and H. Malvik (2000).
\textsuperscript{115} Sygna, L. and K. O'Brien (2001).
increase the ability to adapt. Also, technological innovation and knowledge play a strong role. Increasing information and specified knowledge about the possible impacts of climate change have resulted in increases funding from the government to conduct research on impacts and vulnerability. Even though Norway is not among the leading research nations in the world on climate change, the capacity for technological change and adaptation seems good.

3.3.2.2 Score

The analysis shows that the carbon tax remained the preferred domestic policy instrument. Despite repeated policy advice pointing out how exemptions from the tax lead to a lack of cost effectiveness, the government did not manage to correct this flaw. Policy advice pointing out how a cost-effective CO₂ tax could be achieved was not followed. Research reports and assessments concerning a national emissions trading system had a single focus on cost-effectiveness, as had economic policy advice. However, politicians signaled in 2001 that they would give the export industries free but partly non-tradable quotas. This would compromise cost-effectiveness and be contrary to the advice from the Quota Commission. These flaws in cost-effectiveness arose as a result of political weighting between national climate change policy costs given environmental efficiency and the national importance of keeping the industry sector competitive on international markets.

The analysis shows that policy advice focused to a considerable extent on expected marginal abatement and damage costs, and that the focus of the policymaking process was very much on cost-effectiveness. Such considerations were important in policy decisions about strategy and position choice in the Kyoto Protocol negotiations. Expectations about large economic consequences resulting from reduced income from the petroleum sector, as well as expectations of high abatement costs if emission reductions were to be done domestically, led to a clear focus in the policymaking process on designing a political strategy to push for high degree of flexibility in how the Kyoto commitments were to be reached, including emissions trading, joint implementation and comprehensiveness in terms of number of gases to include. To sum up, the analysis shows that cost (and to some extent benefit) assessments were actively used, although
there was a less clear implementation of policy advice that focuses on cost effectiveness. This pertains to the difference between policy decisions regarding the domestic versus the international level. The membership in the “costs and benefit assessments matter in the policy process” causal set is therefore mostly but not fully in, and the score is set at .83.

3.3.2.3  Policy outcome

The URA model predicts a medium to low level of proactive climate change policy for Norway in the domestic bargaining phase because the cost-benefit balance was predicted to be negative (a score of .33 in the “predicted cost-benefit balance” set). This prediction is based on basic URA elements: studies and assessment reports showed that the expected costs from implementing domestic abatement policies would be higher than the benefits.

More specifically, several studies had pointed out very high expected costs of implementing domestic abatement policies like carbon taxes or a domestic tradable permits system to achieve the commitments of the Kyoto Protocol. For instance, Holtsmark and Torvanger (1999) pointed out that an international emissions trading system would reduce these costs, and that the criteria for allocating free permits would determine the cost-effectiveness of the policy instrument, since allocation of free permits to vulnerable export industries would incur loss for the national economy. Kolshus et al. (2000) predicted that the costs from decreased income from the petroleum sector as a result of the implementation of an international treaty would be 15 to 18 times higher than the costs of buying emission permits and implementing domestic policy programs in 2010.116 In other words, Norway would lose income from oil and natural gas even though the country should choose not to comply with its commitments under the Kyoto Protocol. These reports nevertheless pointed out that international cooperation would secure that economic loss was minimized, particularly considering the relatively high marginal costs that Norway would have with domestic abatement instruments. This indicates that the level of proactivity should be adapted to such a cost-benefit balance, and be medium to low.

So, were the actual positions and policy choices made on grounds of the predicted cost-benefit balance? First, exemptions from the carbon tax led to lack of cost

effectiveness. Still, the carbon tax remained the preferred domestic policy instrument, and various governments did not manage to abate the flaw. Policy advice pointing out how a cost-effective CO₂ tax could be achieved was not followed. Consequentially, the tax’s environmental efficiency potential was not fulfilled because of considerations by the politicians about the total national welfare, including international market competition and keeping a low unemployment level. Seemingly, therefore, achieving maximum cost-effectiveness was not the main driver for proactiveness, and it can not be fully explained by the URA model.

Second, after the Kyoto conference a domestic emissions trading system became part of the political agenda. A similar debate about how to secure cost-effectiveness occurred. Politicians signaled in 2001 that they would give the export industries free but partly non-tradable quotas. This would compromise cost-effectiveness and be contrary to the advice from policy advisers. Flaws in cost-effectiveness arose as a result of political weighting between national climate change policy costs given environmental efficiency and the economical and political importance of keeping the industry sector competitive on international markets.

Expectations about large economic consequences as a result of reduced income from the petroleum sector, as well as expectations of high abatement costs if emission reductions were to be done domestically, led to a clear political strategy to push for high degree of flexibility in how the Kyoto commitments were to be reached, including emissions trading, joint implementation and comprehensiveness in terms of number of gases to include. Policy advice focused to a considerable extent on expected abatement and damage costs, and such considerations were important in policy decisions about strategy and position choice in the Kyoto Protocol negotiations. Norway worked for maximum flexibility in how to achieve emissions reductions, but also for binding targets and timetables throughout the domestic bargaining phase. A regulatory instrument like an international treaty that secures coordinated international action was preferred by Norway to minimize its own national welfare losses.

Norway supported the direction the Kyoto Protocol negotiations took after 1996, becoming more and more focused on flexibility mechanisms. Norway’s dilemma was being a major oil and gas producer, and at the same time pursuing a role as a frontrunner
to secure an international treaty. Policy advice had, as demonstrated above, repeatedly pointed out that reducing emissions by approximately 12 Mt CO$_2$-equivalents by the end of the first Kyoto period (2008-2012) would be very expensive if all reductions were to be done domestically. Norway’s active role in supporting a high degree of flexibility in terms of where, when, and which greenhouse gases were to be reduced therefore signals that the government followed policy advice so as to avoid the high expected abatement costs from domestic emission reductions. Expectations of abatement costs seem to have been important in making these policy choices, and Norway’s positions in the international negotiations focused on argumentation of how to achieve cost effectiveness. One core position was, for example, that emission reductions could be achieved at lower costs in low-cost countries like Poland and Mexico. If Norway or any other OECD country contributes to or pays for reductions of greenhouse gases in low-cost countries, they should be credited with reduced demands for domestic emissions reductions.

3.3.2.4 Summary
To sum up, the URA model’s point prediction was for a medium to low level of proactivity in this phase, because of expected high costs of domestic abatement policies and mere loss-avoidance from applying the flexibility mechanisms agreed on in Kyoto, resulting in a score of .33 in the “predicted cost-benefit balance” causal set. The actual policy positions show that Norway’s level of proactive policy was medium, which gives a score of .50 in the “level of proactive climate change policy” causal set. In other words, the actual outcome was a slightly more proactive policy than the model predicts.

3.3.3 Germany in the agenda-setting phase (1988-1994)
3.3.3.1 Policymaking process
In the period 1987-1994, a very important process of issue framing took place in Germany: The Enquete Commission, which comprised parliamentary politicians representing all political parties as well as scientists and other experts on global climate change issues, assessed both the science of climate change and policy options through

117 See chapter 3, table 3.1.
several scenarios in six studies. Based on these assessments the commission recommended a 25-30% reduction in Germany’s CO₂ emissions from 1987 levels by 2005. The target could, according to the commission, be reached without harmful effects to the German economy provided that energy efficiency efforts, investments in renewable energy sources, and continued use of nuclear energy became the focus of national energy policy. The broad base of participation in the commission, and the extensive information potential that the thorough assessment of this complicated issue opened for resulted in a high degree of acceptance and consent with the commission’s policy advice. In June and November 1990, and again in December 1991, the German parliament voted in favor of a CO₂ emissions reduction target of 25% from 1987 levels by 2005.

The economic background for the discussion in the commission was special, because of the unification process between East and West Germany that took place at the same time. GHG emissions were substantially reduced as a result of economic restructuring and modernization of energy production in the East. For instance, in the new federal states before unification lignite coal was the dominant fuel and met almost 70% of primary energy requirements. Lignite production decreased after unification, due to economic restructuring, fuel substitutions, and improvements in energy-use efficiency. From 1989 to 1993, lignite production decreased 62%.¹¹⁹ The economic restructuring thus led to a decline in Germany’s emissions during the first half of the 1990s. Between 1990 and 1996, energy-related CO₂ emissions in Germany fell by 10.3%. In relation to GDP, CO₂ emissions fell by 19% within the same period. The decline per capita was 13.3% between 1990 and 1996.¹²⁰ The reasons for these trends are varied. On the one hand, economic reconstruction and reduced use of carbon-intensive lignite coal in the new federal states played a significant role in the improvement in the whole of Germany’s emissions balance. On the other hand, the link between economic growth and CO₂ emissions weakened in the old federal states. On the whole, per capita emissions of

¹¹⁸ The German Bundestag from time to time appoints expert commissions to make assessments on complex policy issues.
¹²⁰ BMU (1997a).
CO₂ in the old and the new federal states converged towards the end of the 1990s to approximately 11 metric tons per year.\textsuperscript{121}

Germany’s own reserves of fossil energy sources – oil, coal, and natural gas – in 1991 amounted to less than 1% of world reserves. Furthermore, the country’s oil and natural gas production was by far enough to cover its own requirements. At the time, oil met a total of 41% of Germany’s primary energy requirements, and gas a total of 18%. Hence, some 99% of Germany’s oil requirements and 96% of its gas requirements had to be met through imports.\textsuperscript{122} The government has stated that Germany needs a balanced energy mix that includes hard and lignite coal, oil, natural gas, nuclear power and renewable energies to secure a reliable energy supply. Coal met about one third of Germany’s energy needs in the 1990s, and has been an important part of the country’s electricity production, particularly since it is the most abundant domestic fossil fuel source. The energy-mix trend shows that the use of hard coal and lignite as energy sources declined from 1990 to 1996, whereas the use of oil, gas and nuclear increased. But still in 1997 about 50% of electricity production was based on coal, while 30% was based on nuclear power.\textsuperscript{123}

As we can see, GHG emission reductions were an immediate effect of the unification of the eastern and the western federal states. The experiences from the drastic reductions in energy consumption as a result of unification indicated to German politicians that energy savings were both possible and economically sound. The belief at the time was that further energy savings were readily achievable, and that such savings would outweigh the heavy costs of unification in terms of infrastructure investments, economic subsidies, economic modernization, and so forth. The net transfers of public funds from western to eastern federal states amounted to DM 106 billion in 1991, DM 115 billion in 1992, DM 129 billion in 1993, and DM 125 billion in 1994.\textsuperscript{124} Hence, the GHG emission reductions in the early 1990s were not entirely “a free lunch” for Germany.

\begin{footnotesize}
\textsuperscript{121} BMU (1997a).
\textsuperscript{122} BMU (1994): p. 89.
\textsuperscript{123} BMU (1997a).
\textsuperscript{124} BMU (1997a): p. 11.
\end{footnotesize}
Against this backdrop of being an energy-importer and having had some advantages when it came to GHG emissions reductions as a result of unification, the reports and results from the Enquete Commission created a strong belief in the opportunities for energy conservation in the policymaking process in the agenda-setting phase. Economists and other policy advisors underscored that energy savings would be one central element in a GHG reduction policy strategy for Germany. In studies associated with the Enquete Commission process, as well as in studies ordered by the Ministry of the Environment and the Ministry of Economics, the energy saving potential and the carbon dioxide reduction potential were assessed. As one of the largest studies of energy end-use sectors in the world, the Enquete Commission involved approximately 150 studies from 50 institutes, and showed that 1981 levels of CO₂ emissions could be reduced by 16.5% at zero cost to the economy.¹²⁵ Institutes like the Deutsches Institut für Wirtschaftsforschung (DIW), Prognos AG, and the Fraunhofer-Institut für Systemtechnik und Innovationsforschung produced studies on these issues during 1991 that were used in the second parliamentary debate in 1991 about the CO₂ reduction target, and in political discussions about how to implement the target.¹²⁶

The advice given in the studies focused on how extensive emission reductions could be achieved within the time frame of 1990 to 2005, without harming the national economy. In 1992, for instance, the Enquete Commission predicted that CO₂ emissions could be reduced by 30% from 1990 to 2005 with zero costs to the national economy (as percent of GDP).¹²⁷ The question about a carbon tax was also raised, but only recommended if the entire European Community introduced a tax. Politicians in general were confident that relatively high emissions cuts were possible at modest costs, and agreed to the ambitious national CO₂ emission reduction target in the parliamentary votes in June and November 1990, and again in December 1991.

An Interministerial Working Group (Interministeriellen Arbeitsgruppe “CO₂-Reduktion”: IMA) was established in 1990, and has since worked to find the optimal way to implement a cost-effective climate policy in Germany. The most actively involved

¹²⁷ As reported in Torvanger et al. (1996): p. 175. This was a bottom-up study.
ministries were the BMU, BMWi, BMV, BMBau, BMFT, and BML. The group’s leader – which was responsible for writing reports to the cabinet that would take all sector interests into account – has been the BMU (Ministry of the Environment and Nuclear Safety). While the BMU promoted policies that would secure the highest degree of environmental efficiency, the BMWi, BMV and other sector ministries promoted cost-effectiveness as the cornerstone principle for climate change policies for Germany. There was in other words a difference in conception between ministries regarding the primary objective: environmental efficiency or a national cost effective policy. This was reflected in the policy advice the group passed on to the cabinet, in the form of a sector-by-sector oriented national Climate Protection Program, which turned out to be the policy approach that the group was able to reach agreement on since sector interests could better be reassured through such an approach.

In research reports carried out for the Interministerial Working Group (IMA) during 1991 and 1992, therefore, a foundation was laid for the German Climate Protection Program. The program eventually grew to encompass more than 130 policy measures to reduce emissions. In studies by Prognos AG and the Fraunhofer Institut that were used by the Ministry of the Environment and the Federal Agency for Environment (Umweltbundesamt) in 1990, two elements were given particular weight: rational energy use, and the substitution of fossil fuels with nuclear energy or new renewable energy. These were the same elements that were heeded by the Enquete Commission.

In studies for the Ministry of Economics, the DIW estimated the potential for CO₂ reductions in both the old and the new Federal states. In the IMA group, the Ministry of Economics proposed that increased use of nuclear energy was necessary if the GHG reduction target was to be reached. This was a politically touchy issue in Germany, where public resistance to nuclear energy has been particularly high compared to other European countries. There were discussions between the ministries in the IMA about which approach to choose to secure the best CO₂ reduction strategy. After the first rounds of discussions involving a range of sector-specific interests, the recommendations of the IMA to the government were centered on the two main issues of energy conservation and

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128 BMU: Ministry of Environment and Nuclear Safety, BMWi: Ministry of Economics, BMV: Ministry of Transportation, BMBau: Ministry of Housing and Building, BMFT: Ministry of Research and Technology,
a switch from fossil fuels to nuclear and renewables. As we can see, this was in close correspondence with what researchers had recommended. This indicates that cost assessments were important in the policymaking process, and that much discussion focused on achieving cost effectiveness and employing no-regrets measures. Since low-cost policy measures were readily available given the unification process, the policymaking process was heavily influenced by those elements.

The parliamentary political debate was in this phase very much shaped by the close involvement of all parliamentary factions in the work of the Enquete Commission. A basis for general agreement and similar perceptions of policy strategy had been laid. The report of the IMA was also important input in the process when the parliament decided that the precautionary principle should be used as a guiding principle for policy strategy, and that the sector-by-sector national climate protection program was the preferred policy. A central ingredient of the program was to secure a cost effective approach to reducing GHG emissions. For instance, the national abatement target was decided upon based on the assumption that a carbon/energy tax would be adopted at the EU level. Germany was a proponent of such a tax, and energy taxes were discussed as an instrument that could reduce emissions by at least 3% by 2005.\(^\text{129}\) There were discussions over several years between the EU members in the early 1990s about introducing a common carbon/energy tax. However, the countries never came to an agreement. In addition, there were also discussions about the possibility for an internationally harmonized carbon tax in the international UNFCCC negotiations, without any concrete results. When harmonized taxes proved impossible to attain, Germany was not willing to adopt a carbon tax unilaterally.

Removing subsidies to the coal industry seems an obvious place to start implementing cost-effective climate policies. However, the subsidies to the coal industry have been a long-time political institution in Germany (Jahrhundertvertrag), and they were difficult to remove or reduce. The industry is regionally important in populous and economically strong federal states like Northrhein-Westphalia, giving it leverage in the policymaking process. In the early 1990s, therefore, it proved politically impossible to

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BML: Ministry of Agriculture.
reduce the coal subsidies. Although there obviously was a dilemma associated with introducing a range of policy measures to reduce emissions and at the same time continuing to give subsidies to the coal industry, politicians voted to keep these subsidies on grounds of regional economy and employment opportunity considerations. In other words, more general national economic welfare turned out to be more important than environmental efficiency in terms of the effect of climate policy measures.

Since 1991, Germany has shown interest in developing the joint implementation mechanism as an alternative to domestic reductions. But tight financial resources resulting from restructuring in the new federal states, as well as from major transfers to Russia to help the transition to a market economy there, have made Germany less capable than for instance Japan of being able to actually implement abatement projects in developing countries.\textsuperscript{130} The need for either additional domestic policy measures or alternative international solutions became evident as it became clear that continued emissions reductions based on the restructuring of the energy sector and industry in the eastern federal states could not be expected. Politicians were faced with a new situation. In practice, new and additional policy measures became the focus of German climate change politics, and the national climate protection program remained the main strategy for achieving GHG reductions.

The high degree of agreement between the political parties in Germany shaped the policymaking process with respect to what policy was considered feasible and cost-effective for the national economy, and resulted in a stable policy direction. Even when, after the “wall fall” effect started to wear off, it became clear that reducing GHG emissions would be more expensive for Germany than first thought, the policy direction was upheld. This demonstrates how the precautionary principle has been at the center of climate policy strategy since the start – also this in consistency with the recommendations by the Enquete Commission.

3.3.3.2 Score

Two central policy themes were indicated by studies used in the policymaking process: energy conservation and a switch away from fossil fuel generation towards renewables

and nuclear energy sources. Both in the Enquete Commission process and in the IMA process, which were based on a number of research reports from central research institutes in Germany, these two elements were identified as key if Germany was to reduce emissions at zero cost and according to the ambitious national reduction target. In the national climate protection program developed by the IMA and implemented by the government, a substantial part of the measures are focused on exactly these policy elements. Unification made early emission reductions uncomplicated for Germany, but towards the middle of the 1990s the costs and the range of restructuring that unification incorporated became more recognized. The perception that energy conservation and energy source switching would be sufficient was weakened, but still the chosen policy program was upheld, including the national reduction target.

The analysis shows that cost assessments were important elements in the policymaking process, and that policy advice focusing on cost effectiveness or no-regrets solutions was employed. Furthermore, the precautionary principle was also considered an important guide for policy choice in Germany in the agenda-setting phase. The membership in the “costs and benefit assessments matter in the policy process” causal set is mostly but not fully in, and the score is set at .83.

3.3.3.3 Policy outcome

The URA model’s point prediction was for a medium level of proactive policy for Germany in the agenda-setting phase, because the cost-benefit balance for abatement policies was predicted to be neutral (a score of .50). There were strong recommendations and advice from cost assessments about the economic possibility of taking on emission reductions – in other words that there would be no serious economic loss. The advice given in the studies opened for extensive emission reductions within the time frame of 1990 to 2005, without harmful effects to the national economy. The Enquete Commission in 1992, for instance, predicted that CO₂ emissions could be reduced by 30% from 1990 to 2005 with zero costs to the national economy (as percent of GDP).131 A study by Waltz et al. (1994) predicted that a 40% reduction of CO₂ emissions by 2020 would result in an

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131 As reported in Torvanger et al. (1996): p. 175.
increase of GDP between 0.2% and 0.7%. A study by Karadeloglou (1992), on the other hand, predicted that a 13% reduction of emissions by 2005 would result in a GDP reduction of 1.3%. Much in line with the Enquete Commission most economic studies focused on energy savings and a switch to renewables and nuclear energy as central strategies, as well as a sector-by-sector approach for how emissions could be reduced, and hence also in this respect the commission framed the approach to climate policy in Germany.

Actual policy choices were centered on two central policy themes pointed to by studies used in the policymaking process: energy conservation and a switch away from fossil fuel generation towards renewables and nuclear energy sources. Both in the Enquete Commission process and in the IMA process, which were based on a number of research reports from central research institutes in Germany, these two elements were pointed out as essential if Germany was to reduce emissions according to the ambitious national reduction target. In the national climate protection program developed by the IMA and implemented by the government, a substantial part of the measures focus precisely on these policy elements. So, were cost estimates decisive for policy outcome? The national climate protection program gradually came under way between 1991 and 1994, with an increasing number of measures. The measures that were most directly focused on reducing consumption of fossil fuels were the mineral oil tax implemented in 1991, and the increased efforts to improve efficiency of heat and power co-generation.

Measures intended to improve the use of renewables were more or less voluntary, with an important exception – namely the feed-in law (Act on the Sale of Electricity to the Grid) implemented in 1991. The Act’s intention was to improve the market for renewables, as it set forth minimum payment levels for electricity generated from renewable energy sources. The climate protection program also included a large number of measures to improve energy conservation, like a number of regulations for improving heating of homes and housing construction, as well as information activities. As we can see, the policy measures in the national climate protection program addressed the issues of reducing consumption of fossil fuels and energy savings. However, the measures

133 Ibid., p. 314.
meant substantially less for emissions reduction than the effects of the unification process, and were basically of a no-regrets character.

Unification made early emission reductions economically uncomplicated for Germany, but towards the middle of the 1990s the costs and the range of restructuring that unification entailed became more evident. The perception that energy conservation and energy source switch would be sufficient was weakened, but still the chosen policy program was upheld, including the ambitious national reduction target. The precautionary principle was considered an important guide for policy choice in Germany in the agenda-setting phase. The country showed a clear willingness and ability to take on a pusher role in the early stages of international negotiations, and was willing to compromise on sensitive negotiation positions such as not including binding targets and timetables in the convention text to bring the process forward, but only hesitantly, after U.S. president George H. W. Bush threatened to not participate at the UNCED meeting in Rio and not sign the UNFCCC treaty. The country was not as willing to compromise on the position about carbon emissions reductions in the energy sector as the preferred strategy.

Furthermore, Germany took a leadership role in marketing the national abatement target approach and instituting it as a key principle in the UNFCCC. Enacting the principle by taking on a large percentage cut in emissions compared to other countries, Germany was perceived as a pusher. This position was shaped by domestic discussion and the studies about costs and benefits of abatement strategies, as well as the GHG reductions resulting from the unification process. The most important assessments made of abatement costs and damage costs were relatively clear about recommending these specific policy strategies as a path to achieving cost-effectiveness for Germany’s national economy.

3.3.3.4 Summary

To sum up, the URA prediction was for Germany to choose a medium level of proactive policy since the costs of abatement policies was predicted to be about neutral (a score of .50 in the “predicted cost-benefit balance” causal set). Actual policy decisions were more proactive, and defined to be high (a score of .83 in the “level of proactive climate change
policy” set). This assessment is based on the analysis showing political agreement on an ambitious reduction target in spite of increasing awareness of costs, and a continuous role as a pusher in the international negotiations. In other words, the actual level of proactiveness was higher than the model predicts.

3.3.4 Germany in the domestic bargaining phase (1995-2001)

3.3.4.1 Policymaking process

Towards the middle of the 1990s, the efforts to integrate the new federal states turned out to have become unexpectedly difficult and expensive. In contrast to the dynamic market economy of the old federal states, the new federal states were marked by technological backwardness and low productivity, antiquated infrastructure, inefficient administration and severe ecological damage. The full extent of the state of the new federal states only became apparent in the years after unification. The economic strain that the restructuring placed on the unified German economy was huge. Subsidies to stimulate investment, establish modern infrastructure and support reorganization of the labor market amounted to 1000 billion DM between 1991 and 1996. The unemployment level increased yearly from 6.9% in 1990 to 11.6% in 1996. Naturally, as unemployment became a big problem, the political debate focused around it.

Studies in Germany in this phase showed ranges of positive and negative cost effects on the economy from climate change abatement policy. A study commissioned by the Enquete Commission predicted a slight positive effect of 0.2 to 0.7% relative to the GDP in 2020 (ISI/DWI 1995). A similar result was reached in a study analyzing how introducing an ecological tax reform as a climate change abatement policy would affect the economy (DIW 1994). Other studies predicted negative effects on GDP development. A study by RWI/Ifo (1996) predicted the costs to be a 4.2% percent reduction in GDP in 2020 from energy savings. Similarly, a study by Meyer et al. (1997) predicted the reduction in GDP to be almost 3%. However, policymakers argued that these studies did

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134 See chapter 3, table 3.1.
not take into account the detailed consideration of profitable energy conservation investments and innovation progress that policies could incur.\textsuperscript{136}

Figure 3.1 gives an overview of several cost estimates that were actively used in the policymaking process:

Figure 3.1

A study by ISI in 2000 concluded that when ancillary benefits of abatement policies were taken into account in addition to the costs as calculated by macroeconomic models, the result is predicted to be a social benefit for the national economy. Hence, the results of macroeconomic models should be placed in a broader context.\textsuperscript{137}

The possibilities that lie in creating new job markets and giving new incentives through changes in the tax system – the so-called double dividend – became a major issue.

\textsuperscript{136} BMU (2000): p. 32.
in the policymaking process in the domestic bargaining phase. In 1994, Greenpeace commissioned a study from DIW on the shift from labor taxation to energy use taxation called “Economic impacts of an ecological tax reform.” The study predicted that high taxes on energy use would increase the tax revenue and allow lower taxes on labor. The new incentives that this would open for could lead to as many as 500,000 new jobs in manufacturing and services. There would, however, be job losses in the energy intensive industries.\textsuperscript{138} The study was influential, and was supported by influential actors like the Greens (Die Grüne) and environmental non-governmental organizations. It had a considerable effect on the political discussion about how to handle climate change and environmental issues more generally. In 1998, under the social democratic/green coalition government, the decision was made to establish a three-step ecological tax reform introducing slight increases in energy taxes combined with slight decreases in labor taxation. Hence, after a thorough political debate where climate change issues were a part, an electoral induced change of government allowed the reform to be implemented. In 1996 the research institutes RWI and Ifo released an assessment study\textsuperscript{139} commissioned by the Ministry of Economics, where the current policy measures in the national climate protection program to reduce carbon dioxide emissions were evaluated along with the impacts the measures had on different sectors of German economy. The study showed that with the current measures, Germany would reach only 70\% of the reduction target in 2005. Advice was given to the government on which additional measures were recommended to reach the whole target cost-effectively. A major point was increased use of cogeneration/combined heat and power to increase the efficiency of energy use. Another major point was that with the short time horizon of the national reduction target it would be very difficult to comply in a cost-effective way. The study concluded that with the sector approach in the national climate protection program the state interfered with the market forces, and hence reduced cost-effectiveness. In fact, the study predicted losses to GDP of more than 4\% up to 2020.\textsuperscript{140}

\textsuperscript{137} Ibid., p. 46.  
\textsuperscript{138} Kohlhaas, M. et al. (1994).  
\textsuperscript{139} RWI/Ifo (1996).  
\textsuperscript{140} RWI/Ifo (1996): p. 17.
The RWI/Ifo study and other studies from central economic research institutes like FhG/ISI and the Öko-institut pinpointed a central element that came to dominate the climate politics debate in the second half of the 1990s.\textsuperscript{141} The focus was on what (if any) additional policy measures that could be implemented cost-effectively to achieve the reduction target by 2005. In assessments and reports from the Ministry of Economics ample weight was put on only choosing measures that were cost effective. Policy strategy from the CDU government reflected the concern, since no new major policy measures were introduced between 1995 and 1998, when the government resigned. A major policy change, however, came in 1995 when the German Constitutional Court decided that subsidies to the coal industry had to cease. This ruling resulted in a negotiated agreement between the federal government and the coal industry in 1997 about a gradual reduction of the subsidies in the period 1998–2005. In 1997 the subsidies amounted to 10 billion DM annually, whereof the majority came from the federal authorities, but parts also from the states where coal production is highest – Northrhein Westphalia and Saarland. In the negotiated agreement, the reduction was to go from 7.7 billion DM in 1998 to 3.8 billion DM in 2005. However, politically it was difficult to remove the subsidies completely as a result of the regionally concentrated negative effects on employment level and consequential social problems. The coal subsidies were therefore continued in a reduced form in the domestic bargaining phase in Germany, in spite of the clear counteracting effect this had on climate change policy measures. General national economic welfare meant more for politicians than environmental efficiency.

Another central element in climate politics in the late 1990s has been to what degree the voluntary agreement the government initiated with German industry associations in 1995/96 to reduce GHG emissions by 20% from 1990 levels by 2005 would actually reduce CO\textsubscript{2} emissions or not. The voluntary agreement was agreed to by the Christian-conservative government as a cost-effective means to reduce emissions, and at the same time secure economic growth and prevent higher unemployment levels – this since the industry sector would only implement reduction measures that were competitively sound and of a no-regrets character. Despite political discussion and some criticism from the opposition when the agreement was made, there has been a

\textsuperscript{141} Scôn, M. et al. (1997).
continuation of the voluntary agreement under the SPD/Greens government since 1998. It is difficult to determine whether this is a result of policy advice based on cost assessments, or whether political leverage from important industrial actors mattered more.

In October 2000, the SPD/Greens government introduced a program of “additional measures” that aimed to close the gap between the GHG emission reductions of 15.3% achieved by 1999 and the national commitment under the Kyoto protocol of a 21% reduction in the period 2008 - 2012. The new measures focused on the same main strategy as the previous climate protection program, such as expansion of combined heat and power generation, upgrading existing buildings, measures for the transport sector, and not least a continuance of the voluntary agreement with the industry sector about reducing emissions. The additional measures program has been criticized for being too weak for reaching the reduction target and placing greater weight on the strained national economy than abating climate change.

What we see here, in general, is that the scenarios the research institutes developed about important elements of the climate change policy in the late 1990s – like energy consumption, employment effects, and CO₂ emissions – were used as background for cabinet decisions on the German climate protection program. However, the studies that predicted negative effects for the national economy from abatement policies were not decisive, since the political objective of reducing CO₂ emissions by 25% within 2005 continued to be strived for throughout the phase.

In its rhetoric, the German government has described the costs of abatement policy as minor compared to the importance of taking precautionary action to prevent adverse climate changes. However, an obvious discrepancy has occurred in German climate policy over the period since COP1 in Berlin in 1995. Germany has been working through the Kyoto Protocol negotiations to have internationally binding reduction targets, and hence continuing its position since the UNFCCC negotiations. The country has had a central role within the EU over the years in shaping the Union’s institutional structure, and has been a major actor in laying policy strategies for the future. It was therefore natural and desirable for Germany to have a say in choice of strategy for the Kyoto

142 BMU (1997b), pp. 46-47.
Protocol negotiation and afterwards for the conflict with the United States and the Umbrella group over the Kyoto mechanisms. The focus on national reduction targets achieved domestically was a negotiation position that had been thoroughly studied and discussed in Germany and other EU countries, and became the preferred strategy for the EU in the negotiations.

The choice of such a position consequentially made the reduction targets and policies that other EU countries chose important for Germany. The German economy is more dependent on a flourishing world market than that of any other large European country because of its large manufacturing industry, and this limits support for parochial nationalist positions. Germany is party to the common greenhouse gas emission reduction target of the EU, which is to reduce the emissions of CO₂ equivalents by 8% in the first budget period (2008-2012) of the protocol. Germany has had a leadership role in the EU on climate policy initiatives, and on the common negotiation position of the EU in the international climate change negotiations. Germany alone is responsible for undertaking approximately 75% of the total EU reductions, as decided by internal distributive negotiations within the EU. This underscores the pivotal role Germany has had in EU climate policy.

3.3.4.2 Score

Scenarios that research institutes developed for important elements of the climate change policy in the late 1990s, like energy consumption, employment effects, and CO₂ emissions, were used as background information and guidance for cabinet decisions about the German climate protection program. In domestic climate change policy, the focus was on additional measures to reach the reduction target. When the studies showed that additional measures would result in higher expenses than previously expected, policy implementation slowed down. The SPD/Greens government introduced a program on additional measures in 2000, adding some new measures to the list of the national climate

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143 The participants in the group were Japan, the United States, Canada, Norway, Iceland, New Zealand, Russia, Kazakhstan, Ukraine and Australia.
144 Commonly referred to as the ‘EU-bubble’. Within the bubble, the EU was allowed to distribute emission reductions between the member countries, thus achieving a flexible and cost-effective way of reaching the target of 8% emissions reductions.
protection program. Hence, the ambition to reach the national reduction target is held alive by the government, and the voluntary agreement with the industry associations is held out as an example of progress in reducing emissions. It is, however, difficult to determine if this is a result of policy advice based on cost assessments. In the international negotiations, the position that national reduction targets should be achieved mostly domestically had been thoroughly studied and discussed in Germany and other EU countries, and became the preferred strategy for Germany and the EU in the negotiations.

From this analysis, I conclude that policy advice was based on cost assessments for the national economy and that such assessments were important in the policymaking process. Policy advice was many-faceted, since some studies predicted severe losses in GDP while others predicted a positive effect on the GDP. It appears that policy decisions took the second type of advice into account because the list of policy measures grew longer, albeit more slowly, between 1995 and 1998. The SPD/Greens government introduced the ecological tax reform, and a list of additional measures that were pointed out as economically viable and cost-effective, although the program has been criticized for being too weak. Furthermore, it is difficult to say if the voluntary agreement between industry associations and the federal government falls under these criteria.

In the analysis I find a high presence of cost assessments and use of policy advice that focus on cost effectiveness or no-regrets solutions in the policymaking process. As shown by the clear prioritizing of certain economic advice over other, assessments of expected marginal abatement and damage costs have been important, but not decisive, for policy decisions and positions regarding the degree of proactive climate change policy. Membership in the “costs and benefit assessments matter in the policy process” causal set is mostly but not fully in, and the score is set at .83.

3.3.4.3 Policy outcome
The URA prediction for Germany in the domestic bargaining phase would be for a medium to low level of proactive policy in the domestic bargaining phase since the cost-benefit balance was predicted to be negative (a score of .33 in the “predicted cost-benefit balance” causal set). Policy advice based on cost assessments was not as optimistic about
implementing comprehensive emission reduction policies without it having negative economic consequences, as was the case in the agenda-setting phase. More specifically, in the domestic bargaining phase policy advice was many-faceted, since some studies predicted severe losses in GDP while others predicted a positive effect on the GDP. For example, we saw in the previous section that a study commissioned by the Enquete Commission predicted a slight positive effect of between 0.2 and 0.7% relative to the GDP in 2020 (ISI/DIW, 1995). A similar result was reached in a study analyzing how introducing an ecological tax reform as a climate change abatement policy would affect the economy (Kohlhaas et al., 1994). Other studies predicted negative effects on GDP development. A study by RWI/Ifo (1996) predicted the costs to be a 4.2% percent reduction in GDP in 2020 from energy savings. Similarly, a study by Meyer et al. (1997) predicts the reduction in GDP to be almost 3%.146

The national costs Germany would incur by implementing the Kyoto Protocol have been assessed to be relatively small, especially because of the potential for energy efficiency that is still unexploited. In a 2000 study by the Fraunhofer Institute and ISI, the main conclusions are that climate policy will have a fairly small impact on employment and economic growth, and furthermore that energy-efficiency policies will lead to more jobs and accelerated innovation processes.147 Under the protocol, Germany can use a comprehensive approach to reducing emissions, meaning that reduction can be achieved by abating emissions of six major greenhouse gases. If reductions must be achieved through reduction of CO₂ alone, the costs would probably be higher, mainly because Germany is a large importer of fossil fuels for primary energy use. Energy efficiency policy thus still makes sense in Germany, and has been an important part of the 130 policy measures described in the national climate protection program.148

The actual level of proactive policy that was chosen was somewhat different from the URA prediction. Scenarios were used as background information and guidance for cabinet decisions about the German climate protection program. In domestic climate change policy the focus was on additional measures to reach the reduction target. When studies showed that additional measures would result in higher expenses than the first list

146 BMU (2000).
of measures, policy implementation slowed down but still continued. Policymakers reconfirmed the national commitment of reducing emissions of GHGs. The SPD/Greens government introduced a program on additional measures in 2000, adding some new measures to the list of the national climate protection program. Also, the voluntary agreement with the industry associations was held out as an example of progress in reducing emissions. In the international negotiations, the position that national reduction targets should be achieved mostly domestically had been thoroughly studied and discussed in Germany and other EU countries, and remained the preferred strategy for Germany and the EU in the negotiations.

While some studies predicted severe losses in GDP and others predicted a positive effect on the GDP, politicians took the second type of advice into account when making decisions. For instance, the SPD/Greens government introduced the ecological tax reform, and a list of additional measures that were pointed out as economically viable and cost-effective. Furthermore, the voluntary agreement between industry associations and the federal government led to reductions in emissions.

Germany continued to be a pusher in the international negotiations, pressing for an environmentally efficient agreement. It took on a disproportionately large part of the joint EU target for emissions reductions. However, the country showed little willingness to compromise on its own positions in this phase, and thereby contributed to the stalemate between the EU and the United States and its allies in the Umbrella group on sensitive issues like emissions trading and sinks. Only after the negotiation process derailed in The Hague, and the United States repudiated the Kyoto Protocol in 2001, did Germany and the EU show willingness to compromise with the remaining members of the Umbrella Group. At the same time, however, there has been much focus in Germany about the need for the country’s industries to have competitive and equal conditions as their trading partners.

### 3.3.4.4 Summary

To sum up, the point prediction of the URA model was for a medium to low level of proactive policy in the domestic bargaining phase since the cost-benefit balance was

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predicted to be negative (a score of .33 in the “predicted cost-benefit balance” set). An assessment of the actual policy decisions and positions show that Germany in the domestic bargaining phase had a medium to high level of proactive policy (a score of .67 in the “level of proactive climate change policy” set). This score is based on the continuous (although slower paced) decisions to add to the abatement policy program, introduction of ecological taxes, continuance of the voluntary agreement, and push for an environmentally efficient international agreement. Hence, the URA prediction was lower than actual policy choice.

3.3.5 The United States in the agenda-setting phase (1988–1996)

3.3.5.1 Policymaking process

In the George H. W. Bush administration, the conception prevailed that reduction in greenhouse gas emissions would mean significant limitations on fossil fuel production and consumption, and that this would inflict high costs on the American society and consumers. The climate change issue was put on the high-level policy agenda only when the international negotiations about a climate change treaty started in 1990. It became important for the United States as the world's largest energy producer and consumer to be closely involved. In the UNFCCC negotiations, the United States’ position was to avoid consent for national targets within specified time limits, and it succeeded with this approach.

Estimation of costs was closely linked to fossil fuel production and consumption under the Bush administration. The patterns of energy use in the USA are determined largely by factors such as large land area, relatively sparse settlement patterns with great distances between populated areas, low population density, and climatic conditions that vary greatly from one part of the country to the other. Thus, the various regions of the country rely on different mixes of energy sources to generate electricity and meet other energy needs, depending on their differing energy endowments. The vast natural resources on the North American continent have contributed to low electricity prices and

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149 See chapter 3, table 3.1.
good economic conditions for relatively energy-intensive activities such as the large chemical industry and an expanding transportation sector.

At the same time, proven reserves of oil have been on the decline since 1970. Restrictions on exploration in many promising but ecologically sensitive areas have limited the availability of such reserves. Before 1970, the United States imported only a small amount of energy, primarily in the form of petroleum. Beginning in the early 1970s, however, lower acquisition costs for imported crude oil and rising costs of domestic production put domestic U.S. oil producers at a comparative disadvantage, leading to a divergence in trends of energy production and consumption. U.S. oil production is projected to continue to decline, due to depletion of existing reserves with few new discoveries. As a result, U.S. net oil imports (crude and products) are approximately at 11,417,000 barrels per day, which accounts for 58.7% of total domestic petroleum deliveries.\footnote{See the American Petroleum Institute website: www.api.org/faqs/ for a continuous update of these statistics. The numbers used here are from July 2001.} Imports are likely to continue to rise, but have been projected to stabilize at about 57% of consumption in 2010.\footnote{U.S. Department of State (1997): p. 39.} This makes the United States very dependant upon imports from the world oil market and vulnerable to price increases. Natural gas and hydro-power imports are considered more stable and reliable, as significant shares of these energy imports to the United States comes via pipelines and transmission lines from Canada.

Coal, which has the highest emissions of GHGs per unit of energy, is particularly abundant in the United States. The current recoverable reserves are estimated to last for over 250 years with current recovery and use rates. A continual decline in coal prices over the past sixteen years has made it the preferred fuel for power generation, and it is now supplying over half (57%) of the energy consumed to generate electricity. Coal, natural gas, and crude oil contribute the bulk of U.S. energy production. In 1960 these fossil fuels accounted for approximately 95% of production, but by 1995 their contribution had fallen to about 81%, with nuclear electric power displacing some of the fossil fuel production. Renewable sources currently constitute 9.3% of the national energy supply.
Hydropower contributes 4.5%, and is not expected to expand. The share of biomass is currently at 4.1% and is growing rapidly.\textsuperscript{153} Renewable energy maintained a 7.5% share of total U.S. energy consumption in 1999, unchanged from 1998. This represents a 0.2% drop in market share from 1995, when renewable energy contributed 7.7% of the total.\textsuperscript{154} The Bush administration believed that implementing climate change abatement measures that affect the energy sector would have negative economic effects on important industries and the general public by. It was therefore not likely that abatement measures to reduce harmful emissions could be implemented and become successful unless they harmonized with other policy concerns in the country’s energy sector.

In 1989, the EPA sent a comprehensive report to Congress on the potential effects of global climate change on the United States.\textsuperscript{155} Although it gave a thorough overview of the state of knowledge about the impacts of climate change on a range of sectors, no attempt was made to assess the total national impact from climate change, and conclusions about the total costs and benefits of climate change were not made.

In 1991, the National Academy of Sciences published a study on the implications of global warming, concluding that substantial mitigation could be accomplished at modest cost. Modifications to the conclusion were made, stating that a full cost-benefit assessment could only be approximated as it would be impossible to determine in detail the impacts of future climate changes. The damage function – i.e. the possible damages that can be avoided or minimized with abatement measures – was only approximated, while abatement costs were more easily assessed. The main conclusion was that “the United States could reduce its greenhouse gas emissions by between 10 and 40% of the 1990 levels at low cost, or perhaps some savings, if proper policies are implemented.”\textsuperscript{156} A specified list of policy alternatives was presented in the report, in additions to suggestions as to how cost-effective emissions reductions might be realized. They focused on a command and control approach, and they were not followed up politically by the Bush administration.

\textsuperscript{155} U.S. EPA (1989).
Several other studies disagreed entirely with the NAS conclusions. A study by Nordhaus (1992) predicted severe economic strains on the U.S. economy if abatement policies were to be implemented at the rate suggested by the national targets many European countries had decided on. The prediction was that it would cost in the order of 1–3% of GDP to reduce carbon emissions by 50% from baseline by 2050.157 In a study by Cline (1992), the prediction was that damages to the U.S. economy would be 1.1% of GDP resulting from a doubling of CO$_2$ concentration in the atmosphere. Furthermore, Cline predicted that in the very long term, abatement policies to avoid serious impacts of climate changes would be very high.158 In a 1993 study, on the other hand, he estimated that “an initial reduction of emissions by about one fifth can be achieved at zero cost, based on the engineering estimates of gains from moving to best practices.”159 Cline also offered a concrete evaluation of policy options like taxes, sinks, and energy conservation to achieve these kinds of reductions at that cost. Figure 3.2 gives an illustration of several cost estimates of reducing emissions from baseline that were made in the early 1990s:

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At this time, the United States probably had the most comprehensive information in the world about the impacts and costs of climate changes. However, the Bush administration policy was that too much uncertainty prevailed about the human imprint on global warming and that more research was necessary before any policy actions should be implemented. Due to campaign promises, Bush could not introduce new taxes on fuels. In addition, Congress in general only reluctantly accepts energy taxes. The direct regulations inflicted on economically important industries because of the 1990 Clean Air Act Amendments more or less ruled out putting extra burden on industry to reduce GHG emissions. The effort of the Bush administration was consequently put on increased funding for research instead of on abatement policies.

In 1993 President Bill Clinton declared that the United States would commit to stabilizing its GHG emissions at the 1990 level by 2000. The same year, Clinton’s first year as president, two policy instruments were proposed. First, Clinton proposed
introducing a BTU-tax – a broad-based tax on the energy contents of fuels as a means of promoting energy conservation as well as raising revenue.\textsuperscript{161} The BTU-tax was controversial and was defeated in Congress. This was a major setback for Clinton, since a new president’s success is evaluated by early victories in Congress. Second, the Climate Change Action Plan (CCAP) was introduced. No thorough cost and benefit assessments were provided in the plan, but it included assertions that the CCAP would be cost-effective for society. More specifically, the CCAP outlined a range of voluntary actions and tax initiatives that would secure energy savings and thus economic gains for society. It apparently did not take the 1991 NAS recommendations into account, since it did not follow up the command and control type approach that report had recommended. A monitored action plan, actions and initiatives under the CCAP would be checked by a panel of federal agencies to secure real emissions reductions.\textsuperscript{162}

The realization of the CCAP objectives was in part hindered by a Congress not willing to grant the necessary funds to implement the plan. Furthermore, it soon became obvious that the CCAP was insufficient to achieve President Clinton’s promise to stabilize U.S. emissions at 1990 levels by 2000. There was in other words no political will either from Congress or the White House to implement abatement policy measures that would have a real effect on GHG emission levels. Central in the policymaking process stood the several cost estimates that predicted high costs for the United States. These were heavily used by interest groups and politicians that warned against implementation of mitigation policies, arguing that early action on global warming would be too risky and could potentially have very negative consequences for the national economy. These kinds of arguments had a real influence on the policymaking process in the agenda-setting phase.

In a 1996 position paper explaining the U.S. government position on climate change, the expected failure to achieve the greenhouse gas stabilization target was discussed directly.\textsuperscript{163} In 1995, the annual report of the Council of Economic Advisors (CEA) presented an analysis of cost-effective GHG control policies, based on economic

\textsuperscript{161} Vig (2000): p. 110.
\textsuperscript{162} The White House (1993): Appendix 2, pp. 2-3.
incentives to motivate the responses of the responsible GHG emitters, as well as flexibility in the timing of emissions reductions. It also recommended coordinating national responses in order to avoid excessively costly outcomes.\textsuperscript{164} Hence, policy advice changed between the 1991 NAS report and the 1995 CEA report, from focusing on a specific range of command and control policy proposals, to the design of measures to achieve GHG reductions at minimum cost mainly through a multilateral approach. The Clinton administration followed the CEA advice closely in its negotiation strategy after 1995 during the Kyoto Protocol negotiations. This meant that no new domestic climate change policies were implemented, and that multilateral approaches became the heart of the negotiation strategy.

A comprehensive approach – the reduction of all major GHGs – was developed quite early as a negotiation position by an interagency task force.\textsuperscript{165} The comprehensive approach was considered to be a better solution than addressing solely the emissions of CO$_2$ from the energy sector for both environmental and economic reasons. The environmental argument was, first, that by introducing policies to reduce all relevant gases, a shift of residuals or pollutants from regulated sectors of the economy to unregulated sectors could be avoided.\textsuperscript{166} Second, by calculating the potency of the GHGs into a Global Warming Potential (GWP) index, the reductions each country managed to achieve could be measured effectively.

The economic argument was that addressing only one gas would be economically inefficient. The flexibility of the comprehensive approach would secure that nations could choose a solution for reducing gases that would be most cost-effective for them. Another economic argument was that such an approach would level the playing field, and remove the potential skews that the difference in economic advantages of each country may lead to.

The U.S. delegation in the Kyoto Protocol negotiations followed the task force recommendations and promoted the comprehensive approach throughout all of the negotiations, and managed to have this proposal included in the Kyoto Protocol. In the protocol, parties in Annex I of the UNFCCC agreed to commitments with a view to


reducing their overall emissions of six GHGs by at least 5% below 1990 levels between 2008 and 2012. Policy advice about focusing on multilateral approaches to emission reductions was clearly important in the policymaking process.

3.3.5.2 Score

Several reports and studies were produced during the agenda-setting phase that gave policy advice on how to secure a cost-effective approach to the climate change problem. They were very different in content, but all gave cost assessments of abatement policies and partly also impacts of climate changes. The NAS report predicted low costs of introducing command and control type abatement policies, while Nordhaus and other economists warned against it. The CEA opened for a multilateral approach, since domestic emission reductions were considered too harmful for the economy.

The Bush administration introduced little policy that corresponded with the advice received, mainly policy consisting of increased funding for climate change research. No policy programs were proposed that would address actual emission reductions. The Clinton administration also failed to take on explicit mitigation policy actions in its approach to address global warming. Research was prioritized, and the CCAP program introduced mainly voluntary measures, tax incentives, and energy conservation incentives. Policy decisions were clearly held within the range of a no-regrets strategy. In taking positions in the international negotiations, the Clinton administration followed the recommendations made by the CEA, the administration’s own advisers. In the Kyoto Protocol negotiations after COP 1 in Berlin in 1995, the Clinton administration followed policy advice to focus on multilateral, market-based initiatives like the comprehensive approach.

The analysis shows that cost assessments have been made and used by the government in the agenda-setting phase. However, there was no consistency in the kind of advice given reflected in the different in the cost estimates for the U.S. economy. Furthermore, I find that policy advice predicting high costs from domestic abatement policies was particularly important in the policymaking process. Policy decisions were focused on elements way within the range of a no-regrets strategy, like research funding,

tax incentives, and energy conservation incentives. The membership in the “costs and benefit assessments matter in the policy process” causal set is therefore perceived to be fully in, and the score is set to 1.

### 3.3.5.3 Policy outcome

The URA model’s point prediction for the United States in the agenda-setting phase would be for a low level of proactive climate change policy, since the cost-benefit balance showed that costs would be very high and benefits very low (a score of .17 in the “predicted cost-benefit balance” set). Policy advice and recommendations based on cost assessments were not clear and uniform in warning about high costs for the U.S. economy. Several reports and studies (Nordhaus, Cline, NAS) were produced with very different content, giving cost assessments of abatement policies and partly also impacts of climate changes, as shown in the previous section.

The CEA recommended that the United States should work for a multilateral approach to GHG emissions reductions, since domestic emission reductions were considered too harmful for the economy. However, domestic control over policy choice was considered important since international cooperation would not prevent economic loss given the relatively high costs that the United States would incur with domestic abatement instruments. The prediction by the URA model on the basis of these cost estimates would be for a low level of proactive policy.

Actual policy choices show that the level of proactive policy the United States had during this phase was indeed low. The Bush administration introduced increased funding for climate change research, but no policy programs were proposed that would address actual emission reductions. The Clinton administration also avoided implementing policy measures that would mitigate emissions directly. Research was prioritized, and the CCAP program introduced some voluntary programs, tax incentives, and energy conservation incentives. Policy decisions were influenced by the many cost estimates that showed negative consequences for the national economy from implementing mitigation policies. Cost-effectiveness was at the heart of the discussion, and no-regrets policies were preferred.
In the international negotiations, the Bush administration insisted that the targets and timetables approach not get included in the UNFCCC, thus signaling that the country was not ready to engage in extensive emission reduction activities. In the international negotiations after the UNFCCC several elements in the U.S. position centered on market-based approaches in policy design. In the agenda-setting phase the comprehensive approach was at the center of discussion, whereas the flexibility mechanisms and the meaningful participation of developing countries became more and more important elements in the domestic bargaining phase. The main things these negotiation positions have in common are involvement of flexible, market based, and cost-effective approaches to cutting emissions.

In the Kyoto Protocol negotiations after COP 1 in Berlin in 1995, the Clinton administration followed policy advice to focus on multilateral, market-based initiatives like the comprehensive approach. In general, policy advice predicting high costs from domestic abatement policies was taken into account. Policy decisions were focused on elements far within the range of a no-regrets strategy, like research funding, tax incentives, and energy conservation incentives.

The United States signed and ratified the UNFCCC, but only after the sensitive issue of binding targets and timetables was rejected from the treaty text. The country showed no willingness to compromise on this issue. Showing interest in international cooperation via the signature of the UNFCCC was qualified by the lack of willingness to compromise on the issue of binding targets and timetables. Negative language turned more positive with a new president, which led to more activity in the international negotiations. At COP2 in Geneva in 1996, the United States turned around and accepted further negotiations about targets and timetables for emissions reductions (QUELROs). The United States expressed skepticism to many of the proposals by countries promoting the precautionary principle, and a little willingness to compromise on key issues. This was in most cases done with reference to cost estimates that predicted negative effects for the U.S. economy.
3.3.5.4 Summary
To sum up, the URA model predicted a low degree of proactive policy for this phase, because the cost-benefit balance showed that costs would be very high and benefits very low (a score of .17 in the “predicted cost-benefit balance” set). However, the actual policy positions and decisions was somewhat higher, at a medium to low level of proactive climate policy (a score of .33 in the “level of proactive climate change policy” set). The analysis showed that the United States signed and ratified the UNFCCC, and also that it turned around and accepted targets and timetables from 1996. In other words, the predictions of the URA model were lower than the actual level of proactiveness in the United States in this phase.

3.3.6 The United States in the domestic bargaining phase (1997–2001)
3.3.6.1 Policymaking process
In advance of COP 3 in Kyoto, Japan in December 1997, increased efforts were made to attain information about costs of climate change impacts and mitigation policies. The Clinton administration’s Council of Economic Advisors (CEA) made economic assessments of the costs that climate policy action to fulfill the Kyoto Protocol would incur for the United States. The Council’s leader, Janet Yellen, gave several Congressional hearing testimonies where she asserted that the United States could work to avert the dangers of climate change, while at the same time maintain the strength of the economy. In a 1998 CEA report, the importance of cost-effectiveness in achieving emissions reductions was stressed. Also, the report made clear how difficult it is to assess costs and benefits of climate change. The use of economic models from OECD, IPCC, and Stanford University were discussed, along with other tools such as meta-analysis, basic economic reasoning, and economic indicators from the World Bank. The overall conclusion was that the economic impact of the Kyoto Protocol would be modest for the United States if multilateral economic incentives were incorporated in climate policies. Support for Kyoto was based strictly on the assumption that international agreement

167 See chapter 3, table 3.1.
could be achieved on some of the most disputed issues in the protocol: full emissions trading, joint implementation, and participation by key developing countries. Hence, implementing policy to reduce emissions domestically was advised against.

Other economic studies by researchers like Nordhaus and Boyer\(^{171}\) have predicted that U.S. costs could add up to 2-4\% of GDP if emissions reductions should be achieved in the short term, as with Kyoto. They point out that climate mitigation costs are uncertain and could escalate as a result of policies that are too forceful and short-term. They see underestimating mitigation costs as a significant risk.\(^{172}\) Other studies have pointed out that the potential benefits of abatement are uncertain and difficult to quantify. Large-scale irreversible effects are difficult to address in simple cost and benefit assessments. Therefore, the estimated benefits of abatement policies are biased downwards.\(^{173}\)

As we have seen, not all economists agreed with the CEA’s cost assessments, and they predicted severe adverse effects for the U.S. economy from the protocol. There was also a lack of agreement within the country about the costs of potential damages from climate change. A relatively recent study showed that long-term observations confirm a rapid change in the climate.\(^{174}\) The science indicates that the warming in the 21st century will be significantly larger than in the 20th century. Temperatures in the United States will rise by about 3-5°C (5-9°F) on average in the next 100 years, which is more than the predicted global increase. For the nation as a whole, direct economic impacts are likely to be modest. But in some places, economic losses or gains are likely to be large. For example, crop yields are likely to increase over the next few decades, and forest productivity is likely to increase over the short term. But sea-level rise might threaten coastal wetlands and human coastal development, and increased precipitation and storm surges can have economic consequences in several regions.\(^{175}\)

The policy incentives in the second Clinton administration generally followed the CEA analysis and advice, indicating that such cost assessments were actively used in the policymaking process. President Clinton’s climate change policy programs were of a no-

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\(^{173}\) Ibid., p. 37.

regrets character, emphasizing the potential for both environmental benefits and economic growth through win-win-partnerships with the private sector, states, localities, and non-governmental organizations. This means that Clinton was able to choose policy design that had many advantages beyond the climate change aspect. The Climate Change Technology Initiative (CCTI) is an example of Clinton’s no-regrets strategy towards climate change. In the 1999 national budget, more than $4 billion was directed to programs related to climate change. Nearly $1.8 billion of the funding consisted of tax incentives, research, development, deployment, and other spending for the CCTI. One focus of these programs is climate change, but they often have ancillary benefits in terms of improved regional air quality, energy security, and maintaining U.S. leadership in science and technology.\textsuperscript{176} The actual reductions in emissions resulting from these initiatives are uncertain.

The new turn in U.S. climate policy under George W. Bush – a rejection of the Kyoto Protocol in March 2001 – seemed to emphasize that climate policy has to “compete” with other issues for a place on the policy agenda. One of the reasons that Bush gave for repudiating the Kyoto Protocol was that the United States was experiencing an energy crisis. Reduced use of fossil fuel generated energy would, in this situation, presumably hit the economy hard.\textsuperscript{177} The other main reason Bush gave was that the protocol would have an adverse effect on the national economy. Here, we see that Bush took different policy advice than Clinton into account when making policy decisions. Bush relied more on economic studies estimating adverse effects for the economy than the CEA analysis estimating moderate effects. Other recent policy advice on, for instance, the energy policy of the United States does not go specifically in depth into the economics of climate change abatement policy.\textsuperscript{178} It seems clear, therefore, that policy advice based on cost assessments that were either cautious or negative to proactive domestic climate change policies were actively used by the U.S. government throughout the domestic bargaining phase. Policy decisions were based on such advice, both in the Clinton administration and in the George W. Bush administration.

\textsuperscript{176} U.S. Energy Information Administration (1999).
With respect to impacts studies, some regions of the country are predicted to be more exposed to impacts of climate change, such as sea level rise and storm surges, which will make them inclined to be positive to policies of climate change abatement. Generally, researchers expect a low-lying state like Florida to experience graver damages from sea level rise than agricultural regions like Kansas can expect from changes in agricultural output. In some regions, climate changes can be positive and result in, for instance, prolonged growth-seasons or increased forest growth. There are both important commonalities and important differences in the climate-related issues and consequences faced around the United States.179

3.3.6.2 Score

Many studies and reports estimating different costs were made during the domestic bargaining phase, all assessing the costs for the national economy of abatement costs and partly also the impacts of climate change. The Clinton administration followed the recommendations made by the CEA. The CEA and the Treasury Department became closely involved in making cost estimates for the implementation of the Kyoto Protocol. Policy advice was actively used in the policymaking process that opened for strictly no-regrets initiatives at the domestic arena – like the CCTI – and flexibility positions pursued in the international negotiations. The George W. Bush administration followed policy advice that was negative to a proactive climate change policy when repudiating the Kyoto Protocol and changing the course of U.S. climate policy.

The analysis shows that policy advice based on cost assessments that were either cautious or negative to proactive domestic climate change policies were actively used by the U.S. government throughout the domestic bargaining phase in the policymaking process. Policy decisions were based on such advice, both in the Clinton administration and in the Bush administration. In other words, I find that use of cost (and to some extent benefit) assessments can be identified, and that assessments predicting abatement and damage costs were decisive for the focus in the policymaking process. The membership

degree in the “costs and benefit assessments matter in the policy process” causal set is therefore fully in, and the score is set at 1.

3.3.6.3 Policy outcome

The URA model predicts a low level of proactive climate change policy for the United States in the domestic bargaining phase (a score of .17 in the “predicted cost-benefit balance” causal set). This because policy advice and recommendations based on cost assessments pointed to high costs and low benefits for the U.S. economy by taking on comprehensive emission reductions. Many studies and reports estimating different costs were made during the domestic bargaining phase, all assessing the costs for the national economy of abatement costs and partly also the impacts of climate change.

The actual policy choices nearly matched the predicted outcome, but not fully. The Clinton administration closely involved the CEA and the Treasury Department in making cost estimates for the implementation of the Kyoto Protocol, and policy advice was followed that opened for strictly no-regrets initiatives at the domestic arena (such as the CCTI) and flexibility positions pursued in the international negotiations (such as emissions trading and developing country participation). In the international negotiations, these particular two issues were important in the domestic bargaining phase. Under an emissions trading regime, the aggregate reduction target can be achieved at a lower total cost because trading with permits is allowed. The U.S. position was that since GHGs are a global problem, the environmental impacts of reductions are the same no matter where they take place. The same overall reduction is achieved, total costs are reduced, and both buyers and sellers gain from the savings allowed by trading.\footnote{U.S. Department of State (1999)} Emissions trading has been used in the United States to implement domestic environmental policies, and the SO$_2$-trading system established in 1995 to follow up the 1990 Clean Air Act amendments has been highly successful.

By introducing the emissions trading proposal into the negotiations, the United States brought more complexity into it. However, as the protocol negotiations developed, several OECD countries joined the United States in the Umbrella Group. Together these countries were able to win through on the flexibility issue. The Kyoto Protocol
establishes binding greenhouse gas emissions targets for 39 countries, but allows
emissions trading and other flexibility mechanisms among the 39 to meet their
commitments at a much-reduced cost. The Protocol also establishes joint implementation
between developed countries, and a "clean development mechanism" (CDM) to
encourage joint emissions reduction projects between developed and developing
countries.

Another element that was an important part of the U.S. negotiating position is the
emphasis put on securing meaningful participation from the developing countries. The
participation of developing countries in an international agreement about mandatory
emission reductions was considered increasingly important by the United States because
international trade had taken an expanding role in the country’s economy. Trade with
rapidly growing developing countries, like China, has become more important, and the
development of the trade and export sector in the United States has made the country
more vulnerable than earlier.

The United States Senate considered participation by the developing countries,
which within a few years will contribute more to the world total of GHG emissions than
the OECD countries, a requirement for the country to participate in the Kyoto agreement.
Specifically since 1997 the United States has linked developing countries’ involvement to
the level of ambition acceptable for the United States. In response, the developing
countries have used every opportunity to distance themselves from any attempts to draw
them into agreeing to anything that could be interpreted as new commitments.\textsuperscript{181} The
reluctance from other parties about including some kind of commitments from the
developing countries in the treaty made the United States accession to the Kyoto Protocol
difficult. National economic considerations were clearly at the forefront when such
difficulties became decisive for the U.S. policy choice.

The George W. Bush administration heeded policy advice that was negative to a
proactive climate change policy when repudiating the Kyoto Protocol and changing the
course of U.S. climate policy on grounds that it would hurt the U.S. economy too much.
During the negotiations the United States was reluctant to compromise on important

\textsuperscript{181} See for instance the International Institute on Sustainable Development website: www.iisd.ca/linkages/
for a good historic overview of the negotiations.
positions to achieve a treaty result that most parties could live with. The participation by
the United States was closely linked to the flexibility mechanisms issue. Without it
becoming a part of the Kyoto Protocol, the United States saw it as more beneficial for
national economic welfare to lead a unilateral policy. Hence, the Bush administration has
continued to fund climate change research, and continued to support many of the
voluntary policy programs that were started under Clinton.

3.3.6.4 Summary
To summarize, actual policy outcome was higher than The URA model’s point
prediction. The model predicted a low degree of proactive policy for this phase because
the cost-benefit balance showed that costs would be very high and benefits very low (a
score of .17 in the “predicted cost-benefit balance” set). However, the actual policy
positions and decisions was somewhat higher, at a medium to low level of proactive
climate policy (a score of .33 in the “level of proactive climate change policy” set).
182 The analysis showed that Clinton introduced some voluntary policy programs, and signed
the Kyoto Protocol. Even though Bush repudiated the protocol, his administration upheld
a high research effort and continued voluntary policy programs. In other words, the actual
policy outcome was more proactive than the URA model would predict.

3.3.7 Summary
I have now set scores reflecting degree of membership for each case in the fuzzy sets
with respect to what degree URA assumptions about cost and benefit assessments were in
fact important in the policymaking process and for policy outcome, as summarized in
Table 3.2.

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182 See chapter 3, table 3.1.
Table 3.2

<table>
<thead>
<tr>
<th>Cases</th>
<th>Policymaking process: score</th>
<th>Predicted outcome</th>
<th>Actual outcome111</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.83</td>
<td>.33</td>
<td>.83</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.83</td>
<td>.33</td>
<td>.50</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.83</td>
<td>.50</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.83</td>
<td>.33</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
<td>.17</td>
<td>.33</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
<td>.17</td>
<td>.33</td>
</tr>
</tbody>
</table>

In the analysis and discussion above, several things became clear. First, the assumptions about the importance of cost and benefit assessments in the policymaking process do not allow an analysis that is detailed enough to show significant differences between the countries. National economic welfare and cost assessments had a significant impact in the policymaking processes in all the cases, and resulted in a focus on cost-effectiveness and no-regrets policy options. It was, in other words, very important for all the countries in this study to get a good overview of what costs and benefits could be expected from climate changes and abatement policies. Since this was generally important, it was not possible to identify differences using these URA assumptions as a measurement for comparing policymaking processes. However, the theoretical assumptions were useful for thorough discussions of the important role cost and benefit assessments seem to have in industrialized countries.

Second, it became clear that in all six cases the actual level of proactive climate change policy was higher than the URA model would predict. In the analysis I established for each case the prediction of the URA model on basis of what heeded cost assessments said about the cost-benefit balance for the country. Comparing these predictions with empirical data on actual policy outcome, I found that for all the cases the URA prediction was too restrictive in suggesting what level of proactive climate change policy the countries would choose. This indicates that there must have been other factors
than expected costs and benefits that contributed to policy choice being more proactive. It also indicates that although the URA assumptions about cost and benefit assessments can tell us much about the basis for policy choice, it is not enough to understand and explain policy outcome.

Third, and building on the two previous points, it is clear that we need to include more factors into the analysis than cost and benefit considerations. Knowing what assessments and research reports say about what a country can expect to incur when it comes to costs or benefits of climate change policies is simply not enough to be able to say something decisive about the policymaking processes of the selected countries or why they adopted a particular level of proactiveness.

\[1^{83}\text{ See chapter 3, table 3.1.}\]
3.4 Interdependence and information

The degree of membership in this causal set is discussed in terms of establishing measurements and assessing membership in two causal sets. First, I assess the degree to which the URA assumptions about *interdependence and information* were decisive in the policymaking process. Second, I evaluate to what degree *interdependence* was important for the countries’ choice regarding level of proactive climate change policy. To ascertain this, I will discuss the degree to which a country has pushed for an agreement and been willing to modify negotiation positions to bring the process forward to achieve a comprehensive and binding climate change treaty in terms of participation. This says nothing about the content or environmental ambitiousness of the treaty, but focuses on the perceived need for a treaty to regulate cooperation to maximize their own welfare and national interests. The size of the country plays a role in this assessment, as the general assumption of the URA model is that small, open economies are more interdependent than large, open economies.

Furthermore, I establish the extent of funding for environmental research compared to total research funding. The information basis that decisions are made from matters to the rational actor and the research effort of the country can be taken as a sign of this. The amount of funding directed towards environmental research to maximize information quality and quantity is a measure of a country’s interest in information. This factor relates to the size of the country: the prediction is that small countries have a more limited research capacity than large countries, since human resources are fewer and research efforts on the research frontiers entail higher costs. It is difficult to separate climate change research from environmental research, since climate change issues touch upon very many other environmental problems in society. Therefore, I consider funding for environmental research to measure membership, and point to climate change specific research when possible.184

To measure whether the policymaking process happened as predicted by the URA model, I establish some definitions as to what behavior one should expect from highly interdependent countries versus not interdependent countries. The measurement is based mainly on the interdependence factor, since it has the highest potential to bring out
differences between the three countries. To be fully in (a score of 1) in the
“interdependence and information matter in the policy process” causal set, a case must
have an unambiguously high presence of the following elements: Negotiation positions,
speeches, government documents, and other important policy documents signifying
political weighting and importance of working for a comprehensive and binding treaty, as
well as willingness to modify negotiation positions to move the process forward. This
must be combined with funding of environmental research relative to the country’s size
and human resources. To be mostly but not fully in (a score of .83), a case must have put
political weight and importance on conducting a considerable push in the international
negotiations toward achieving a comprehensive treaty, but also shown less willingness to
modify its own positions to push the process forward. This must be combined with
funding of environmental research adjusted for a country’s size and human resources. If a
case put only some political weight and importance on working for a comprehensive and
binding treaty, as well as only some willingness to modify negotiation positions to bring
the process forward, combined with funding of environmental research relative to the
country’s size and human resources, the case will be defined as more or less in (a score of
.67).

The crossover point (a score of .50) is defined to be when a country has a
pending, “go with the flow” approach towards reaching a cooperative agreement,
signifying that the country only needs an agreement if everybody else participates, and
shows willingness to compromise on negotiation positions to bring the process forward
only when a decisive majority of other countries do the same. This must be combined
with funding of environmental research adjusted to the country’s size and human
resources.

A case is more or less out (a score of .33) when the country signals only limited
interest in participating in international cooperation as a result of a policymaking process
marked by assessments finding unilateral action to be equally or more beneficial, and the
country has some capacity to carry out such unilateral action. It also shows less
willingness to adjust negotiation positions to move the negotiations forward, combined
with less funding of environmental research than anticipated from the country’s size and

\[184\] The scores for the cases are based mainly on degree of interdependence, as explained in chapter 2, p. 55.
human resources. A case is mostly but not fully out of the set (a score of .17) when the
country shows even less interests in working towards a comprehensive and binding treaty
as a result of a policymaking process emphasizes the comparative benefits of leading a
unilateral policy, and it has capacity to carry out such unilateral action. The country also
shows no willingness to adjust negotiation positions to bring the process forward,
combined with less funding of environmental research than anticipated from the
country’s size and human resources. To be fully out (a score of 0) of this causal set, a
case must have an unambiguous presence of the following elements in the policymaking
process: Negotiation positions, speeches, government documents, and other important
policy documents signifying political weight on working against a comprehensive and
binding treaty, since it seems comparatively clearly more beneficial to lead a unilateral
policy, and the country has good capacity to do so. The country must also show no
willingness to adjust negotiation positions to bring the process forward, combined with
less funding of environmental research than anticipated from the country’s size and
human resources.

Second, I measure whether the predictions of the URA model that interdependence is a
decisive element for the level of proactive climate change policy a country chooses fit
with the empirical data material. When it comes to information, I find that measuring
predicted versus actual effect on outcome would not be fruitful, since all three countries
in this study have put substantial effort into acquiring updated information pertaining to
the climate change problem.

The URA model predicts that a country will be mostly but not fully in the
“predicted effect of interdependence” causal set (a score of .83) if the economic benefits
from a comprehensive international treaty in terms of broad participation are expected to
exceed the costs of leading unilateral policies. It largely depends on country size and type
of economy, and the prediction of the model is that a small country with an open
economy would be more interdependent than a large country with an open economy. This
would result in policies that were designed to include as many parties as possible in the
treaty, and compromises to make this happen. To achieve this, the country would lead a
medium or medium to low level of proactive climate change policy. A score of .83 is the
realistic maximum in this set, since to be fully in (a score of 1) would mean a lack of ability to carry out unilateral policy that is unrealistic. To be more or less in (a score of .67), the country must be partly dependant on an international treaty to benefit from climate change policies, and more so than being able to lead unilateral abatement policies in terms of costs and benefits. This would lead to policies that signalize more willing to push for ambitious targets and less willingness to compromise to achieve broad participation, and to a medium to high level of proactiveness.

To be neither in nor out (a score of .50), the empirical data show a balance for whether or not a country would benefit or lose from participating in a comprehensive international treaty compared to lead a unilateral policy. This would result in policies to promote a treaty, but not necessarily broad participation and not necessarily with stringent targets. This would lead to a medium level of proactive climate change policy.

To be more or less out (a score of .33), the country has a slight excess of benefits from following a unilateral policy and a corresponding slight excess of costs from participating in an international climate treaty, based on predictions of high costs both from participation in a treaty and carrying out emission reductions domestically. This would lead to less willingness to accept targets and less willingness to compromise on policy positions to achieve broad participation in an international regulatory regime and would result in a medium to low or low level of proactiveness. To be mostly but not fully out (a score of .17), the country has a clear economic incentive, as well as capacity, to take unilateral action. Predictions show that the costs of both participating in an international treaty and from making emissions reductions at home would be high. It is a general assumption of the model that a large country with an open economy would be less interdependent than a small country with an open economy, leading to very low willingness to accept targets in the international negotiations or to compromise to secure broad participation in a treaty, and to a low degree of proactive climate change policy. This is the realistic minimum of the causal set, since to be fully out (a score of 0) would mean lack of interdependence, a situation that is not found among OECD member countries.
3.4.1 Norway in the agenda-setting phase (1988 – 1993)

3.4.1.1 Policymaking process

Norway has been very active in international climate politics, right from when climate change became an international issue. For instance, the country was among the few that sent top political representation to the Toronto conference in 1988. Also, Norway organized a European regional conference on sustainable development in Bergen in 1990, which became part of the preparations for UNCED.

The role as a pusher is rather surprising according to the main assumptions in the URA model about welfare maximization. A small country like Norway would be expected to act as a free-rider rather than as a pusher, as discussed in section 3.1.1. The way in which Norway approached the climate change field could be a consequence of prime minister Gro Harlem Brundtland’s leading role in the UN World Commission on Environment and Development (WCED). Brundtland became a front figure, internationally recognized for her interest in the environment, which brought Norway into taking a leading position in this new environmental policy field. Hence, Norway was in many ways obliged to take a leading role in bringing climate change onto the international agenda. The government stated that it was important for Norway to be a frontrunner internationally as well as in national climate change policy, exemplifying for other countries that early action was possible.

The proactive role that Norway took in the years 1988-90 can thus be related to internal pressure in the government of showing others “the right path.” Norway was in these early years prepared to take unilateral policy measures – the carbon tax – that would be disadvantageous for some industries (particularly the petroleum industries) to function as a pusher at the international level. As shown in section 3.1.1, however, the negative economic effect was dampened by the design of the tax. The implementation of a carbon tax is an unexpected political choice for Norway, according to URA assumptions about behavior. The country’s early action can be perceived as a result of both external and internal pressure, and an attempt to jump-start international cooperation in the area, where the idea was to show that even a small country like Norway could take

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abatement actions without undue negative effects on the economy. This “example” could be used actively in the international negotiations to reach agreement on the possibility and benefits joint action. It does not, however, correspond with URA assumptions about policy outcome, as we shall see in the next section.

As Norwegian politicians realized the high marginal costs the country would face with a unilateral abatement strategy, the focus of the policymaking process on international coordination and a treaty framework was strengthened. As we saw in section 3.1.1, the development in the petroleum sector as a result of an international treaty was a key question. The IMCG report predicted a reduction in demand for petroleum products under a regulatory treaty as a result of lower growth in world economy and use of renewable energy sources. Furthermore, the report predicted higher prices on energy demanding products as a result of higher prices on fossil fuels. This was combined with a prediction of reduced growth in the economy as a result of changes in the use of production factors. How an international climate change agreement would influence the national economy became very important for government agencies and the research community.

Much inspired by the cross sector, multilateral perspectives advanced in the 1987 WCED report, policy advisers concentrated on developing national policy alternatives that would depend on an international framework. Thus, the development in the negotiations became more directly important for the development of national policy. In the agenda-setting phase, therefore, the Norwegian negotiation mandate went from the Brundtland doctrine – being a pusher that would pave a path for others to follow – to becoming increasingly focused on multilateral solutions and flexibility. Flexibility was essential both for making domestic policy implementation possible, and for securing a broad cooperation with other countries. A central element was to secure flexibility with respect to which harmful gases to reduce as long as the effect was the same (the comprehensive approach). There was a clear connection between increased understanding that international structures constrain Norwegian policy choices, and the development of the national policy positions in this phase.

The clearinghouse idea and the comprehensive approach became pillars in Norway’s negotiation strategy in preparation for and during the UNCED in Rio. Taking a
closer look at these two elements we see that they both can be understood in light of the role perceptions of interdependence had in the policymaking process. Both elements were grounded in the fact that Norway wanted binding reduction targets for all industrialized countries, i.e. commitments that would secure broad participation and regulate behavior for key actors. But, a “clearinghouse” system would allow Norway and other countries with high marginal reduction costs to finance projects to reduce GHGs in countries where the costs could be smaller, and at the same time get credit toward their targets. Norway also presented it as a way of engaging the developing countries in the negotiation process, and hence increasing participation. With a comprehensive approach, mitigation of climate change would be addressed by reducing all major greenhouse gases stemming from all sectors of the economy. A comprehensive approach was considered a better solution than addressing solely the emissions of CO₂ from the energy sector, for both environmental and economic reasons.

The change in negotiation positions from willingness to pursue unilateral policy measures like the carbon tax program, to underlining the need for international cost-effectiveness and flexibility approaches largely stemmed from the realization that these international negotiations would not be as easy to agree on and implement as earlier international environmental agreements that Norway had been a pusher for, like ozone and acid rain. A comprehensive climate treaty would have structural implications for a range of economically important sectors, and Norway would be dependent on the development of climate policies in other countries as well as the effects it would have on the international markets, especially the energy markets.

Norway was active in the negotiations in the agenda-setting phase to secure a climate treaty – the UNFCCC. The country actively sought to introduce negotiation proposals that would be tolerable for a range of parties, and that could comprise a platform for agreement on a treaty text. It seems therefore that it was important for Norway to boost the importance of having a treaty, but at the same time to promote positions that could gather support, and to be willing to compromise to secure broad participation. Introducing new elements into the negotiations was therefore a role that Norway saw as necessary to bring the process forward.
3.4.1.2 Environmental and climate change research

The bulk of environmental research in this period was focused on sustainable development and the follow up of *Our Common Future*. The government released a white paper in 1989, prioritizing increased research on environmental issues, particularly climate change and ozone. In 1991, total funding for environmental research in Norway was NOK 319 million. CICERO (Center for International Climate and Environmental Research – Oslo), the Norwegian climate change research center, was established by royal decree in 1990, after personal suggestion by Prime Minister Gro Harlem Brundtland. The center was to build competence on interdisciplinary climate change research, and to become the central climate change research institution in Norway. Funding for environmental research increased from NOK 136.5 million in 1988 to NOK 260.1 million in 1992. This near doubling of funding indicates the importance of environmental issues on the political agenda in this period. Research institutes like CICERO, the Fritjof Nansen Institute, ECON (Center for Economic Analysis) and SAF (Center for Applied Research) contributed policy advice to the government in form of analyzing the effects of climate change policy on the oil and gas markets, and providing overviews of central actors’ positions in the international negotiations. Research results were also used to develop the negotiation positions promoting cost-effectiveness and flexibility.

Funding for environmental and climate change research directed through the Research Council of Norway showed a marked increase as a result of political decisions about the importance of information on climate change. For instance, in 1989, the *climate and ozone research programme* received NOK 2.287 million, the *energy and society research programme* received NOK 5.531 million, the *environmental technology research programme* received NOK 6.450 million, and the *board on environment and development* received NOK 8.012 million. As a small but rich country, its capacity to perform research and handle generated information was restricted because of limited human resources available, and the consequently high costs of conducting frontier-breaking research in many areas. In practice, this meant that new research programs were

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188 Miljøverndepartementet (1991): s. 8
189 Research Council of Norway (2000).
started to face new challenges like climate change, but also that a lot of the research was
country specific. More general scientific knowledge about the climate change problem
was available to both the Norwegian research community and policymakers from other
countries, particularly the United States, and from international organizations like the
WMO and the IPCC. Still, some research areas were nurtured to become internationally
renowned.

Statistically, the increase in total R&D as part of GDP increased only a little, from
1.69% in 1989 to 1.73% in 1993.\textsuperscript{191} Compared to other small countries like Finland and
Denmark, however, Norway’s increase in research funding was smaller. Finland
increased its total R&D as part of GDP from 1.80% in 1989 to 2.17% in 1993. The
increase went from 1.51% to 1.74% in Denmark.\textsuperscript{192} However, the statistics above show
that Norway’s environmentally related research increased, indicating that the information
search capacity on the climate change issue increased.

3.4.1.3 Score

We have seen that Norway had a policymaking process that changed markedly. Prior to
1990 the country tried to act as a pusher for international cooperation in the climate
change area, by being willing to take on unilateral policy measures to act as a role model,
demonstrating that emission reductions could be achieved without severe adverse effects
to the economy. After 1990, however, the government focused on a negotiation strategy
based on multilateral approaches and flexibility elements where the objective was to
secure a comprehensive climate change treaty, which was now perceived to be the best
way to secure national economic welfare. The policymaking process became focused on
interdependence, both when it came to policy advice and assessments on what
negotiation proposals to introduce, and when it came to compromising to move the
negotiations forward so as to help secure a comprehensive and binding UNFCCC treaty
in terms of participation. The clearinghouse proposal was presented as a way of engaging
the developing countries in the process. We have also seen that Norway increased its
funding for environmental research substantially during this phase.

\textsuperscript{191} The Research Council of Norway’s website:
Based on the analysis, I find that negotiation positions and government policy documents changed its weighting from unilateral strategies to recommendations that policymakers should work for a comprehensive and binding treaty. I also find increasing willingness to modify negotiation positions to bring the process forward, for instance in abandoning working for an international carbon tax when it became clear that key actors wouldn’t support it. Norway actively participated, compromised, and pushed for the UNFCCC treaty during the agenda-setting phase. Furthermore, I find that the degree of funding of environmental research as part of total research funding increased substantially over the period. The membership degree in this set is therefore mostly but not fully in, and the score is set at .83.

3.4.1.4 Policy outcome

As a small country with an open economy, the URA model would predict that Norway was sufficiently interdependent for it to instigate a medium or medium to low level of proactive climate change policy in the agenda-setting phase. Modest economic effects of abatement policies were dependent on Norway’s participation in a multilateral treaty, and the ability for Norway to lead unilateral policy very far was not high. The URA model would therefore predict policies that were designed to include as many parties as possible in the treaty and to find compromises that could make this happen. The membership in the “predicted effect of interdependence” causal set is therefore mostly but not fully in, a score of .83. In other words, since the effect of interdependence is predicted to be high, Norway would lead to a medium or medium to low level of proactivity designed to include as many parties as possible in a climate treaty.

Comparing this prediction with Norway’s actual level of proactive climate change policy reveals a mismatch. First, at the outset of the phase Norway was set on implementing ambitious unilateral policies, like the carbon tax program. Even as it became clear that a treaty could reduce negative trade effects, Norway continued its carbon tax policy program and thus implemented a high level of proactive climate change policy. This is contrary to URA assumptions since such action could counteract the aim of having broad participation in a global warming agreement. High proactiveness

192 Ibid.
occurred despite Norway’s status as a small and open economy, which made the country vulnerable to changes in vital world markets as a result of climate change policies, first and foremost the petroleum markets and the markets for the country’s export industries, such as aluminium. An international treaty that could co-regulate the behaviour of important trading partners became increasingly important during the evolvement of the UNFCCC negotiations, as it could ease negative effects of emission caps or increased carbon taxes.

Furthermore, it became increasingly clear that the costs of abatement policies could be reduced if an international treaty would allow flexibility as to when, where, and which GHG-emissions were to be reduced. This further limited the ability Norway had to take significant unilateral action. In other words, the country would gain substantially from participation in international cooperation that allowed flexibility, which in many ways made a comprehensive unilateral policy strategy politically difficult as it would inevitably be compared against the opportunities to minimize costs represented by the multilateral, flexibility options. As this became increasingly clear for policymakers, Norway’s policy proposals and positions in the international negotiations changed markedly from willingness to act unilaterally to working for multilateral approaches. At the domestic level, however, the carbon tax program remained the main climate policy instrument. This fact can not be traced back to any of the assumptions under the URA model, since it would have been more rational for Norway to adjust its policies to what its trading partners did.

In the international negotiations Norway supported and was party to developing both the comprehensive approach and the clearinghouse idea in the agenda-setting phase. These elements were not written in to the UNFCCC treaty, since there was no agreement in the end to bind industrialized countries to a reduction target. The treaty did not go so far as to establish specifics on how countries were to reduce their emissions, but rather established some important principles about “common but differentiated responsibilities” for North and South, and that all industrialized countries should make efforts to stabilize their CO₂ emissions at 1990 levels. The comprehensive approach and the clearinghouse ideas were transferred along to the protocol negotiations that started in 1995. Norway
signed the UNFCCC already during the conference in Rio, and the parliament ratified the treaty the following year, in 1993.

Third, in the policymaking process the conception that Norway should compromise and work as a bridge-builder between pushers and laggards to drive process further became a more important trait, in both white papers and other policy advisory reports. It resulted in clear policy actions where Norway sought to come up with a compromise between the “least ambitious parties” and pushers. For example, Norway introduced the concept of a clearinghouse, where the general concept was to include flexibility, and at the same time ensure active participation and first steps by industrialized countries. This can be perceived as an effort to compromise between the United States, who did not want targets and timetables, and the EU, who insisted on clear commitments for industrialized countries.

In all of the three points above, we see a change over the course of the phase which can be interpreted as increasing realization of the country’s high interdependence and corresponding changes in policy positions at the international level. Domestically, however, Norway continued to implement its carbon tax program. Insistence on holding on to the national carbon tax as long as important trading partners did nothing does qualify for Norway to be defined as having had a high level of proactive climate change policy. This is more than what the URA model would predict that Norway should do. The many exemptions that were given to export-oriented industries can be interpreted to weakly support the URA assumptions about the effect of interdependence, since they contributed to Norway leading a less ambitious policy at home too.

3.4.1.5 Summary

To summarize, the URA model would point predict that the effect of interdependence on policy choice would be high for Norway in the agenda-setting phase, at a score of .83 in the “predicted effect of interdependence” causal set, leading to a medium or medium to low level of proactivity. This does not fit the actual level of proactiveness that Norway had, which was high, at a score of .83 in the “proactive climate change policy” set.\(^{193}\) The analysis showed that Norway introduced a carbon tax before its trading partners, and took

\(^{193}\) See chapter 3, table 3.1.
on the role as a pusher in the international negotiations. In other words, the actual level of proactiveness was higher in Norway in the agenda-setting phase than the model predicts.

### 3.4.2 Norway in the domestic bargaining phase (1994-2001)

#### 3.4.2.1 Policymaking process

An important climate policy track in this phase was the continuous assessments, studies, and political rhetoric about expanding the carbon tax program to include all emitters. The studies have not, however, led to anything but constant occupation of time and funding in the policymaking process. They have not led to policy actions, i.e. the introduction of an across-the-board carbon tax for all Norwegian emitters. The explanation for this standstill can very well be found in the realization by policymakers and experts around 1990 of the extent to which Norway was interdependent. However, by that time the tax was already introduced and it was politically difficult to remove it, taking public attention into account. Through an economic filter it therefore becomes understandable that the intense focus in the policymaking process on carbon taxes did not lead to action. Over time, the process evolved increasingly around the issues of multilateral solutions and the benefits of increased flexibility as a result of the direction the international negotiations took.

The principles behind the negotiation positions developed in 1991-92, during the UNFCCC negotiations, were the basis also for Norway’s strategy in the Kyoto Protocol negotiations in the period 1995-2001. Building on an increasing number of studies and policy assessments, an important element in the policymaking process in Norway became a perception that an international agreement would be the best alternative for achieving cost-effective emissions reductions, and hence maximizing both broad participation and own national welfare.

The same assessments and studies also made it increasingly clear that the Kyoto Protocol would have negative consequences for Norwegian society and economy, including major changes in energy production and consumption patterns. In the short term, Norway’s dependency on the income from petroleum production will determine how the Kyoto Protocol will affect society. Reduced income from the sale of oil and natural gas will hurt the Norwegian economy. At the same time, if emissions reductions can be achieved through emission trading and joint implementation, the costs would not
be unbearably high. The terms of the Kyoto Protocol – particularly the emissions trading issue – have therefore been decisive for Norway’s positions and role in the negotiations. The country is dependent upon an international agreement allowing flexibility mechanisms to be able to reduce emissions without excessive costs, and has therefore been focused on promoting and supporting proposals that could secure a broad participation in the regime. This point has become a much more important part of political rhetoric and governmental documents in the domestic bargaining phase than in the agenda-setting phase. In white papers in 1998 and in 2000, the Norwegian follow-up of the Kyoto Protocol were discussed thoroughly. The role of flexibility mechanisms was estimated to be as large as 1/3 of Norway’s total GHG reductions already in 2010, at 2.1 million metric tons.194

As a prime example of the importance in the policymaking process of Norwegian economic welfare as an effect of the Kyoto Protocol and its mechanisms, consider one of the major issues in the late 1990s in the Norwegian climate policy debate: the domestic use of natural gas. The political majority in parliament worked to introduce gas-fired power plants for electricity production in Norway as a result of increasing demand for electricity beyond the production capacity for hydro-based production plants. If built, the plants would result in an increase in CO₂ emissions by 4% (2.1 million metric tons) per year, which would necessitate cutting other national emissions or buying more quotas under a Kyoto regime. However, the benefits have been estimated to outweigh the costs, since it would increase Norway’s capacity to export electricity, which is more profitable than exporting unrefined natural gas. The parliamentary majority’s political rhetoric has underlined the notion that gas-produced electricity can be exported, and that it will replace more emission-intensive energy in Europe – for instance, coal-fired electricity in Denmark – although this is by no means certain. Opponents have argued that it would actually be more likely to contribute to an overall increase in energy use.

The controversy that the decision to use natural gas for electricity production domestically has ignited between the proponents and opponents is an example of the difficulties decision-makers face in the effort to balance the need for economic development, traditionally tightly connected to energy production, and the need for

environmental protection which in this case would be to avoid further CO₂ emissions. In the end, the policymaking process was very much marked by a discussion for or against gas-fired power plants, and by extention, how much Norway should commit to reducing domestically. In governmental documents, speeches and other policy documents, it is clearly evident that although the government wanted to commit to implementing a majority of measures directed at domestic reductions, most economic reasoning pointed out multilateral approaches and application of the flexibility mechanisms as the soundest policy options. This would explain why it was not possible to achieve a political majority for instigating a carbon tax that would include all major GHG emission sources. In other words, it explains why the exemptions of emitters representing 40% of all GHG emissions were upheld despite all the focus on carbon taxes in the policymaking process. The discussion exemplifies that Norway had a clear preference for a treaty so as to regulate GHG emission reductions in accord with other countries.

In the Kyoto Protocol negotiations, Norway generated and supported some proposals that later became incorporated into the final protocol text. The burden-sharing concept met with a lot of resistance since it introduced the idea that countries could have differentiated targets. Critics said that it would be too complicated to handle within the frame of international cooperation. The logic behind the burden-sharing idea was that a treaty should take into consideration that resource dependency and other structural elements result in different marginal costs for achieving emissions reductions for countries. Each country’s costs of reductions should be evaluated and be the basis of reduction targets, rather than a flat percentage reduction that would mean proportionally higher costs for some countries. A burden-sharing agreement would thus even out differences in costs, and would increase the incentives for countries to join the treaty, i.e. it would increase participation. Although major parties like the EU and the United States were initially opposed to the concept, Norway managed to argue well, moving the parties and gathering enough support for the concept to become a part of the protocol text. Another concept that Norway worked for was flexibility mechanisms. Along with the United States and the rest of the Umbrella Group, Norway wanted maximum flexibility in the approach to reduce emissions. However, Norway showed greater

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willingness than some members of the Umbrella Group, for instance the United States, to accept a compromise on restricted trading if that could secure a binding agreement. This indicates that it was important for Norway that an international framework regulate the policy options, and that as many parties as possible would find it acceptable.

In the negotiations after Kyoto, Norway has tried to function as a bridge builder between the Umbrella Group and the EU, to seek compromise and the necessary ingredients of a platform around which all parties could gather on contentious issues like flexibility mechanisms and sinks. For instance, the leader of the Norwegian delegation was entrusted with the chairmanship role in the difficult sinks negotiations (LULUCF – Land use, land-use change, and forestry). Norway has been an active regime builder that has been seeking compromises to secure a comprehensive and binding treaty in terms of participation.

3.4.2.2 Environmental/climate change research

The climate change research funding increased during the 1990s. In 1998, total funding was NOK 429 million; 60% of which went to technology-oriented climate research, 33% went to natural science oriented climate research, and 7% went to social science oriented climate research. In the first half of the 1990s, most research funding went to studies of the natural scientific understanding of the climate change phenomenon – like circulation modeling – or understanding how to meet the challenge technologically and economically. In the latter half of the 1990s, another important research field was given more funding. Understanding the impacts of climate change for the Norwegian society was prioritized. RegClim, for instance, is a research project funded by the Research Council of Norway and coordinated between six of the most central climate change research environments in Norway. The task is to develop scenarios for climate changes in the Nordic countries, surrounding seas, and parts of the Arctic during increasing temperatures.

Most of the funding from the Research Council of Norway went in 1998 to the technology-oriented research programs KLIMATEK and NYTEK, with NOK 46 million, while the smallest allotment went to the social science-oriented research programme

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SAMRAM, which received NOK 3 million. The climate and ozone research program has been a continuous focal area in the Research Council since 1989. In 1998, the program had a budget of NOK 17.5 million, and in 2001 this increased to NOK 25.4 million.\textsuperscript{197} In terms of percent of GDP, the total R&D expenses remained approximately stable, totalling 1.71\% in 1995 and 1.70\% in 1999.\textsuperscript{198} Compared to large countries like Germany and the United States’ expenses of around 2.5\% of GDP, Norway’s size and human resources was limited, and reflected in the lower expenses that it was rational to direct towards R&D. Compared to other small countries like Finland and Denmark, it may seem as if Norway did not maximize its relevant capability. Finland increased R&D expenses as part of GDP from 2.29\% in 1995 to 3.19\% in 1999. For Denmark the increase went from 1.84\% to 2.0\%.\textsuperscript{199}

3.4.2.3 **Score**

Norway’s high activity level in the international negotiations is interpreted as a sign of the emphasis the country has put on having an international climate change agreement to regulate policy choice. Rhetoric and policy documents show a strong political weighting of the benefits of an international treaty to regulate climate change policy actions. A regulatory instrument like an international treaty that secures coordinated international action was preferred by Norway to secure its own national welfare. However, Norway was not willing to ratify the Kyoto Protocol before other industrialized countries did the same. This follows the logic of interdependency, since a hastened ratification would mean taking on uncertain and unilateral obligations. Furthermore, the carbon tax continued to occupy a large space in the policymaking process, even though this did not lead to policy action in terms of expansion of emissions sources targeted by the tax.

In the analysis I find a clear presence of negotiation positions and policy documents advancing a climate treaty. I also find a continuing willingness to compromise on its own and alliance group positions to move the negotiation process forward, given the increased focus on flexibility mechanisms. Norway continued to actively participate and push for the Kyoto Protocol during the domestic bargaining phase. Furthermore, I

\textsuperscript{197} Research Council of Norway (2000), and \url{www.forskningsradet.no}, 22.10.2002

\textsuperscript{198} \url{http://www.forskningsradet.no/bibliotek/statistikk/indikator_2001/tabelldel/A_5-2.html}, 22.10.2002
find that the degree of funding of environmental research as part of total research funding was increased, but that the country’s relative research effort was lower than for comparable small countries. The membership degree in this set is perceived as fully in, and the score is set at 1.

3.4.2.4 Policy outcome
The URA model prediction for Norway in the domestic bargaining phase would be that a high degree of interdependence would lead to a medium or medium to low level of proactive climate change policy. Norway’s need for an international treaty to co-regulate policy options with major trading partners, etc. was important in this respect, as was the increasing recognition that unilateral policies would lead to higher costs and have little effect on the climate change problem. The membership in the “predicted effect of interdependence” causal set is therefore mostly but not fully in, a score of .83. Since the effect of interdependence is predicted to be high, the prediction on the outcome is for a medium or medium to low level of proactiveness.

Comparing this prediction with the actual positions and outcome with regard to proactivity, we can see that they fit well. Norway did indeed have a medium level of proactive climate change policy (a score of .50) in the domestic bargaining phase. 200 Norway’s economy continued to be largely dependant upon exports of petroleum, which made the country susceptible to climate change policy regulations in countries that are important trading partners. In climate policy outcome, it resulted in increasing focus on working for an international treaty that would include as many parties as possible, and that allowed for flexibility as to where, when and which gases to reduce emissions of. For example, Norway operated as a bridge-builder between the Umbrella Group and the EU in the Kyoto Protocol negotiations.

Even more than in the agenda-setting phase, it became important for Norway to work with both the United States and the EU to find common ground. With specific proposals that were designed to compromise between what eventually became the two most important opponents in the negotiations, Norway worked actively to secure broad

199 Ibid.
200 See chapter 3, table 3.1.
participation. For example, Norway came up with several proposals to compromise on the disagreements about the extent to which sinks should be taken into account in the national emissions budgets. Norway also chaired the negotiations on land use, land-use change, and forestry. Norway’s role as self-appointed bridge-builder is therefore here perceived to be a result of interdependence causing proactiveness, since it signalizes that Norway saw it as essential for its own welfare to have a treaty, and worked to have it as broad as possible in terms of participation.

Factors that influenced Norway to become a bridge-builder working for comprehensive participation were more or less the same as in the agenda-setting phase. However, the perceived need for flexibility mechanisms and an international treaty became enforced in this phase, resulting in a policy outcome that was more marked by interdependence than before. Policy assessments and research studies made it increasingly clear over time that it would be very expensive for Norway to act unilaterally and undertake most of its emission reductions at home. In other words, there would be significant economic benefits from a comprehensive treaty in terms of broad participation. This resulted in clear action on Norway’s part to secure that agreement could be reached.

3.4.2.5 Summary
In sum, the URA model point predicts that the effect of interdependence on level of proactiveness would be high for Norway in the domestic bargaining phase, at a score of .83 in the “predicted effect of interdependence” causal set. This would lead to a medium or medium to low level of proactive climate change policy. This fits the actual level of proactiveness that Norway had, which was medium, at a score of .50 in the “proactive climate change policy” set.201 The analysis showed that Norway promoted policies that could be acceptable to most parties, and was willing to compromise to reach agreement in the negotiations. In other words, the actual level of proactiveness was about the same as the URA model would predict.

201 See chapter 3, table 3.1.
3.4.3 Germany in the agenda-setting phase (1988-1995)

3.4.3.1 Policymaking process

The parliamentary Enquete Commission on the earth’s atmosphere was constituted in 1987, creating a forum where scientists and politicians, as well as other expertise, debated and exchanged information about the climate change issue over a period of several years. Central in the discussion were the precautionary principle and the polluter pays principle, both of which signalized Germany’s early belief that an international agreement to regulate the problem was preferred. At the Noordwijk ministerial meeting in 1989, which was the first high-level intergovernmental meeting that focused specifically on climate change, Germany joined most European countries and Canada, New Zealand, and Australia in supporting the approach for international cooperation that had been used for the acid rain and ozone depletion problems. This meant a system of quantitative emission limitations on countries’ national emissions with a focus on stabilizing CO$_2$ at current levels, in other words a “targets and timetables” approach.\(^{202}\)

During the UNFCCC negotiations, Germany supported the development of a framework convention and a first protocol to be signed as early as the UNCED meeting in Rio in 1992. Germany was among the proponents of a first protocol that targeted CO$_2$ emissions in the energy sector implemented by unilateral action in participating countries, since that would be both environmentally efficient and limit the number of target groups affected by reduction requirements. The argument was that this would in turn limit the potential groups of adversaries and consequently make it easier for countries to come to an agreement.\(^{203}\) The early focus in the policymaking process in Germany on targeted emissions reductions performed domestically signals that the country was prepared to take on unilateral commitments to address the climate change problem. When binding targets and timetables proved to be too difficult to achieve in the UNFCCC, German negotiators expressed disappointment.\(^{204}\) However, the country was willing to compromise on this issue to achieve agreement on a framework treaty.

Germany initiated the development of its national climate protection program to implement the reduction target of a 25% reduction in CO$_2$ emissions by 2005 from 1987

levels gradually from 1991. As we saw in section 3.1.3, heeded studies and assessments pointed to no serious negative economic consequences of these high emissions reductions. The policymaking process was thus marked by this, and implementation of unilateral policy measures was not considered unrealistic. Furthermore, the initiation of a broad ranged climate protection program was used in the international negotiations to show the high degree of willingness of Germany to be a leader and pusher. Because of the modest costs that Germany expected from these policy measures, and the high support that the assumption about modest costs had both in the parliament and among scientists, taking on a pusher role in the climate change negotiations became the preferred strategy for the country.

Another factor explaining why Germany took on a leader role in the negotiations was that the environment was an area where Germany had the possibility – because of its military history – to become an international leader. Other issues, like peace-keeping operations or peace-brokering, were difficult for the country to be actively involved in because of the role Germany had during World War II. In government documents, speeches, and such, Germany’s role as an international environmental policy leader was highlighted, and the theme was recurrent throughout the policymaking process. The government defined environmental issues in general and climate change in particular as one area where Germany could really have the opportunity to be an international player. As the most populous and economically important country in Europe, it was important for Germany to have the opportunity to show itself as an international leader in some areas. It was important for the country also to adopt a leader role within the European Union on this issue. This increased the country’s preference for achieving a binding international climate change agreement, preferably with ambitious targets. This preference, in turn, resulted in a policymaking process where the focus was on relatively stringent emission reductions as a goal for the international negotiations, and discussions about how encompassing a domestic climate protection program could be.

Still, Germany needed an international framework in terms of trade-effects, first and foremost to avoid potentially undesirable negative effects for export industries. Industrial competitiveness was important in this country, which has a larger industrial

sector than any other EU country. The German economy during the 1990s was predominantly based on manufacturing and services. Unilaterally imposed actions to reduce emissions from Germany’s industry would be disadvantageous if other countries chose more lenient options for reducing their emissions.\textsuperscript{205} At the same time, the German public opinion demanded some kind of action. The government needed to have something it could point to to show that the climate change issue was being dealt with seriously, and that Germany was doing its share to achieve a comprehensive and binding treaty. Taking on an active pusher role in the negotiations about an international treaty became the best choice of action in this situation, and was a central factor in the policymaking process in the agenda-setting phase. For example, when the framework agreement was agreed to, Germany showed its commitment to further move the process forward by inviting the first Conference of the Parties (COP) to Berlin in 1995. This was a direct initiative by chancellor Kohl.

3.4.3.2 \textit{Environmental and climate change research}

German scientists like Hermann Flohn had very early on focused attention on the global warming problem. The parliamentary Enquete Commission increased German climate change research activity, assessed the current level of knowledge from climate change research, and identified research priorities with regard to the entire field of climate change, global change, and sustainability. Furthermore, a scientific program was implemented as part of the Enquete Commission containing 150 studies with a total volume of approximately 10 000 pages.\textsuperscript{206} A range of research institutes were involved in this joint effort. The scientific studies became an important part of the third report to the Bundestag by the commission. The studies were used as a basis for the decisions about an emissions reduction target, and the policy strategy to achieve it.

In April 1992, the federal government established a scientific advisory board on global environmental change that prepares annual reports on the status of global environmental change. In 1994, the federal government reported that it allocated over DM 1 billion annually on environmental research and technology development. The

\textsuperscript{205} Lopez et al. (1999): p. 2.
Federal Ministry for Research and Technology is the main funding source of research, and uses two main instruments: institutional funding and project funding. About 50% is institutional funding.\textsuperscript{207} The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Ministry of Food, Agriculture and Forestry, the Federal Ministry for Economic Cooperation, the Deutsche Forschungsgemeinschaft (DFG) and the German Federal Environmental Foundation (DBU) also provide significant funding for environmental research.\textsuperscript{208} In 1994, the government’s research and development expenditures for environmental and climate research amounted to DM 1.030 million, of which DM 435 million went to ecological research, DM 345 million went to support of environmental protection technologies, and DM 249 million were earmarked for climate and atmospheric research.\textsuperscript{209} Statistics show that the total R&D expenditures in West-Germany as part of GDP was 2.86% in 1989. In unified Germany, this share was 2.35% of GDP in 1993.\textsuperscript{210} As a large and rich country, Germany had a high research effort, where resources were allocated to meet the challenge of climate change.

The prioritized areas of research in the early 1990s were climate-system research, with focus on the water cycle, trace-substance cycles, and natural variability and signal recognition. Furthermore focus was put on research into the impacts of climate change. Here, the Potsdam Institute for Climate Impact Research was initiated to play a key role. A third prioritized area was atmospheric research to better understand the physical and chemical processes of atmospheric trace substances. Fourth, there was a substantial research investment in environmental protection technology, energy research and not least energy technology. Thirteen specific policy measures – from the list of 130 measures – were directly linked to energy technology research.

\subsection*{3.4.3.3 Score}

Germany showed a clear willingness and ability to take on a pusher role in the early stages of international negotiations. Domestic circumstances – low costs and public pressure –motivated this policy strategy towards achieving a treaty. Furthermore, the

\textsuperscript{207} BMU (1994): pp. 325-326.
\textsuperscript{208} BMU (1994): p. 326.
\textsuperscript{209} BMU (1997a): p. 252.
country showed willingness to compromise on sensitive issues when during the UNFCCC process it gave in to U.S. pressure not to include binding targets and timetables in the convention text. However, the country showed less willingness to compromise and seek solutions that would secure broad participation. For instance, Germany held fast to the position that reducing CO₂-emissions in the energy sector was the best way to approach the problem. By inviting the first COP to Berlin, Germany signalized a will to bring the process forward. The country also had a high level of environmental and climate change research, and adapted its relevant capacity towards the information task.

In the analysis I find a clear presence of political will to work for a comprehensive and binding treaty expressed in negotiation positions and government policy documents. I also find some willingness to compromise on negotiation positions to bring the process forward, but only hesitantly, after the United States threatened to not participate at the UNCED meeting in Rio and not sign the UNFCCC treaty. The country was not as willing to compromise on the position about carbon emissions reductions in the energy sector as the preferred strategy. The will to compromise was therefore less clear than in the case of Norway. Furthermore, I find that the degree of funding of environmental research as part of total research funding increased during this period. The membership degree in this set is therefore mostly but not fully in, and the score is set at .67.

3.4.3.4 Policy outcome

As a large country with an open economy, the URA model would predict that Germany would have been less interdependent than Norway in the agenda-setting phase, but still in favor of an international treaty. Being a large country would mean a higher ability to take unilateral action, supported by predictions that the country would have low costs from choosing such policy alternatives. However, participation in an international treaty would benefit the country in terms of trade-effects. Hence, benefits of taking unilateral action are balanced by predicted gains by participating in a comprehensive global climate treaty. The prediction would be that these elements lead to a membership degree in the “predicted effect of interdependence” that is neither in nor out (a score of .50). Since the

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210 Research Council of Norway’s website:
effect of interdependence is predicted to be neither in nor out, the predicted outcome would be a medium level of proactive climate change policy.

Reviewing the actual positions that Germany took, we can see that the prediction does not fit. Germany in the agenda-setting phase was defined to have had a high level of proactive climate change policy. Studies and policy assessments that predicted low economic costs from leading a relatively proactive climate change policy were heeded in the policy process, leading to such an outcome. Particularly important was the Enquete Commission and its reports, as discussed in section 3.1.3. Furthermore, as a large country, Germany was more able than Norway to lead a unilateral policy. In fact, it was a preferred strategy for Germany to commit to a stringent national target, and to operate as a pusher in the international negotiations. This is, however, a higher level of proactivity than the URA model would predict, and can therefore not be explained by the “interdependence” assumptions of the model.

The possible negative effects for Germany’s large industry sector, where for instance the car industry has had a huge role in national exports, were not as central for policy outcome in the agenda-setting phase. This is because the focus of the planned policy measures within the national climate protection program was mostly put on energy efficiency and switch to renewables or nuclear energy sources, which would not have particular negative effects for the industry. However, as the discussion around a carbon tax evolved, German industry pointed out the potential negative effects such a tax would have, and that it should not be implemented unless it included all of the EU members. When this turned out to be impossible, Germany chose not to implement a carbon tax.

3.4.3.5 Summary

In sum, the URA model point predicts that the effect of interdependence on level of proactiveness would be medium for Germany in the agenda-setting phase, at a score of .50 in the “predicted effect of interdependence” causal set. This would lead to a medium level of proactive climate change policy. This does not fit with the actual level of proactiveness that Germany had, which was high, at a score of .83 in the “proactive

211 See chapter 3, table 3.1.
climate change policy” set.\textsuperscript{212} The analysis showed that Germany promoted targets and timetables in the international negotiations, and took unilateral action to reduce emissions. In other words, the actual policy was more proactive than the URA model would predict.

3.4.4 Germany in the domestic bargaining phase (1995-2001)

3.4.4.1 Policymaking process

Germany’s ambitious national emission reduction target could convince us that the country was willing to take on a higher commitment than most other countries. This does not necessarily signify political will to achieve comprehensive participation in a treaty. During the Kyoto Protocol negotiations, Germany accepted a disproportionately large share of the joint EU-target that became a central negotiation position for the EU. The fact that Germany was willing to accept such a large part of the emission cuts made the agreement possible. Germany alone will be responsible for approximately 75\% of the total EU emission reductions. The fact that the EU managed to join together as a group gave it leverage in the negotiations. It also made it more difficult for the EU to change or adjust its position, since a lot of effort had been put into reaching agreement among all the 15 EU members. Hence, the EU had less flexibility to compromise in the international negotiations. This could indicate that there was a higher demand for achieving regulation and agreement internally in the EU market than in the international markets. In other words, a comprehensive climate change agreement was not as important as an environmentally efficient agreement including the most important trading partners.

Governmental documents\textsuperscript{213} and civil servants point out that Germany has been concerned about the long-term issues in climate policy strategies. Even though the country would potentially lose welfare in the short term by being bound by an international treaty, it would reap benefits in the long term. This as a result of, for instance, benefits that a head start in new technology markets would produce, and also benefits from building confidence in potentially important markets in the developing world for the future. At COP5 in Bonn in November 1999, chancellor Schröder said in

\textsuperscript{212} See chapter 3, table 3.1.
\textsuperscript{213} See for instance BMU (1997b).
his opening speech to the conference that “if we do not embark upon climate protection now, we will lose the markets of the next century.”

It was a continuous objective for Germany to be a leader and a pusher in international climate affairs also in the domestic bargaining phase. Environmental minister Jürgen Trittin reaffirmed this in an interview in the run-up to COP5: “Germany will maintain its role as a front-runner in international climate protection into the future... I will firmly support the idea of other States adopting a similarly broad catalogue of measures for climate protection as us. Measures for energy conservation, the ecological tax reform, the promotion of renewable energies and many further measures do not only benefit our climate, but also offer opportunities to modernize the economy.” These statements indicate that the possibility of gains in the future was important for the decision making in German climate policy, probably combined with the anticipation of modest costs with implementing abatement measures, as pointed out previously. A pusher role was therefore possible and desirable for Germany.

The flip side of this ambitiousness is that Germany in the domestic bargaining phase has been less willing to compromise and be flexible when it comes to taking the interests of countries with higher potential costs of emissions reductions into account. For instance, in the issue of emissions trading, the country has been among the least flexible in the EU with respect to making compromises. In The Hague, there was an internal crisis in the EU where the UK negotiator presented a compromise suggestion on the sinks-issue that was threatening to derail the negotiations, but was flatly rejected by Germany and other EU members. As a result, no agreement was achieved between the United States and EU, and the negotiations had to end in failure for the first time. Only after the United States withdrew from the Kyoto Protocol have Germany and the EU become more willing to compromise on core Umbrella Group interests like free emissions trading and substantial use of sinks.

The result of these compromises is that the Kyoto Protocol is now closer to being ratified, and a climate treaty is what Germany rhetorically has advanced continuously through the negotiation period. The precautionary principle and long-term sustainable

214 German Chancellor’s website: http://www.bundeskanzler.de/03/27/, 24.02.2002
development have been central elements in the German national debate, and the
government has expressed a firm belief that an international, binding climate treaty is the
best way to secure these aims. For instance, environmental minister Angela Merkel in
1997 said: “Effective climate protection is one of the central focuses of sustainable
development. A solution to the climate problem can be found only through coordinated
national and international strategies.”

The development of a robust industrial sector was considered important by
Germany as a means of both achieving sustainable development and meeting the
challenge of globalization. There was strong political will to enable the development of
both a strong and vital industry sector and a strong climate policy. There was
increasing focus on the role of industry in Germany’s climate change policy in the
domestic bargaining phase, and a debate about how the country could remain an
attractive site for large industrial companies and future investments was important
(“Standort Deutschland”). In line with these arguments, the voluntary commitment that
German industry associations agreed to in 1995/96 was a compromise between the
government, which wanted to secure regulated emissions reductions in that sector, and
the industry associations, who wanted to do as little as possible due to expected negative
trade-effects if important trading partners didn’t do the same. These concerns and new
solutions came as a result of the government’s plans to implement additional measures
requiring greater emissions reductions directed through the national climate protection
program.

Germany in the 1990s was on the verge of a new era, economically speaking,
where globalization and changing industrial relations forced economic actors to think
new thoughts. Part of this change was the increased environmental consciousness that
made policymakers aware that investments in clean technology and energy efficiency
could create new markets and new jobs. The recession that hit the German economy
during the 1990s and the growing concern about unemployment were central in this
change. However, industrial managers expected the government to take action that would
reflect the difficult economic situation of Germany. They called for a more

217 BMU (1997a)
comprehensive strategy in climate policy, where all affected policy areas would be kept in mind. The structural changes, economic recession, and high unemployment made adding more changes difficult. The German government was reluctant to adopt climate policy that would result in structural changes. The sector-by-sector approach seemed to work, as did the voluntary agreement, and these programs were supported by major industry actors. It was difficult for Germany to change its domestic policy strategy, and hence also its positions in the international negotiations. Germany was not very willing to compromise on negotiation positions in order to move the process, or secure broad participation.

3.4.4.2 Environmental and climate change research

In 1997, the federal government reported that research on the topics of climate change, global change, and sustainability was supported mainly by the Federal Ministry of Education, Science, Research and Technology, and the German Research Foundation. For climate change research and systematic observation, the federal government allocated DM 700-770 million annually for the period 1996-2001. Additional funds were provided by the federal states, but it is difficult to differentiate between research and spending at the national and state levels. In the medium term, a substantial part of the funds were directed towards nuclear energy safety. This area received DM 385 million annually from 1996 to 2001. Energy conservation research received DM 134 million per year in the same period. In the long term, substantial parts of the funding will be directed to research on electricity production alternatives, including renewables. This research will receive DM 200 million annually until 2005.

In the 1997 national communication to the UNFCCC, research into transportation-related emissions reductions is highlighted as an important area. Still, an UNFCCC in-depth review group found in 1999 that “no additional public funding is available for research into technical improvements.” The government also reported that there was need for greater coherence and a long-term focus to systematically pool all research and development activities in Germany. While that still is a long term goal, the

219 Ibid., p.23.
government in the meantime continues to undertake a significant level of research and
development. The government also saw research as an important way of safeguarding
Germany’s importance in technology development and of promoting export opportunities
for national industries.\textsuperscript{221} Statistically, total expenses for R&D as part of GDP increased
only slightly from 2.26\% in 1995 to 2.44\% in 1999. The total national research effort
therefore did increase somewhat in the domestic bargaining period. In relative terms,
environmental research increased its share of this total, which indicates that the country’s
environmental research capacity increased.

3.4.4.3 \textit{Score}

Germany continued to be a pusher in the international negotiations, pressing for an
environmentally efficient agreement. It took on a disproportionately large part of the joint
EU target for emissions reductions. This does not indicate, however, that Germany
worked for a comprehensive treaty. For instance, the country showed little willingness to
compromise on its own positions in this phase, and thereby contributed to the increasing
stalemate between the EU and the United States and its allies in the Umbrella Group on
sensitive issues like emissions trading and sinks. Only after the negotiation process
derailed in The Hague, and the United States withdrew from the Kyoto protocol in 2001,
did Germany and the EU show willingness to compromise with the remaining members
of the Umbrella Group. At the same time, however, there has been increasing focus in
Germany about the importance of not putting the country’s industries at a competitive
disadvantage with respect to their trading partners as a result of implementing additional
abatement measures through the national climate protection program. Germany continued
to invest substantially in research during this phase, and also environmental research
funding has been increasing.

The analysis reveals a moderate will to work for a comprehensive and binding
climate treaty, increased research effort, and low to moderate willingness to compromise
to move the process forward. Membership in this causal set is therefore perceived to
more or less in, and the score is set at .67.

\textsuperscript{220} Lopez et al. (1999): p. 23.
\textsuperscript{221} Ibid., p. 23.
3.4.4.4 Policy outcome

The prediction of the URA model for Germany in the domestic bargaining phase would be that the effect of interdependence on policy outcome would be higher than in the agenda-setting phase. Despite of Germany being a large country with an open economy, it would be difficult to estimate whether the economic gains from treaty participation would outweigh the gains of being able to take unilateral action adapted to national economic circumstances. The membership degree in the “predicted effect of interdependence” causal set would therefore be neither in nor out (a score of .50). In other words, since the predicted effect of interdependence is neither in nor out, it would lead to a medium level of proactivity.

Comparing this prediction with the actual level of proactivity in Germany in the domestic bargaining phase, we see that the prediction does not fit. In the domestic bargaining phase, Germany’s level of proactive climate change policy was given a score of .67 in the “proactive climate change policy” causal set.\(^{222}\) Germany and the EU continued to be strong pushers in favor of stringent commitments in terms of targets and timetables, even after German policymakers realized that it would become more expensive than initially predicted to achieve the national abatement target (25% reduction of \(\text{CO}_2\) by 2005). While the Kohl government did not introduce additional policy measures to the national climate protection program, it did agree with the industry associations about voluntary emissions reductions. The Schröder government in 1998 introduced the ecological taxes, and in 2000 it also introduced some additional abatement measures.

Over the course of the domestic bargaining phase, it became increasingly evident for Germany that climate policies would have consequences for its large industrial sector. Negative trade effects from intensified abatement commitments therefore became an area of focus, since German industry voluntarily agreed to accept emissions reductions. It would have been difficult for the government to impose further demands on that sector, unless other countries agreed to do the same. Therefore, an international treaty seemed more necessary. However, Germany showed even less willingness to compromise on its

\(^{222}\) See chapter 3, table 3.1.
own negotiation positions to achieve a broad treaty. An agreement among the EU members on climate policy seems to have been equally – if not more – important for Germany as having a comprehensive international climate treaty.

3.4.4.5 Summary

The URA model point predicts that the effect of interdependence on level of proactiveness would be medium for Germany also in the domestic bargaining phase, with a score of .50 in the “predicted effect of interdependence” causal set. This would lead to a medium level of proactive climate change policy. This does not fit with the actual level of proactiveness that Germany had, which was medium to high, at a score of .67 in the “proactive climate change policy” set. The analysis shows that Germany and the EU continued to push for stringent targets and timetables in the international negotiations, and were not willing to compromise to reach agreement. In other words, the actual policy was more proactive than the URA model predicts.

3.4.5 The United States in the agenda-setting phase (1988 – 1996)

3.4.5.1 Policymaking process

In the late 1980s, the United States did not consider international cooperation to address the climate change problem to be a highly important policy issue. For instance, only medium-level governmental representation was considered necessary at the Toronto Conference in 1988, and support of the Toronto Declaration was not of interest at all. In European countries, ministries of the environment were in charge of the issue-framing process, and hence cost assessments were not in the center of focus. Rather, the precautionary principle was highlighted. The climate change issue appeared to be another serious environmental problem that needed to be addressed in much the same way as the acid rain and ozone issues. The United States was one of few countries at the time that stressed the high costs that abatement policy would incur more than the need for immediate action to curb global warming.

As the policy issue gained prominence internationally and the international negotiations became formalized in preparation for UNCED, the United States placed
climate change higher on the policy agenda. However, during the UNFCCC negotiations (1990-1992) the United States stood firm about not opening up for including targets and timetables as an option in the treaty text. Setting targets and timetables has been considered a cornerstone of international cooperation on climate change, since it would make emissions reductions comparable and more binding than looser commitments. The U.S. position limited the possible level of direct impact that potential international cooperation could have on domestic policy since there were no clear targets or timetables, and it signalized a lack of interest on the part of the United States in having a treaty that could directly regulate domestic policy. It appears that the country did not perceive an international agreement to be the best way of maximizing national welfare.

In spite of the strong pressure particularly from European countries to have binding reduction targets even at this early stage of the international process, the United States worked against it. Establishing targets and timetables was a crucial issue in the negotiations and an issue where the United States was not willing to compromise. The EU and AOSIS in the end had to compromise to save the negotiation process.\textsuperscript{224} It was uncertain until the last days of negotiations whether the United States would sign the treaty. President Bush had gone so far as to threaten to boycott the Rio summit until he had ensured that the text did not contain binding targets for CO\textsubscript{2} emissions reductions.\textsuperscript{225} The United States showed no will to compromise, even if it meant no agreement.

Looking at the focus in the policymaking process that shaped the country’s positions it was not only threats of boycott, but also a different emphasis of the science of climate change that stands out from other countries’ positions. The Bush administration repeatedly said that abatement measures would be too costly and that existing scientific evidence did not justify economic sacrifices.\textsuperscript{226} This was a different approach than that taken by countries like Norway and Germany, where the precautionary principle was actively used in the argumentation for early action. The United States, in contrast, argued that the evidence on climate change was not clear-cut. Uncertainty pertained both to the degree to which human activity contributed to global warming, and also to the scale and

\textsuperscript{223} See chapter 3, table 3.1.
timing of global warming. This uncertainty allowed groups that opposed action and supported alternative scientific analyses to gain footing and enhance the perception that the science of climate change was uncertain.227 Argumentation about the uncertainty and consequential risks for harmful economic effects was actively used by the U.S. government in the international negotiations, and reflected in negotiation positions during the UNFCCC negotiations.

When Bill Clinton assumed the presidency in 1993, the uncertainty argument was toned down somewhat. The focus of the policymaking process moved to possible win-win situations for the economy that emissions reductions could lead to. Clinton announced a stabilization target in his first year as president, and made public speeches where the focus was put on the need for truly global action to address the climate change problem. For instance, in a speech on Earth Day in 1993, Clinton said “we must take the lead in addressing the challenge of global warming that could make our planet and its climate less hospitable and more hostile to human life.”228 The same year he launched the Climate Change Action Plan as a domestic response to the global warming problem.

As the international negotiations developed, however, key issues became problematic. The composition of the UNFCCC treaty and the protocol was important for the United States. The country was actively involved in early critical issues such as deciding that the intergovernmental negotiations should proceed step by step thru a “framework agreement model” after the model of the highly successful acid-rain negotiations, and that decision making should happen by consensus rather than majority, which gave individual countries substantial leverage over the final outcome.229 This suggests that the United States was very concerned about maintaining control over its domestic policy options.

The United States was also very concerned about issues such as compliance and options for flexibility in the approach to reduce emissions. Another important issue has been the participation of developing countries. The flexibility mechanisms and the developing country participation became difficult issues as the Kyoto Protocol negotiations developed. The United States showed little willingness to compromise on

these issues. An exception was when at COP2 in Geneva in 1996 the United States dramatically changed its position and announced support for a legally binding protocol with quantified targets and timetables.\textsuperscript{230} It moved the process forward, but also complicated the negotiations since the U.S. position was linked to a preference for emissions trading and other flexibility mechanisms to achieve reductions. In other words, the positions of the United States were closely linked to ensuring national welfare, and compromising on these positions was not an option. This signals little concern over the comprehensiveness in participation. Although promoting developing country participation might seem to be a way of enhancing the comprehensiveness in participation in the treaty, almost all other parties, including the developing countries, had the very different position that industrialized countries should take the initial steps towards emissions reductions because of historic responsibility. Thus, the rigid attitude of the United States on this issue did not signal a will to enhance participation.

As the world’s largest emitter of GHGs, the country had real power of control over the degree to which an international agreement to reduce emissions could become environmentally efficient. It also had leverage with respect to other parties regarding whether it would be worthwhile to address climate change without participation of the biggest emitter. The degree to which an international agreement could become a preferable way of maximizing national welfare depended on broad participation. U.S. signals about lack of willingness to participate hence had consequences for the other parties’ decisions to participate. For precisely this reason, domestic politics appeared just as important to the United States as an international treaty. And in addition, a domestic politics focus would mean more flexibility and maximum control. In this sense, the policymaking process in the United States was much less affected by interdependence than in small countries like Norway, where contribution to the climate change problem is so small that the country depends on other actors to participate in a global effort to address the problem. The incentives to participate in a binding and comprehensive treaty were, in other words, not as strong as for Norway and partly also Germany.

Also, the vulnerability to adverse climate change impacts was predicted to be comparatively small in the USA. Climate change was predicted to pose no direct threat to society. This made the country less dependent on others and less in need for having a global treaty. The USA’s immediate interest for structural regulations at the international level thus seemed small in the Kyoto Protocol negotiations. It was more important what happened in the domestic arena than what happened at the international level.

3.4.5.2 Massive research effort
The United States has a very high level of research on environmental issues, and on climate change. The country has some of the best universities in the world, and attracts new talent from all over the globe to do research. Also, several federal agencies, like NOAA and NCAR, carry out cutting-edge research that is used as background for policy decisions. Several other agencies, like the Environmental Protection Agency, the Department of Energy, and the National Science Foundation, give grants and other funding to climate change research each year. In addition, private foundations like the McArthur Foundation fund substantial parts of the total U.S. environmental and climate change research. Many research institutes also contribute advice and assessments in the policymaking process.

Between fiscal years 1989 and 1993, the federal government spent $3.7 billion on the United States Global Change Research Program (USGCRP). The program was initiated in 1989 by presidential initiative, in response to increasing concerns about the potential risks of climate change and the uncertainties surrounding the science. The USGCRP was launched as a massive interagency research effort to “observe, understand, and, ultimately, predict global changes and to determine the mechanisms influencing these changes.” The program was initiated to achieve a long-term comprehensive, multidisciplinary approach to understanding how and why global changes occur. The program became an overwhelmingly physical science program focused on basic earth system processes that largely ignores the behavioral, economic, and ecological aspects of environmental problems. The program has evolved in parallel with the IPCC, and has

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231 National Oceanographic and Atmospheric Administration, National Center for Atmospheric Research.
drawn heavily from the panel’s work. Consequently, the main focus of research has become climate change.\textsuperscript{233}

Statistically, however, we can observe that total funding for research as part of GDP decreased slightly from 2.64\% in 1989 to 2.50\% in 1995.\textsuperscript{234} Compared to Germany, another large country, total R&D expenses were about the same. The real increases in environmental and climate change research must therefore have come at the expense of other types of research. This again signifies that environmental and climate change research was perceived to be an important area to focus on, and an area where the country needed to improve its information. Hence, the existing relevant research capacity of the United States was adapted to meet a new policy area, and climate change research increased.

3.4.5.3 \textit{Score}

We have seen that the United States signed and ratified the UNFCCC, but only after the sensitive issue of binding targets and timetables was rejected from the treaty text. The country showed no willingness to compromise on this issue. The composition of the UNFCCC treaty, and the following protocol negotiations was important for the United States. Keeping domestic control over policy options was more important for the United States than securing broad, comprehensive participation. The country showed little willingness in the protocol negotiations in 95/96 to compromise to move the negotiations forward on central issues like the flexibility mechanisms and participation of developing countries. The country initiated the USGCRP in this phase, which has been a very important research effort, and climate change research funding increased.

Several elements speak for the membership in this set to be perceived as mostly but not fully out. Showing interest in international cooperation by signing the UNFCCC was qualified by the lack of willingness to compromise on the issue of binding targets and timetables. Negative language turned more positive with a new president, and did lead to more activity in the international negotiations. However, the country showed little interest in working actively to achieve a comprehensive and binding treaty, indicated by

its difficulties in accepting that developing countries should be exempted from commitments in the first commitment period of the Kyoto Protocol. The country compromised somewhat when at COP2 in Geneva in 1996, the United States turned around and accepted further negotiations about targets and timetables for emissions reductions (QUELROs). The language in the Kyoto Protocol negotiation positions, speeches, and documents indicate skepticism to many of the proposals by countries promoting the precautionary principle, and a lack of willingness to compromise on key issues. The United States had a high research effort on climate change in this phase. The membership degree in this set is therefore mostly but not fully out, and the score is set at .17.

3.4.5.4 Policy outcome

The United States is the largest economy in the world, and the URA model would predict that it would be much less interdependent in the agenda-setting phase than particularly Norway, but also Germany. It had the capability of following through with unilateral policy action, at the same time as participation in a treaty encompassing only industrialized countries would be more negative for its national economic welfare than soft domestic abatement policies. The prediction of the model is that these elements would result in a membership degree in the “predicted effect of interdependence” of mostly but not fully out (a score of .17). And since the effect of interdependence is predicted to be mostly but not fully out, the predicted outcome would be a low level of proactive climate change policy.

Reviewing the actual level of proactive climate change policy that the United States had in the agenda-setting phase, we see that the prediction does not fit. In the introduction of this chapter it was argued that the United States had a medium to low level of proactive policy. Assessments and studies that predicted high economic costs both from taking on unilateral abatement measures and participating in a multilateral treaty were heeded, and influenced the outcome in this direction. A definite focus in the United States was therefore the weight put on negative economic consequences of

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participating in a climate treaty. The design of the treaty, with the focus on national targets and short time-frames to implement emissions reductions, was considered unsuited to accommodate the needs of the U.S. economy to continued growth. Hence, a strongly contributing factor to the United States’ level of proactive climate change policy was the “wrong” focus that the negotiations had concerning targets and time-frame, and the unwillingness of the United States to compromise on its own positions.

Furthermore, economic competitiveness became an increasingly important reason for the lack of U. S. enthusiasm in the Kyoto Protocol negotiations. As long as economically important trading competitors like China, India and other major Asian economies were exempted from any commitments, there would be fewer economic incentives for the United States to participate in the treaty. As a result, as we have seen, the United States did not promote any stringent commitment in the climate negotiations. Domestically, the country implemented only very soft policy measures to address the problem. Enforced research funding, particularly directed towards technology and natural science, and voluntary policy programs like the CCAP was as far as the United States wanted to go in abating GHG emissions in the agenda-setting phase.

3.4.5.5 Summary

The URA model point predicts that the effect of interdependence on level of proactiveness would be low for the United States in the agenda-setting phase, giving a score of .17 in the “predicted effect of interdependence” causal set. This would lead to a low level of proactive climate change policy. This does not fit with the actual level of proactiveness that the United States had, which was medium to low, at a score of .33 in the “proactive climate change policy” set.236 In other words, the United States was more proactive than expected by the model in this phase.

235 See chapter 3, table 3.1.
236 See chapter 3, table 3.1.
3.4.6 The United States in the domestic bargaining phase (1997 – 2001)

3.4.6.1 Policymaking process

When the negotiations became more intense as Kyoto approached, the United States was strongly pressured by other countries – both the EU and G77/China – to compromise on central negotiation positions like emissions trading and participation of developing countries. The emissions trading approach was contrary to the focus of other parties, especially the EU, which wanted to concentrate on domestic CO₂ reductions to have a manageable approach to an effective reduction plan that countries could agree upon. However, future possible participation by the United States in the treaty was closely linked to the flexibility mechanisms issue. If the flexibility mechanisms were not fully incorporated in the Kyoto Protocol, the United States saw it as more beneficial for national economic welfare to lead a unilateral policy. Compromise or flexibility concerning these issues appeared to be difficult for the United States, indicating a low degree of effort to achieve broad participation. For the United States, comprehensiveness regarding participation was less important than the policy design. A long-term approach to reducing emissions was preferred, and without the flexibility mechanisms included in the protocol the approach would be more short-term. In such a case, the United States would prefer domestic policy alternatives.

Pressure from Congress made it difficult for the Clinton administration’s negotiators to accept a treaty where large developing countries had no reduction commitments. The question about developing country participation was very important in the policymaking process in the domestic bargaining phase. On the other hand, the United States experienced pressure from the international community to accept that industrialized countries have responsibility for historic emissions, and hence should take the first steps to addressing the global warming problem. All the way up to the final round of negotiations before Kyoto, lack of participation from developing countries was a major hindrance for U.S. acceptance of the treaty text. In one sense, one could say that the United States seems to have worked for a broadest possible participation. However, the position was highly unrealistic, considering all other parties’ positions, and in practice it meant a hindrance for broad treaty participation because it stirred disagreement and segmented the North-South conflict. Developing countries could have been more willing
to commit in future commitment periods if the industrialized countries had shown the will to take first steps.

The United States compromised on the non-participation of the developing countries at the Kyoto conference, but only after direct involvement from the president. The matter came to a solution only when Vice President Al Gore personally participated in the final rounds in Kyoto, and signed the protocol. As I discuss in later sections (chapter 4) the signature and compromise by the Clinton administration on this central issue enforced the serious opposition to the treaty in the U.S. Senate. However, the fact that the United States did sign and compromise at Kyoto indicates that the Clinton administration wanted participation in the treaty, although the separation of powers hindered domestic implementation of relevant policies, and political disagreement made ratification of the protocol impossible.

As a major actor in most world markets, the U.S. economy is dependent on being part of new developments and business opportunities of the future. What happens in Europe, Japan, and Asia is important for U.S. business. This can be affected by the Kyoto Protocol, particularly through an emission trading regime and joint implementation efforts between developed and developing countries (CDM). Early experience in these emerging markets has been valued highly by large firms all over the world. A pilot phase for JI has been in force since COP 1 in 1995 so that countries could gain experience with such cooperation before a permanent system is agreed upon.237 The United States had “as of June 1997 accepted 25 projects in 11 countries, helping U.S. firms tap the potential outside the OECD for low-cost GHG reductions while contributing to development goals in host countries.”238 Furthermore, the President’s Committee of Advisors on Science and Technology projected that “the markets for energy technology in developing countries will total $4 to $5 trillion over the next 20 years and $15 to $25 trillion over the next 50 years.”239

Argumentation from the Clinton administration emphasized that policy initiatives opening for clean energy technology innovation and export would promote U.S. exports and create high-value jobs, at the same time as assisting developing countries in both

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237 Torvanger et al. (1997): 61-63
Reducing emissions and encouraging economic development. Large companies in the United States began to recognize the potential in these emerging markets, and hence became more interested in shaping the climate change regime in a way that would allow market opportunities to develop. This enforced the strong commitment of the United States to having flexible, market-oriented mechanisms included in the protocol. It is also reasonable to assume that it contributed to making flexibility and compromise on these negotiation positions very difficult for the U.S. government and the negotiation delegation. However, there is no doubt that participation in a climate treaty that did not include commitments for developing countries would be negative for the United States, especially since countries like China and South Korea are considered major competitors. In the end, this was the kind of argument that won out in the policymaking process.

Before COP6 in The Hague in 2000, President Clinton said that “as the world comes together next week in The Hague, the United States will work to make real progress toward a treaty that is both environmentally strong and cost-effective. We must continue to move forward together. The stakes of not acting are simply too high.” However, as the negotiations at COP6 developed, the United States found that it could not agree to the EU proposal to put a ceiling on the amount of emissions trading that would take place between Annex 1 parties. The EU has throughout the process favored a higher degree of mandatory policies and measures than the United States. The issue of the amount of sinks that could be counted toward a party’s reduction commitments was also strongly contested by the negotiation parties. The United States’ willingness to compromise on these issues was so low that the whole negotiation process derailed. To save the protocol, the EU later accepted full freedom of trading and larger amounts of sinks, thus securing participation from U.S. allies in the negotiations like Japan and Russia.

As a dominant country in the world and in the negotiations, the United States was able to influence the positions of other Annex 1 countries substantially in this period, as discussed above. The United States also used its influence to shape the design of the treaty itself. In this process, U.S. contributions were relatively more focused on achieving

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cost-effectiveness and market-oriented, flexibility solutions than on coming to agreement with other parties on a treaty that represented a platform that most countries could agree upon. When agreement seemed impossible to reach on key issues like full emissions trading and extensive use of sinks, the United States was willing to reject the whole treaty in March 2001 instead of compromising. The lack of willingness to compromise indicates that the United States was willing and capable of taking unilateral action, and that it found this strategy more beneficial for national economic welfare.

3.4.6.2 High research effort

The United States has put much effort into assessing the expected costs of reducing GHG emissions. Throughout most of the 1997-2001 period, the research effort in the United States focused mainly on assessing the expected cost of mitigation. It was not until the end of this period that assessing the costs of climate change impacts became a focus of research. The U.S. Global Change Research Program (USGCRP) represents the biggest research effort in the world on climate change, and received $1.68 billion in funding in the fiscal year 1999.\textsuperscript{241} Obviously, this indicates that the government made it a priority to have the best possible information available as a basis for making policy decisions. Both national and international policymakers used the information produced by the scientists involved in the Global Change Research Program to make informed decisions on global warming issues. For instance, politicians used (and still use) the report on potential impacts of climate change in the United States produced by the USGCRP in November 2000.

Statistically, the total expenses for research funding as part of GDP increased from 2.57% in 1997 to 2.64% in 1999.\textsuperscript{242} The capacity for environmental research was therefore large, not least considering the size of the GDP in this big country. The well organized research system in the United States, with excellent universities, federal research agencies, and private research institutions, enhanced this capacity. The expenses for climate change research increased throughout the domestic bargaining phase, and the United States “has spent over $20 billion on climate and global change research since

\textsuperscript{241} USGCRP (1999): Appendix A.
This indicates that directing research efforts at finding relevant information for policy decision making was considered important, particularly taking into account the uncertainties that are inherent in the climate change problem. During this period, the mainstream, majority group of scientists in the United States supported the claim represented by the IPCC that there is a human-induced climate change occurring, and that the rising global mean temperatures are a result of human activities such as fossil fuel burning. There was also a minority group skeptical to the IPCC results, and claiming that the rise in temperature is probably only a fluctuation, part of a natural temperature cycle.

ENGOS, interest organizations, and research institutes became increasingly more active in funding and performing climate change research. For instance, the Resources for the Future carried out a substantial amount of climate change research, and Environmental Defense acted as a consultant and ideas-developer for companies on issues like emissions trading.

3.4.6.3 Score

The analysis shows that in the domestic bargaining phase, the United States showed reluctance to compromise on important positions to achieve a treaty result that most parties could live with. The participation by the United States was closely linked to the flexibility mechanisms issue. If the flexibility mechanisms were not part of the Kyoto Protocol, the United States considered unilateral action more beneficial for national economic welfare. The United States compromised on the non-participation of developing countries only after direct involvement from the president. Vice President Al Gore personally participated in the final rounds in Kyoto, and signed the protocol. On grounds that complicated issues like emissions trading and carbon sinks were difficult to clarify – issues that represented the core of U.S. negotiation positions – the negotiations about the flexibility mechanisms in the Kyoto Protocol continued for more than three years after it was signed. Corporate interest in emerging markets, and in shaping the climate change regime in a way that allow market opportunities to develop, worked to

enforce the county’s strong commitment to having flexible, market-oriented mechanisms included in the protocol. It made compromise on these negotiation positions very difficult for the U.S. government and the negotiation delegation. The issue of the amount of sinks that should be allowed to be counted toward a party’s reduction commitments was also strongly contested by the negotiation parties. The United States’ willingness to compromise on these issues was so low that the whole negotiation process derailed. In the end, the United States chose not to be a party to the protocol. The lack of willingness to compromise indicate that the United States was willing and capable of taking unilateral action, and that it found this strategy more beneficial for national economic welfare. Research funding continued to be high. The expenses for climate change research have increased throughout the domestic bargaining phase. The membership degree in the set is mostly but not fully out, and the score is set at .17.

3.4.6.4 Policy outcome
The URA model would predict that the United States in the domestic bargaining phase, as a large economy, would be no more interdependent than in the agenda-setting phase. It had the capacity to act unilaterally, at the same time as participation in a treaty encompassing only industrialized countries would be more negative for its national economic welfare than domestic abatement policies that could be adjusted to national economic circumstances. The prediction of the model is that these elements instigated the membership degree in the “predicted effect of interdependence” to be mostly but not fully out (a score of .17). Since the effect of interdependence is predicted to be mostly but not fully out, the predicted outcome would be a low level of proactive climate change policy.

Reviewing the actual positions of the United States in the domestic bargaining phase, we see that the prediction does not fit. The United States was determined to have a medium to low level of proactive climate change, a score of .33 in the “proactive climate change policy” causal set.244 In other words, a more proactive policy than the URA model would anticipate. The same influential elements as in the agenda-setting phase were present. Policy assessments and studies that were heeded in the policymaking process

244 See chapter 3, table 3.1.
foresaw negative economic consequences for the United States by participating in the Kyoto Protocol, particularly if the flexibility mechanisms could not be used to their maximum advantage. Furthermore, since developing-country participation became ruled out as an option up until 2012, the argument for competitive disadvantages for the country if it participated gained strength.

Hence, the policy of the United States in the domestic bargaining phase was marked by little willingness to accept short-term emission reductions, as outlined in the Kyoto Protocol. References to economic consequences were frequently used, as were references to the competitive disadvantages that would result if large economies like China and South Korea were exempted from commitments. The U. S. will to compromise in the international climate negotiations was low, leading to the derailing of the process at COP6 in The Hague. The United States insisted on maximum flexibility in the use of emissions trading and sinks, while the EU insisted on a ceiling on emissions trading and a lower use of sinks. In 2001 the United States decided to withdraw from the protocol, on grounds that it would hurt the national economy. The stated intention was to present a domestic policy alternative that could address both the importance of a continuously growing U.S. economy and global warming. This points directly to several elements discussed in this section, and is interpreted here as a signal of the United States’ low interdependence and consequentially great capacity for acting unilaterally.

3.4.6.5 Summary

The URA model point predicts that the effect of interdependence on level of proactiveness would be low for the United States in the agenda-setting phase, with a score of .17 in the “predicted effect of interdependence” causal set, which in turn was predicted to lead to a low level of proactive climate change policy. This does not fit with the actual level of proactiveness that the United States had, which was medium to low, at a score of .33 in the “proactive climate change policy” set. In other words, climate policy in the domestic bargaining phase was more proactive than the URA model would predict.

245 See chapter 3, table 3.1.
3.4.7 Summary
The URA model assumes that several factors pertaining to interdependence (and
information) have a decisive effect on policymaking process and policy outcome. Table
3.2 summarizes the scores that have been determined for each case in the causal sets that
were defined to reflect the degree to which the assumptions fit with empirical findings.

Table 3.2

<table>
<thead>
<tr>
<th>Cases</th>
<th>Policymaking process: score</th>
<th>Predicted outcome</th>
<th>Actual outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting</td>
<td>.83</td>
<td>.50 or .33</td>
<td>.83</td>
</tr>
<tr>
<td>phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway in domestic</td>
<td>1</td>
<td>.50 or .33</td>
<td>.50</td>
</tr>
<tr>
<td>bargaining phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany in agenda-setting</td>
<td>.67</td>
<td>.50</td>
<td>.83</td>
</tr>
<tr>
<td>phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany in domestic</td>
<td>.67</td>
<td>.50</td>
<td>.67</td>
</tr>
<tr>
<td>bargaining phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The USA in agenda-setting</td>
<td>.17</td>
<td>.17</td>
<td>.33</td>
</tr>
<tr>
<td>phase</td>
<td></td>
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</tr>
<tr>
<td>The USA in domestic</td>
<td>.17</td>
<td>.17</td>
<td>.33</td>
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<tr>
<td>bargaining phase</td>
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</tbody>
</table>

The size of both the country and its economy had very decisive impacts on both the
policymaking process and the policy outcome. In all three countries, these were elements
that clearly shaped the way climate change was handled as a policy issue. The United
States as a large and open economy was certainly aware of the options it had to take
unilateral action that could be better adjusted to national economic circumstances, as an
alternative to participation in the international climate treaty. Similarly, Norway, as a
small and more interdependent country, became increasingly focused on contributing to
having a comprehensive international treaty, as it became clear that the economic benefits
from cooperation would be large. In other words, Norway was more interdependent than
the United States, and this had an effect on policy choice. The model assumption that this
factor is important therefore finds support in the present empirical material.

Directly linked to the questions of size and interdependence seems to be the
countries’ willingness to compromise on negotiation positions to achieve a
comprehensive treaty in terms of participation. Both the United States and Germany showed much less will to compromise than Norway. Germany and the EU continuously stood out as pushers in the negotiations, pressing for environmentally efficient GHG emissions reductions. In contrast, the United States pressed for maximum flexibility and preferably also a longer time-frame for emissions reductions. Neither of them showed much willingness to compromise so as to secure a treaty, since compromise would necessarily result in a treaty they would less prefer. Germany was, however, more willing to compromise than the United States, and in the Marrakech accords in 2001 accepted a treaty which was much less stringent than it had originally promoted.

Both the factors mentioned above – country size and willingness to compromise – were in different ways directly linked to the predicted economic benefits or costs the country would incur by participating in a climate treaty. The economic effects would be different for a small country to act unilaterally than a large country, as discussed above. This in turn was found to have had a causal effect on the level of proactive climate change policy the three countries chose.

Comparing the predicted versus actual policy outcomes, we see that the analysis and discussions above showed that the actual policy outcome in five out of six cases was more proactive than the predictions of the URA model. In other words, in five out of six cases the countries had a higher level of proactiveness than the model predicted. This means that there must have been other explanatory factors not covered by the URA model that contributed to shaping the policymaking process and determining policy outcome for the three countries under study here. This is very similar to the findings in section 3.1, where all policy outcomes were more proactive than predicted.

Seeing all of the URA assumptions in sections 3.1 and 3.2 in connection, therefore, I still find that there must be other explanatory factors to explain policymaking process and outcome than this model assumes. Granted, the model brings us quite far in understanding the important influence that cost and benefit assessments had both on policymaking processes and policy outcomes in the six cases, as well as clarifying how much the predicted costs and benefits matter for understanding how interdependent a case was. As an important underlying factor, the cost-benefit balance of the countries in

246 See chapter 3, table 3.1.
question here has been shown to be crucial for understanding to what extent a country perceived an international climate treaty to be beneficial for its national welfare. This perception would in turn be decisive for important policy choices and negotiation positions, such as whether or not the country promoted policy alternatives designed to include as many parties as possible in a treaty, and its will to compromise in the negotiations to make this happen. In sum, however, it is clear after the above analysis that the URA model cannot fully explain what happened in the countries’ policymaking processes, or why they adopted a particular level of proactive climate change policy. Focusing on the nation as a whole, avoiding the discussion about what lies behind assessments about costs and benefits in terms of consequences for particular societal groups, institutions and the general public, brings us only this far in understand policy process and outcome. The logical next step is therefore to investigate how far an empirical analysis applying the DP model and the SLI model can bring us in terms of explaining, which takes place in chapters four and five. A comparative analysis of the findings from these three empirical analyses takes place in chapter six.
4 THE DOMESTIC POLITICS MODEL

4.1 Introduction

The main objective of the analysis in this chapter is to crystallize the assumptions of the Domestic Politics model, and to apply the measurements developed in chapter two to empirical data. This will make possible an evaluation of to what extent the theoretical assumptions find support in a real-world context.

In the “public demand and support” set, the central assumption is that in democratic, pluralist societies politicians and government agencies are concerned with the public opinion on the climate change policy issue. However, there are differences in the public opinion both as to who is interested in raising their voice, and who gets the ear of policymakers. The analysis here builds on two more specific assumptions about societal demand and support. The first is that public demand and support of climate change policy is likely to be decided by the values, interests, and knowledge of the public. The level of knowledge about and interest in climate change in different groups of the society plays a role for how willing people are to make economic and/or welfare sacrifices to achieve a better environment or to avoid the potential dangers of global warming. Actors like the mass media, environmental organizations, political parties, and stake-holder organizations shape and influence people’s knowledge and attention to political issues like global warming.

The second assumption is that the distribution of damage and abatement costs in society is important for the outcome of the policymaking process. The general public concern about the degradation of the environmental condition of the country or any irreversible damages must be taken into account by the policymakers and weighted against the concern of domestic actors who will suffer from heavy costs of abatement measures. The degree of pressure from proactive vs. reactive interest groups in society will determine what politicians perceive to be the most pressing issues. But countering, or more likely combined with, such pressure is the relative power and influence of actors, since sizable and economically important actors tend to have more influence on the

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policymaking process than more obscure pressure groups. So even if a government would want to implement for instance a comprehensive climate policy strategy, it may be unable to go through with its plans because of domestic political constraints.248

In the “governmental supply” set, the central assumption is that how governmental institutions operate is an important input for understanding the policymaking processes in Norway, Germany, and the United States. Dominant causes of policy formation are sought for in the structures of the state, i.e. in the constitutional division of powers within the political system, and the distribution of power and influence between different institutions within the government. First, the design of the political system of the country is important, meaning that the distribution of power between the legislative and executive branches of the governing system is designed in a particular way that restricts the options and access for influencing policy choice. The issue of particular interest in this analysis is to study to what extent these institutions are sharing power, or if the system design allows for one branch to achieve supremacy over the others.

Second, the distribution of power and influence among the different agencies of government can affect the governmental supply of policy. Between the decision to take some policy action and when the policy program is formed, many different governmental institutions are involved. It follows that we should understand how institutions in domestic climate change politics work. The institutional capacity and degree of involvement are important for the degree of influence an agency has over policy formulation and implementation.

Third, the government’s control over state policy is assumed to be important. The political program and ideology of the cabinet matters for what issues are put on the agenda. To realize this policy program, governmental control is assumed to be important. Government leaders head the large number of governmental agencies, and determine what institutions will play out which policy programs where.249 Factors like the degree of internal unity in the administration, the cooperative relationship with the political opposition, and the political authority of the head of government can determine to what extent

degree it is possible to reach good policy alternatives and agreement among the many domestic political actors. 250

4.2 Public demand and support

Three factors are used to assess degree of membership: First, I evaluate the degree of public concern about global warming. The International Social Survey Programme (ISSP) surveys "ISSP 1993 Attitudes towards the Environment" and "ISSP 2000 Attitudes towards the Environment" were carried out in all three countries in both 1993 and 2000 using equivalently phrased questions, and illustrate similarities and differences in the countries concerning attitudes to climate change. By combining the results of these surveys with other polls and assessments of media attention, I draw some conclusions about the degree of public concern about global warming in each of the phases under scrutiny.

Second, I assess the degree of special interest lobbying, and third, consider the degree of ENGO activism on climate change. Concentrating on these two groups as representatives of societal interests, I examine if the assumptions of the DP model fits with the empirical material or if it turns out that other elements or interest groups mattered more in policymaking process or for policy outcome. The DP prediction is that the combination of the distribution of damage and abatement costs, and the power relations between domestic actors determines which interest groups have most influence in the policymaking process and on outcome. It is a general feature in all democracies that politicians are concerned with public opinion. It is therefore not fruitful to look for differences among the six cases on that variable. Rather, I focus on the extent to which the predicted patterns of influence (i.e. which groups are predicted by the model to wield influence) matched the actual exercise of influence.

Applying the factors mentioned above, I first establish degree of membership in a causal set defining in what way public demand and support mattered in the policymaking process of the three countries. Second, I establish membership degree pointing out how

First then, I measure whether the policymaking process followed predictions of the DP model, i.e. that the distribution of abatement and damage costs between domestic actors together with power relations between interest groups are decisive elements. To be fully in this “public demand and support matters in the policymaking process” causal set (a score of 1), a case must have had a policymaking process where public opinion pressure was important in policy debates. There must have been a clear weighting by policymakers of the pressure from economically important and powerful interest groups, such as industrial associations, and less weighting of less powerful and/or less well organized social interests, such as ENGOs or the public at large. Concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors must have been particularly important. To be mostly but not fully in (a score of .83), a case must have put much weight on public opinion in the policymaking process, and had a less clear weighting of pressure from interest groups predicted to be important. Furthermore, concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors must have been important for who had influence, although less decisively than if the case is fully in. To be more or less in (a score of .67), a case must have put substantial weight on public opinion in the policymaking process, and have only slightly more weighting of pressure from interest groups predicted to be important than of other stakeholder groups. Furthermore, concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors must have had some consequence for who had influence in the policymaking process, but not been decisive. To be neither in nor out (a score of .50), a case must have put weight on public opinion pressure, but on balance the empirical data does not determine if predicted pressure or stakeholder groups have been more important than others in the policymaking process. Furthermore, it does not determine if the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors has been decisive in the policymaking process or not.
To be more or less out (a score of .33), a case must have clearly weighted public opinion pressure in the policymaking process, and there must have been slightly more weight from other groups than from interest groups predicted to be important by the DP model. To be mostly but not fully out (a score of .17), this tendency in the policymaking process must have been clearer. Public opinion pressure must have been important in the policymaking process, whereas pressure from economically important interest groups predicted to be important (as well as concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors) have not been important. Policymakers have clearly put more weight on other elements. This is the realistic minimum in the causal set, since no country has a policymaking process where distributional concerns between economically important societal groups are completely missing.

Second, I measure whether the predictions of the DP model that public demand and support determines how proactive climate change policy will be fit with the empirical data. To be fully in (a score of 1) the “predicted effect of public demand and support” causal set, a case must show strong public pressure to employ proactive climate policy and be characterized by the unambiguous presence of the following three features: high levels of public concern about global warming, a low degree of special interest lobbying, and strong ENGO activism with actual influence on government policy positions. This would lead to a very high level of proactive climate change policy. To be mostly but not fully in (a score of .83), a case must have high levels of public concern about global warming, a low degree of special interest lobbying and medium ENGO activism with some influence on government policy positions. This results in public pressure to have a proactive climate change policy, and a highly proactive stance. To be more or less in (a score of .67), a case must have high levels of public concern about global warming, a medium degree of special interest lobbying and medium ENGO activism with some influence on government policy positions. This results in a less clear public pressure in favor of a proactive climate change policy, and a medium to high level of proactiveness.

The crossover point (a score of .50) is identified by low levels of public concern combined with low degree of special interest lobbying and impact, and weak ENGO
activism and influence. In other words, there is no consistent public pressure, not making it possible to say if there was public pressure in favor or against having a proactive climate change policy, leading to a medium level of proactiveness.

A case more or less out (a score of .33) is equal to weak public pressure not to employ proactive climate change policies, and is characterized by medium public concern about global warming, combined with medium ENGO activism with only some impact, and high degree of special interest lobbying resulting in actual influence on government policy positions. This leads to a medium to low level of proactive climate change policy.

A case is mostly but not fully out of the set (a score of .17) when public concern about global warming is medium, combined with low ENGO activism with no impact, and high degree of special interest lobbying resulting in actual influence on government policy positions. This means public pressure against a proactive climate change policy, and leads to a low level of proactiveness. To be fully out (a score of 0) of this causal set, a case must have unambiguous presence of all the following three features: strong public pressure not to employ proactive climate change policies, characterized by low public concern about global warming, combined with low ENGO activism and high degree of special interest lobbying resulting in actual influence on government policy positions, leading to a very low level of proactiveness.

4.2.1 Norway in the agenda-setting phase (1988 – 1993)

4.2.1.1 Policymaking process
In the years following the publishing of the World Commission on Environment and Development (WCED) report in 1987 public opinion was very “green” in Norway. The role of Gro Harlem Brundtland as the WCED’s leader influenced public opinion and the policymaking process in Norway. The environment was, as in many other Northern European countries, at the top of the agenda in the Norwegian public debate of the late 1980s. Most people were concerned about the environmental condition of the earth, and signalized to politicians through polls that this topic should be high on the agenda. The parliamentary election in 1989 was dubbed “the environmental election ‘89” by the press, stating that environmental issues would swing many voters. A united political community spoke warmly about the necessity of introducing new and more specifically targeted
environmental taxes. It became almost a race between declared “environmentally concerned” political parties to commit to stringent regulations of GHG emissions. In that respect there were no major differences between political parties in terms of committing to address the climate change problem; it was more a matter of degrees of differences in the stringency they promoted. Hence, public opinion pressure found resonance among policymakers.

There is no doubt that economically powerful interest groups have had a weightier role in the policymaking process than other groups. The Norwegian political system has traditionally been more like a corporatist ideal type than a pluralist ideal type. The main feature of the organizational-corporatist channel is that contact between the government and organized interest groups is formalized. Interest groups are integrated in the decision-making process. Public hearings of government policy and law propositions are held, or opinions are heard in other regular and planned contacts between government and organized interest groups. The government seeks to legitimate policy decisions by involving stakeholder groups actively in the development of policy in some form of binding cooperation.251 One consequence of a system like this, is that it becomes cemented in the sense that it becomes easier for groups that are already established as spokespersons for a certain interest or side of a policy issue to be included in the hearing-process or formalized government contact than it is for new groups that might want to get involved, or for less organized interests in society.

However, as Norwegian society modernized, lobbying became more common and accepted during the 1990s as a legitimate part of citizen and interest group’s right to promote their own interests in the democratic decision-making system. It was nevertheless still the traditional, well-organized interest groups like industry associations – often in cooperation with trade unions – and ENGOs that were the most active pressure groups in the climate change policymaking process in the agenda-setting phase.

Focusing on the business community influence it is clear that in addition to the organizational-corporate channel of influence, the powerful business organizations NHO (Confederation of Norwegian Business and Industry) and PIL (the Federation of Norwegian Process Industries) coordinated their efforts early in this period to instigate a

lobbing effort to meet the challenge of climate policy regulations. Both associations underline how important it was for Norwegian industry to have an early agreement on a joint position, to be able to approach the government with one voice. With this joint approach, they managed to include the question about exemptions from the CO₂ tax for export industries as an important feature in the policymaking process.

An important channel of influence for stakeholder organizations has been the news media. For instance, PIL claims that to achieve an impact on policy decisions, it is more effective to run the case in the news media to generate interest and attract attention to their side of the issue. This is done in advance of direct contact with government or members of parliament, either through informal or formal channels. PIL also underlines the importance of having a good cooperative partnership with the trade unions and the individual factory with its workers. To have maximum political effect, it is important to show a united front. PIL has worked particularly close with the Chemical Workers Union of Norway.

The industry lobby has been working steadily to build their argumentation and knowledge base. Through good contacts in the ministries, they have been able to influence the decision-making process at an early stage. These kinds of contacts are often personal. An illustration of how this might work is the following: The current public relations officer in PIL was previously chief of staff in the Ministry of Environment under the Labor government. As a high ranking member of the Labor movement, his contacts in trade unions and ministries are valuable for PIL to utilize today. So, the industry lobby came in early in the process, and managed to influence the issue framing to a certain extent. They promoted the same ideas that Norway’s government later presented in the UNFCCC negotiations: flexibility and cross-country solutions to increase cost-effectiveness. The energy-intensive process industry was in a different position than the petroleum industry. The sector has had a prioritized position since the 1950s, being at the center of Norwegian industrialization and economic growth up till the 1970s. When climate change became an issue, the process industry actively used its strong organization and decades of broad network building towards the political parties – especially the Labor Party – and the ministries of Trade and Energy.

The petroleum industry did not manage to cooperate as clearly and early as NHO and PIL in the agenda-setting phase. The large oil companies Statoil and Norsk Hydro did not manage to join behind a clear lobbying effort. In fact, they were not able to mobilize an effective campaign to hinder the CO₂ tax from being implemented in the petroleum sector in 1991. However, their influence in the climate change policymaking process improved substantially after OLF (The Norwegian Oil Industry Association) was formed in 1991. The main arguments the organization promoted were that there would be negative economic consequences for Norway if emissions-reducing technology was enforced on established platforms, and that export of Norwegian natural gas could have a global emissions reducing effect since it would replace coal-fired energy-producing plants. These arguments gained weight in the policymaking process, as particularly the focus on exploitation of natural gas became central in the climate change political debate.

Closely related to discussions about the petroleum sector were assessments and studies about economic benefits and costs that climate policy measures could incur for Norway and for various economic sectors. The negative effects on the economy from regulations in the petroleum sector were predicted to be large. One group of actors that had influence in framing the issues in this debate was the researchers and experts on climate change, economy, and the petroleum sector. As pointed out in chapter three, research results and policy assessment reports were important as issue- framers.

Norwegian ENGOs (Natur og ungdom, Bellona, Naturvernforbundet) were engaged in the climate change policymaking process from the start. They were active in the sense of pressuring for the establishment of a national CO₂ reduction target. They were not satisfied with the outcome, which was parliamentary majority in favor of stabilization of Norway’s CO₂ emissions at 1990 levels by 2000. Naturvernforbundet (the Norwegian Society for the Conservation of Nature) was particularly active in lobbying for the introduction of CO₂ taxes, and was successful. Their leader was directly involved in talking to the Labour Party’s parliamentary group about the benefits of CO₂ taxes, managing to swing the group in favor of introducing such taxes. Furthermore, ENGOs were very active in the debate about whether Norway should shore natural gas for

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254 Ibid., p. 243.
domestic use. When the “Heidrun” offshore petroleum field’s license was discussed, this debate mounted. Proponents argued that natural gas could replace more emission-intensive energy sources, while the ENGOs sternly opposed that logic and rather wanted a focus on new renewables and energy saving as ways of meeting energy requirements in the future. The ENGOs had substantial influence in the Heidrun debate, using visible measures such as protests, demonstrations and creating media attention. In the end, there was no political agreement about how to solve the issue, and the question about domestic use of natural gas was pushed into the future.

In terms of the important turn of Norwegian climate policy towards a focus on international cost effectiveness and a flexibility approach to reducing emissions, the ENGOs were not very actively involved at the outset. They continued to keep focus on pressuring for a more stringent national commitment than the stabilization target, and also on how this target could be fulfilled using command and control regulations. As it became increasingly clear that multilateral actions would be an alternative to domestic climate policy measures, the ENGOs became more active and critical of the government’s new negotiation strategy in the UNFCCC negotiations.256 During the UNCED conference in Rio in 1992, Norwegian ENGOs seized the opportunity to criticize Prime Minister Brundtland and her government for their new negotiation strategy and questioned the motives behind it. They implied that Norway was pulling out of its commitment to be an international frontrunner. The criticism attracted attention in international news media, because of Brundtland’s position in the WCED.

Another channel of influence for the ENGOs, in addition to protests and demonstrations, was the role as transmitter of information. At international negotiation events, like the INC and UNCED, Norwegian ENGOs have to a certain extent functioned as transmitters of knowledge and information to Norwegian journalists. Some journalists have been present at so many negotiations that they are equally knowledgeable as the ENGOs. But still, some Norwegian ENGOs, like Natur og Ungdom (Nature and Youth) and Greenpeace Norway are members of the Climate Action Network (CAN), and can give important inside information to journalists from such forums. Some country

255 Ibid., pp. 116-118.
delegations allow participation from ENGOs, which report to CAN, and thus provide Norwegian member ENGOs with important information about what happens with country positions and movements internationally. The interplay between ENGOs, delegation members and other stakeholder groups at the international conferences was important in the policymaking process in the agenda-setting phase.

4.2.1.2 Score
The analysis above shows that public interest in the climate change issue was very high in the agenda-setting phase, and that there was clear pressure to put environmental issues high on the political agenda. This had a clear effect on the policymaking process, where climate change and “the environment” in general evolved to become central policy issues in this phase.

When it comes to which interest groups had a real influence in the policymaking process, I have pointed to two important “sides” in the policy debate, where the industry lobby represented one. It was active from when the climate change issue came on the agenda, and had real influence on central issues like the exemptions of export-oriented industries from the carbon tax. On the other hand, the petroleum industry did not achieve similar exemptions, and was not able to organize a united front until it organized in OLF. The other side in the policymaking process was represented by the ENGOs. They organized demonstrations and created media attention to some central issues, like the “Heidrun” debate, and have had cases of decisive influence in the policymaking process, for instance in the lobbying effort in favor of CO2 taxes.

I also pointed to a third group of actors that was influential in the policymaking process. Researchers and policy advisors had an important role as issue-framers. Expertise on the climate change issue in this early phase meant a high possibility of having substantial influence on the content of the political debate, and particularly relevant were cost and benefit assessments, as discussed in chapter 3.

In the analysis I find that much weight was put on public opinion pressure in the policymaking process. I also find that predictions about economically important interest groups find some support, since NHO, PIL and OLF had much influence in the policymaking process, but that ENGOs had substantial influence. Therefore, concerns
about the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors was only partially important for who had influence. The membership degree in the “public demand and support matters in the policymaking process” causal set is more or less in, and the score is set to .67.

4.2.1.3 Policy outcome

The DP model would predict that Norway had a medium to low level of proactive climate change policy in the agenda-setting phase, for several reasons. Being a country with a tradition for having an organizational-corporatist channel, where interest group influence on policy outcome is formalized, the model would predict that the interest groups that had most influence were the ones that were economically powerful, and directly affected in the distribution of costs and benefits resulting from abatement policies. Seeing that Norway was predicted to face economic losses from addressing climate change, and that particularly economically important actors such as the petroleum industry and the process industry were faced with negative economic effects, the model predicts that these groups would have a strong influence on policy outcome. This would outweigh public pressure and ENGO activity, and lead to a score of .33 in the “predicted effect of public demand and support” causal set, and hence to a medium to low level of proactive climate change policy.

Comparing this prediction with the actual policy outcome, we see that it does not match. Norway had a high level of proactiveness in the agenda-setting phase. How can this discrepancy be explained? Looking at the DP assumptions again we can see, first, that public opinion was shaped by the news media that showed great interest in reporting on environmental issues in the agenda-setting phase. There seems to have been a mutual reinforcement between the general public interest and the news media for information about climate change issues. The Chernobyl accident and the discovery of the ozone hole over the South Pole were triggers that increased people’s concerns. A great deal of confusion prevailed in the general public when it came to separating climate change issues from the thinning of the ozone layer. People tended to confuse the two, and the

257 See chapter 3, table 3.1.
hole in the ozone layer thus created a sense of urgency to deal with also the climate change issue.

Journalists from large news organizations like NTB (Norsk Telegrambyrå, the national news agency in Norway), Dagbladet, and Aftenposten were sent to cover the developments at the international negotiations. During the UNCED conference in Rio, all the largest Norwegian news media were present. The number of news stories in Aftenposten, Dagbladet, Dagens Næringsliv and NTB in 1989 containing either the words “climate change” or “greenhouse effect” was 350. This was the year of the “environmental election” in Norway. In 1992, the year that the UNCED conference was held in Rio, the number containing the same words in the same media decreased to 184. In 1993, when there was no big international climate change “event”, the number decreased further to 156.258 These numbers indicate a decreasing interest from the news media, probably reflecting public opinion and interest about climate change issues.

In 1993, 43% of Norwegians said that a rise in the world’s temperature caused by the greenhouse effect would pose extreme danger or be very dangerous to the environment. Only 13% meant that it would not be very dangerous. Norwegians in 1993 showed a fairly high willingness to pay much higher prices in order to protect the environment; 46% were very or fairly willing to do so, and 21% were fairly or very unwilling to pay higher prices. Fewer Norwegians were willing to pay much higher taxes in order to protect the environment; 30% were very or fairly willing. As many as 39% were fairly or very unwilling to pay much higher taxes, and 48% of Norwegians were very or fairly willing to accept cuts in their standard of living in order to protect the environment, compared to 22% that were fairly or very unwilling.259

258 The numbers are a result of an internet search through the archives of Aftenposten, Dagbladet, Dagens Næringsliv and NTB using the A-text search-engine at http://webatekst.aftenposten.no/, and the words “climate change” and “greenhouse effect” for the years 1989, 1992 and 1993.
259 ISSP (1993).
As we can see from these pie charts, a majority of Norwegians believed that the greenhouse effect represented a danger to the environment, and a majority was willing to pay higher prices or cut living standards in order to protect the environment. Fewer were willing to pay higher taxes.

Table 4.1 cross-tabulates the share of Norwegians in 1993 that thought that a rise in the world’s temperature would be very dangerous to the environment and therefore expressed willingness to accept cuts in their standard of living. A majority of 60% of those that expected temperature increase to be very dangerous to the environment were willing to accept cuts in their living standard to protect the environment, while 17% were unwilling to accept such cuts. At the same time, 28% of respondents said that temperature rise would not be dangerous to the environment, and still were willing to cut in their
living standard to protect the environment. More on the expected side, we can see that 40% of those that expected temperature rise not to be dangerous were unwilling to accept cuts.

Table 4.1: Norway 1993

<table>
<thead>
<tr>
<th>Willingness to cut standard of living to protect the environment</th>
<th>Rise in world’s temperature pose danger to the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very dangerous (%)</td>
</tr>
<tr>
<td>Willing</td>
<td>60</td>
</tr>
<tr>
<td>Neither nor</td>
<td>23</td>
</tr>
<tr>
<td>Unwilling</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>100 (N = 585)</td>
</tr>
</tbody>
</table>

\( \chi^2 = 65.367, \text{ Significance level: } p > .05 \)


My interpretation of figure 4.1 and table 4.1 is that there was a medium public pressure in favor of a proactive climate change policy in Norway towards the end of the agenda-setting phase. There was a clear majority that found the issue important and to some extent was willing to incur economic sacrifice to address it, but the majority was not overwhelmingly large. Hence, there was no clear message to Norwegian politicians in 1993 from the general public to adopt a particularly proactive climate change policy. Earlier in the phase, however, public pressure was higher.

A second DP assumption is that economically vital and powerful interest groups have a decisive influence on policy outcome. The analysis of the policymaking process presented some interesting findings in this respect. It showed that industry associations were indeed powerful actors in the process. In cooperation with PIL, and later OLF, NHO took the lead in the coordinated efforts to influence the government, political parties, and
the media, and has been active on the subject of climate change since 1989. For instance, NHO has lobbied the government since 1989 about promoting emissions trading as the preferred climate policy measure. NHO cooperated with industry organizations in the other Nordic countries about a report on the subject in 1989. The policy outcome was clearly affected by this effort, exemplified by the generous exemptions Norwegian export industries got when the CO2 tax was introduced. As we saw earlier, PIL and other industry organizations and trade unions have a close relationship with politicians within the Labor party/movement. They have contacts within all levels and areas that exercise power in Norwegian society. The process industries were exempted from the CO2 tax, using the main argument from PIL which was (and still is) that Norwegian industry must not be subjected to different economic operating conditions than their competitors, since that would lead to economic disadvantages, employment cut-backs, and possibly relocation of companies to regulation-free countries.

Weakening the argument that economically powerful interests had a particularly strong influence on policy outcome is the fact that the petroleum sector did not manage to circumvent taxation when the 1991 carbon tax was introduced, despite fierce resistance. However, this sector’s influence increased when the two largest Norwegian oil companies Statoil and Hydro later managed to cooperate through OLF to promote their main message: the importance of having the same regulatory conditions as their international competitors. However, because the oil sector had the largest CO2 emissions in the country, it was difficult for politicians not to tax the petroleum offshore sector. Furthermore, ENGOs were successful in linking Norway’s role as a big oil producing country with the country’s responsibility to take early abatement policy action. Public focus on environmental issues was high around 1990-91, and political promises about CO2 reductions had been given by all political parties. This indicates a certain degree of influence for ENGO activism and public opinion on policy outcome. Protests and activism were closely tied to activities in the petroleum sector in the agenda-setting phase, as in the case of the “Heidrun” debate.

The ENGOs in Norway placed climate change on their agenda from 1988-89. The subject was linked to the follow-up of the WCED – and for the ENGOs, climate change became a matter of focusing on relationships between the global environment and
development issues, and Norway’s responsibility to the developing world. When the government agreed on the national stabilization target in 1989, the ENGOs became watchdogs to pressure the government into taking policy action to achieve the target.\footnote{Reitan, M. (1998): p. 170-171.} As we have seen, it soon became clear that the carbon tax was insufficient to achieve the national target.

The ENGOs other major focus was on Norway’s role as a major petroleum producer and exporter, and the connections between increased production in the North Sea and reduced likelihood of reaching the stabilization target in 2000. This fight was highlighted during the debate about shoring natural gas from the Heidrun oil platform in 1990-91.\footnote{Nilsen, Y. (2000): p. 152-153.} The contradiction between establishing natural gas as an energy source for electricity production in Norway and the political aim of reducing fossil energy use and CO₂ emissions became the core of the ENGO argumentation. The ENGOs established the fight against utilization of natural gas for electricity production as a main focus in their climate change work after the Heidrun debate.

\subsection*{4.2.1.4 Summary}

The point prediction of the DP model was that Norway in the agenda-setting phase would adopt a medium to low level of proactive climate change policy as a result of strong influence from economically powerful interest groups that would be adversely hit by abatement policies. This prediction does not fit with empirical findings, where an assessment of actual policy positions and decisions show that the level of proactiveness was high (a score of .83 in the “proactive climate change policy” causal set).\footnote{Reitan, M. (1998): p. 170-171.} In the above analysis I find high levels of public concern about global warming, sinking towards the end of the phase. Furthermore, I find that both industry association lobbying and ENGO activism had a discernible influence on government policy positions. In other words, the actual policy outcome was more proactive than the DP model would predict.
4.2.2 Norway in the domestic bargaining phase (1994-2001)

4.2.2.1 Policymaking process

After 1993, when the publicity effect of the Rio conference waned, public attention to climate change and other environmental issues somewhat declined. So did electoral support for “green” political parties, exemplified with the results from the parliamentary elections for the Socialist Left Party in 1993 and in 1997; from 10.1% of the votes in 1989 (“the environmental election”), the electoral support declined to 7.9% and 6.0% in 1993 and 1997, respectively.\(^{263}\) However, Norwegians in general continued to show a relatively high level of concern for environmental protection, even though “the environment” as a policy issue, and climate change in particular, did not maintain its high ranking on the political agenda over time. There was increased awareness about climate change issues when important international or national policy events took place, like during the year before Kyoto. After Kyoto, there has been less attention in the media, although elements of national policy, like the introduction of a tradable quota system to regulate all main emitters, have received media attention. Generally, one could say that despite of wave-like attention cycles, the overall trend for environmental awareness and knowledge has been a growing increase in Norway since 1989. People know a lot more today about what climate change is and entails for society than they did in 1989.

Reflecting this decrease in public attention, environmental issues have not been as central in the political platforms of the parties in the domestic bargaining phase as they were in the agenda-setting phase.

Influence in the policymaking process has come from pretty much the same interest groups as in the agenda-setting phase; the industry associations and ENGOs. The business lobby continued its joint effort to influence the climate change policymaking process also after 1993. In the public debate about national policy measures, the industry associations directed their efforts to opposing the minority in the parliament that wanted to introduce a comprehensive CO\(_2\) tax, targeting all major emitting sources. During the Green Tax Commission’s period of work (1994-96) it became clear that export industries

\(^{262}\) See chapter 3, table 3.1.
\(^{263}\) Statistics from the Norwegian Parliament website: http://www.stortinget.no/representantene/navn_tall/1997/valget97.html, 28.01.2003. This is however only a correlation, and there is no room in this study to explore further the possible causal effects involved.
were skeptical to a green tax reform.\textsuperscript{264} They feared that the desired increase in employment would not occur, and that profitability from production would also decrease. The increased unemployment that marked the Norwegian society strongly in the 1980s was still fresh in the collective mind. In addition, they maintained that the increased taxes would lead to relocation of economically important, but pollution intensive, industry out of Norway.\textsuperscript{265} This would increase airborne emissions because other countries use coal-fired plants instead of hydropower to produce the energy that these industries depend on in their production processes. Relocation would hence contribute to increased global GHG emissions. The export industries instead proposed voluntary agreements or a national system of tradable quotas as the preferred instruments to cut emissions from the industry sector.

The process industry association PIL has used a strategy of involving local communities that host cornerstone industry in their efforts to increase public pressure on politicians whenever threats about expanding the carbon taxes to include process industries have come up. No Norwegian politician can publicly ignore outcries about lost workplaces, especially in the rural districts. For instance, when the Center-government presented their proposal to introduce across-the-board carbon taxation in 1998, PIL engaged its member corporations with employees and trade unions, as well as local politicians, in a campaign to put pressure on parliamentary politicians to reject the government’s proposal when it was under discussion and vote in the parliament. In spring 1998, the new Center-government proposed a small tax (NOK 100) on all CO\textsubscript{2} emissions that had previously been exempted from carbon taxes. Out of consideration for competitively disadvantaged industries, however, they agreed that the tax should be fully compensated in the first years, after which the compensation would be gradually reduced, and finally phased out in 2010 at the very latest.\textsuperscript{266} The proposal did not get the support of the majority in parliament, which wanted to continue to totally exempt export industries.

\textsuperscript{264} The idea behind green taxes is that the interests of both increased employment and an improved environment can be protected by shifting the burden of taxation from employment to activities that imply increased use of resources and increased pollution.

\textsuperscript{265} Bretteville and Bang Søfting (2000): p. 12

\textsuperscript{266} Miljøverndepartementet (1998), and Finans- og tolldepartementet (1998).
In the course of the decade that has followed after the introduction of the CO2-tax, the problems associated with the use of environmental taxes have received a lot of attention, particularly from the industry associations. The environmental taxes that have been introduced are primarily directed at interest groups that do not have as much influence on decision-makers, such as private households and the service sector. In other words, the burden of taxation has been placed where it meets with least resistance.

Another field where the industry lobby has been exercising influence is in the policymaking process around the flexibility mechanisms discussed in the Kyoto Protocol negotiations. At the international level, the Norwegian negotiation positions have been more or less constant during the period, with a continued focus on cost effectiveness and multilateral emission reduction solutions. This has been right in line with the NHO, PIL and OLF positions and wishes. When the emissions trading concept became part of the negotiations from 1995, and eventually was established as part of the Kyoto Protocol, Norwegian stakeholder organizations involved themselves in how this mechanism could promote their benefits. The basic ideas about cost effectiveness and flexibility were in agreement with their interests. The promotion of a national system of tradable permits was more or less a result of the international discussion. NHO, PIL and OLF saw it as an opportunity to have emissions reductions without the tax system that they so opposed. Not least the petroleum industry supported the idea, to avoid the tax they have paid since 1991 regardless of the fact that their competitors in other countries have not been under a carbon tax regime. In pressuring for a tradable quote system, they have fought to get quota allocations based on the same lines of reasoning that they used to get CO2-tax exemptions, i.e. to avoid negative trade effects.

Norwegian ENGOs continued to focus mostly on how Norway should reduce its GHG emissions domestically. After the national stabilization target was adopted and the carbon tax was introduced, Norway experienced reductions of CO2 emissions from 1990 to 1992. However, the trend shifted to a rise again after 1993. ENGOs pointed out that the carbon tax obviously was not sufficient to reduce emissions enough to achieve the stabilization target. They criticized the government and politicians for not being willing to introduce additional domestic climate policy initiatives. ENGOs targeted both the government (Labor) and the parliamentary majority (Conservatives, Progress Party,
Labor). The stabilization target declared in 1990 was used time after time as a measuring stick, pointing out the wrong direction of the emissions-trend. However, they were not successful in influencing policy outcome, since the carbon tax never became comprehensive in terms of including all major GHG emitters. The ENGOs promoted the use of a comprehensive carbon tax instead of an emissions trading system. They had little concern for the costs that this would incur for the export-oriented industries, arguing that structural change would eventually be the consequence of climate change policy and that these industries had to adjust to the future. Little concern for conventional worries about costs and job-security gave them quite low degree of response in policymaking circles.

The main climate change issue for the ENGOs in this phase was the political fight over natural gas-fired power plants. In a joint effort, the major ENGOs\textsuperscript{267} picked this as a fronting-issue to bring home the climate change debate to the Norwegian public. This was a conscious strategic choice, since the organizations had been successful with the Heidrun fight with respect to influencing political decisions, and had gained public support. In 1995/96 ENGO leaders sat down to find a strategy to put climate change on the political agenda before Kyoto in 1997. They decided to focus on one central source of CO\textsubscript{2} emissions – the planned natural gas-fired power plants, and to make a controversial issue out of it. By concentrating the effort to one exemplified issue, using science background and information about impacts of climate change, they wanted to show the consequences of expanding petroleum dependency and increasing GHG emissions. The intention was that this would put pressure on Norway in the upcoming negotiations in Kyoto.

The campaign was successful – in the sense that the issue of utilizing natural gas to produce electricity is still unsettled. In spite of a parliamentary majority decision to build the power-plants and the fact that a cabinet has resigned – in 1998 – because of the issue, the actual building of the plants is still uncertain. This is an indication of successful outcome of the ENGO campaign on the issue. But it has also resulted in a bias in the public’s conception of the climate change issue. Climate change has for many become

\textsuperscript{267} Bellona, Naturvernforbundet (the Norwegian Society for the Conservation of Nature), Natur og Ungdom (Nature and Youth), Greenpeace Norway, and Fremtiden i Våre Hender were particularly active on the climate change issue, and all except Bellona joined to establish the umbrella organization Klimakameratene in 1995/96.
synonymous with the debate about whether Norway should build those gas-fired power plants. This is an effect of the ENGO strategy that has cumulated over years, and Norwegian ENGOs are struggling today to broaden Norwegians’ conception of the climate change issue to include issues like transportation, energy policy in a broader sense, and industry.

4.2.2.2  Score
The analysis shows that public concern about the environment has continued, but that the issue ranked lower on people’s personal political agenda than it did in the agenda-setting phase. Public attention followed media attention about the climate change issue. During important international events, like COP 1 in 1995 and COP 3 in 1997, the news media and public attention was high.

Stakeholder lobbyists had considerable influence over the Norwegian policymaking process in the period, with a constant focus on cost-effectiveness, competitiveness, and flexibility solutions. Export industries managed to sustain their exemptions from the CO2-tax, and also to influence the system for allocation of quotas when a national tradable quota system comes into effect in 2005. The ENGO movement had success with halting the planned gas-fired power plants, but otherwise had little influence. This goes for their promotion of comprehensive carbon taxation, and their continued pressure to open for additional domestic climate change policy measures.

In the analysis I find that public opinion pressure was lower than in the agenda-setting phase. I also find that the industry lobby had a stronger influence in this phase, and that the ENGOs had lost some of their weight. The membership degree in the “public demand and support matters in the policymaking process” causal set is mostly but not fully in, and the score is set at .83.

4.2.2.3  Policy outcome
The DP model prediction for Norway in the domestic bargaining phase would be very similar to the one in the agenda-setting phase, i.e. for a medium to low level of proactive climate change policy. Although lobbying has increased in the Norwegian political system in the latter half of the 1990s, the organizational-corporate channel is still
powerful. Interest group influence on policy outcome is therefore still formalized to a large degree. The DP model predict that the interest groups that had most influence were the ones that were economically powerful, and directly affected in the distribution of costs and benefits resulting from abatement policies. It became increasingly clear in the domestic bargaining phase that Norway stood to face negative economic effects from abatement policies, particularly in the petroleum sector. The prediction of the model is that interest groups representing these interests have a strong influence on policy outcome that would outweigh public pressure and ENGO activity. This would result in a score of .33 in the “predicted effect of public demand and support” causal set, and hence in a medium to low level of proactive climate change policy.

Comparing this prediction with the actual policy outcome, we see that it does not match, even though it is close. Norway had a medium level of proactiveness in the domestic bargaining phase.268 Revisiting the DP assumptions to explain this difference, we can see that there was a link between media attention and public attention to the climate change issue. The news media also followed an attention cycle with tops and bottoms, depending to a large degree on important news events and meetings in the international climate change negotiations. In the months before Kyoto, for example, news coverage of climate change issues was much higher than in 1994 or 1999. The number of news stories in the national newspapers *Aftenposten, Dagbladet, Dagens Næringsliv* and the news service NTB in 1994 containing either the words “climate change” or “greenhouse effect” was 90. In 1997, the year of the Kyoto conference, the number containing the same words increased to 248. In 1999, when the COP in The Hague resulted in a breakdown of international negotiations, the number was 141. These numbers illustrate the cyclic tendency of public attention to the climate change issue.

Figure 4.2 below shows the attitudes of Norwegians toward several aspects of the climate change problem in 2000. 37% meant that a rise in the world’s temperature caused by the greenhouse effect would pose extreme danger or be very dangerous to the environment, while only 15% meant that it would not be very dangerous. Not more than 1/3 of Norwegians in 2000 showed willingness to pay much higher prices in order to protect the environment. Even fewer Norwegians were willing to pay much higher taxes.

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268 See chapter 3, table 3.1.
in order to protect the environment; 22% were very or fairly willing, while as many as 52% were fairly or very unwilling to pay much higher taxes. 42% of Norwegians were very or fairly willing to accept cuts in their standard of living in order to protect the environment, compared to 34% that were fairly or very unwilling.\(^{269}\)

Figure 4.2: Norway, 2000

If we compare the pie charts above with Figure 4.1, we can see that there has been a slight downturn since 1993 in Norwegians’ concern about the effect of global warming on the environment, and also a decrease in willingness to pay for abatement policies.

Table 4.2 cross-tabulates the share of Norwegians in 2000 that thought that a rise in the world’s temperature will be dangerous to the environment and therefore expressed willingness to accept cuts in their standard of living. We can observe a 10% decrease

\(^{269}\) ISSP, 2000.
from 1993 (see table 4.1) of people that expected temperature increase to be very
dangerous to the environment and were willing to accept cuts in their living standard to
protect the environment, from 60% to 49% in 2000. 26% were unwilling to accept such
cuts. At the same time, 25% of respondents said that temperature rise will not be
dangerous to the environment, and still were willing to cut in their living standard to
protect the environment. We can also see that 50% of those that expected temperature
rise not to be dangerous were unwilling to accept cuts.

Table 4.2: Norway, 2000

<table>
<thead>
<tr>
<th>Rise in world’s temperature pose danger to the environment</th>
<th>Very dangerous (%)</th>
<th>Somewhat dangerous (%)</th>
<th>Not dangerous (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing</td>
<td>49</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>Neither nor</td>
<td>25</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>Unwilling</td>
<td>26</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>100 (N = 532)</td>
<td>100 (N = 536)</td>
<td>100 (N = 232)</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 60.354, \text{ Significance level: } p > .05 \]


Figure 4.2 and table 4.2 indicate that there was a fairly relaxed public pressure in favor of
a proactive climate change policy in 2000. A large majority believed that increased
temperatures would be dangerous for the environment, but there was no majority willing
to endure economic sacrifice to protect the environment. This is here interpreted as a
fairly weak public pressure on political parties, and not a clear mandate to lead a very
proactive climate change policy. This is representative for most of the period, except for
increased pressure during events that stirred public attention, like the Kyoto conference in
1997.
The DP assumption that interest groups that both represent powerful economic interests and are affected by the distribution of abatement and damage costs from climate change are particularly influential for policy outcome finds support in the empirical data material used here. The powerful industry associations NHO, PIL, and OLF worked steadily against having a comprehensive CO₂ tax, and succeeded in keeping the exemptions for the export industries despite the many policy assessments and research reports that recommended such an expansion of the tax. Furthermore, they strongly supported Norway working for multilateral and flexible solutions on how to reduce emissions. They pressured for an assessment of and later introduction of a national tradable quota system, with the intention to ease the transition to participating in an international trading regime under the Kyoto Protocol. They opposed any further additional climate policy measures. In sum, this meant that the pressure from the industry lobby was fairly negative to a proactive climate change policy, a pressure that found resonance in what became the policy outcome for Norway in the domestic bargaining phase. In other words, I find a large degree of support for the DP assumption on this point.

The empirical data material furthermore shows that ENGOs had less influence on policy outcome than in the agenda-setting phase. The national stabilization target was one of the main pillars of government policy which the ENGOs actively used in the first half of the 1990s to pressure government in a more proactive direction. In 1995 the stabilization target was officially abandoned by the Brundtland government, and ENGOs protested loudly. Brundtland was accused of selling out principles from her time as chair of the WCED. Abandoning the stabilization target was a result of policymakers realizing the high costs the country would face by large domestic emissions reductions. Increasing production of oil and natural gas was the main reason. The fact that the official statement did not come until 1995 is an indication of the strong public pressure and media attention toward the government on this particular issue. When the government publicly declared that they abandoned the commitment, it may be interpreted as an attempt to blur the opportunity to perform such public pressure.

ENGOs put an increasing effort into addressing the international negotiation strategy in the domestic bargaining phase. They wanted to push the government to do
more at home and less through flexibility mechanisms, since that would violate the commitment of the agreement that industrialized countries should take the first steps. The government, on the other hand, underlined ever more clearly that it would be forced to postpone introducing additional domestic action until the result of the Kyoto Protocol negotiations was clear, and it was adopted internationally. ENGOs disagreed with this strategy. They wanted domestic action to be taken right away. Also, they disagreed with the whole flexibility mechanisms concept, claiming that it was an excuse for a rich country like Norway to bail out of its moral responsibility to act first on this global problem created by industrialized countries. The ENGOs did not have much success on this account, and the policy outcome reflects Norway’s intention to work for multilateral solutions and maximum use of the flexibility mechanisms of the Kyoto Protocol.

4.2.2.4 Summary

The point prediction of the DP model was that Norway in the domestic bargaining phase would have a medium to low level of proactive climate change policy. This almost fits the empirical findings, since the actual level of proactiveness has been determined to be medium (a score of .50 in the “proactive climate change policy” causal set). In the analysis I find weak public pressure to employ proactive abatement policies, characterized by medium public concern about global warming, combined with medium ENGO activism with only some impact, and a comparatively higher degree of special interest lobbying resulting in actual influence on government policy positions. In other words, the actual policy outcome was slightly more proactive than the DP model would predict.

4.2.3 Germany in the agenda-setting phase (1988-1995)

4.2.3.1 Policymaking process

Environmental awareness in Germany was growing in the 1980s, much as a result of concern about dying forests (Waldsterben), growing air-pollution in the cities and other urgent environmental issues. Like in Norway, concern for the environment as a policy issue peaked in 1989, and gradually lost its high placing as one of the most important

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270 See chapter 3, table 3.1.
issues on the agenda. German surveys show that while 66% saw protection of the environment as one of the most important policy issues in 1989, only 39% did so in 1992, although the number increased to 46% in 1994.\textsuperscript{271} When many of the regulations addressing sulfur emissions began to have visible effects on air quality and forests, public pressure decreased somewhat. At the same time, however, the concepts of ozone depletion and climate change were often confused, resulting in people perceiving both to be urgent policy issues. There was a broad consensus in the general public that supported the government’s proactive climate policy, exemplified with public support for the ambitious national CO\textsubscript{2} reduction target. Environmental protection was an important topic in German politics during most of the agenda-setting phase, not least as a result of the work of the Enquete Commission.

Germany has been an interest organization-oriented system after World War II. A large percentage of Germans are members of interest organizations, and are used to voicing their concern through these organizations. In fact, a lot of formal contact between government and stakeholders has been incorporated in the political system, with hearings and access for organization in the policymaking process. The political parties have traditionally secured a substantial and consistent part of their support from different parts of Germany’s many interest organizations. Trade unions and blue collar workers have traditionally supported the SPD, while industry organizations and white collar workers have supported the CDU/CDS. Party contacts have been strong and enduring.\textsuperscript{272} The rigidity of the policymaking process, with best access for stakeholder groups that have already worked within the system for years and have become accustomed to the policy style, seem to have limited the creativity as to choice of new measures and market oriented solutions. The experience with past issues like acid rain and ozone had in a way established a framework for approach toward environmental issues, and limited the creative horizon, unlike the process in the United States.

A noteworthy feature about the German climate policy process in the agenda-setting phase was that the consensus between major societal groups was high. Particularly through the work of the Enquete Commission, all major groups in Germany became

involved in discussing how to approach the climate change problem. The high degree to which the precautionary principle had been worked into the German policy development process became a force to ensure that even the industry associations agreed that there was a need for some kind of abatement policy. The industry sector has been very important for the German economy after the Second World War, and industrial organizations like BDI (Bundesverband der Deutschen Industrie/ the German Industry Association) and DIHT (Deutsche Industrie und Handelstag/the Association of German Chambers of Industry and Commerce) have been active participants in the national debate about climate policy initiatives all along. Industry is the source of about 14% of CO2 emissions in Germany, and consumes about 17% of final energy. In an economy where manufacture and other emission intensive industries represent a major driving force, industry stakeholder groups will and must have a say in important policy choices. The German industrial-relations system has distinctive institutions and traditions that secure an active organizational-corporate channel in German politics.

The establishment of a stable democratic order based on the model of the ‘social market economy’ underpinned by legal regulation, free collective bargaining and co-determination has been a success for Germany. The German industrial relations system has been an important element in a positive feedback cycle: the specific institutions and traditions in industrial relations contained industrial conflict and encouraged workplace cooperation in high-quality production, while the resulting economic prosperity in turn contributed to peaceful and collaborative industrial relations. During the whole post-war era the good industrial relations have contributed to containing industrial conflict and securing economic prosperity. Only during the last decade have Germans been forced to relate to changing industrial relations, where the service sector of the economy is becoming increasingly important while the trade unions lose both power and members.

With respect to which climate policy measures to introduce, it was important for the government to uphold good cooperation with the industrial sector. The potential costs that a climate policy, for instance in the form of CO2 taxes on emissions, would inflict on
the industry sector induced them to be active in lobbying the government. On the other side, the government was careful to ensure their cooperation when discussing climate policy. The distribution of power and influence between industries matter, and large companies within the automobile industry, chemical industry and coal industry have good connections in the two major political parties (SPD and CDU). Industrial managers interviewed for this study concur that their influence on climate policy has been substantial.

For instance, it was important for the industries in the early phase of the development of the National Climate Protection Program that the policy measures that were chosen were of a no-regrets character. Experience with other environmental issues, for instance acid rain, had proven that the industrial sector was likely to be assigned a large share of the burden of abatement policies. Early involvement and active use of contacts both in the big political parties and in the ministries – particularly the Ministry of Economics – were important strategies in this phase. The empirical data in this study shows that the industrial sector had a lot of influence in the policymaking process in terms of contributing to a focus on no-regrets options like energy efficiency rather than on carbon taxes to reduce GHG emissions. However, the industry lobby did agree with the government that some kind of abatement policy strategy was necessary.

When the climate policy issue was introduced on the agenda in Germany, the actors who were most dominant in addition to the industry lobby were scientists, environmental agencies, the Green Party, and the media. This was largely due to the Enquete Commission, and these actors’ involvement in the Commission. In the agenda-setting phase of the climate policymaking process, the presence and strength of these intermediate agents were important in articulating and aggregating concerns over climate change issues. The Green Party had a particularly strong position in the public debate, supported by an active press that functioned as a transmitter for new knowledge about climate change to the public.

The ENGOs (Greenpeace Germany, Deutscher Naturschutzring (German Nature Protection Society), BUND (Friends of the Earth Germany), Germanwatch) were not as active in this initial phase, because they traditionally had been working primarily with local or national issues, like air pollution and forest dieback. The global aspect of the
climate change issue estranged the issue for the ENGOs.\footnote{Beuermann, C. and J. Jäger (1996): p. 212.} This changed during the UNFCCC negotiations, and the ENGOs developed towards more professionalism, with increased use of scientific expertise in the organizations. This led to a turn away from confrontations and more effort towards cooperation strategies with the government.\footnote{Brandt, K.W (1999).}

The ENGO’s became more involved in the debate as they acknowledged that climate change is one of the most serious environmental problems. The initial fear they had that pushing the climate change issue would provide support for increased use of nuclear energy, which they were strongly committed to abandoning, waned. At the same time, the increased importance the issue had for the German ENGOs was also a result of mobilization in other countries, particularly in the rest of the EU and in the United States.\footnote{Beuermann, C. and J. Jäger (1996): p. 212.} As ENGOs in many countries focused on how they could pressure governments to implement more stringent abatement policies, German ENGOs followed suit.

Generally, the ENGOs seem to have had less influence in the policymaking phase than other actors and interest groups, like the Green Party, environmental agencies, scientists and researchers, and the news media. The role of these actors in the Enquete Commission was very important for having a say in the policymaking process.

4.2.3.2 Score

The analysis shows that public concern about climate change was high in Germany in the agenda-setting phase, although it decreased over time. This was a contributing factor to the active approach that the government took to address the problem. To enhance public pressure, a high degree of consensus developed in favor of a proactive stance from scientists, the media, the Green Party, and eventually also the ENGOs.

Stakeholder lobbyists had considerable influence on the German policymaking process in the agenda-setting phase, both as a result of the degree to which the national economy depend on industrial production, and of the importance of the organizational-corporatist channel in German politics. This secured early involvement of the industrial sector in the policy process, and a remarkable degree of agreement from that group that some kind of abatement policies were necessary to address global warming. The lobbying
activity against a too proactive climate change policy was therefore internalized in the organizational-corporatist channel.

I find that public opinion pressure was an important influential factor in the policymaking process. The predictions of the DP model about which interest groups had most influence find some support. The industry lobby did indeed influence the process, but this did not lead to a pressure against a proactive climate change policy, since economic estimates for Germany were that there would be no serious negative economic effects from taking policy action to abate climate changes. Furthermore I find that ENGOs played a less central place than predicted in this early phase. Other actors like the Green Party, environmental agencies, scientists and researchers, and the news media were more influential as a result of their participation in the Enquete Commission process. ENGOs got more involved when the UNFCCC negotiations got started. The membership degree in the “public demand and support matters in the policymaking process” causal set is more or less in, and the score is set at .67.

4.2.3.3 Policy outcome
The DP model would predict that Germany had a medium to high level of proactive climate change policy in the agenda-setting phase, for several reasons. Being a country with a strong organizational-corporatist channel, the model would predict that the interest groups that had the most influence were the ones that were economically powerful and directly affected in the distribution of costs and benefits resulting from abatement policies. Since Germany was not predicted to face serious economic losses from addressing climate change, however, there was no reason to expect strong pressure against a proactive climate change policy. Therefore, the model predicts that there would be room for some influence also from public opinion and ENGO activity. This would lead to a score of .67 in the “predicted effect of public demand and support” causal set, and hence to a medium to high level of proactive climate change policy.

Comparing this prediction with the actual policy outcome, we see that it does not quite match. Germany had a high level of proactive climate change policy in the agenda-

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\textsuperscript{279} Cavender-Bares, J. and J. Jäger (2001).
setting phase. To explain this discrepancy we can take a look at the DP assumptions again. First, Germans were generally more environmentally concerned than Norwegians. This was probably closely connected to the high degree of attention climate change received in the German news media. The news media functioned as advocates for a high level of proactive climate change policy, and reported frequently both about the natural science background for understanding how temperature increase can affect the environment, and also about the domestic policy process in general and the developments of the Enquete Commission in particular. This high attention in the news media was relatively constant throughout the phase.

Figure 4.3 shows the attitudes of Germans towards the climate change problem in 1993. As many as 76% believed that a rise in the world’s temperature caused by the greenhouse effect would pose extreme danger or be very dangerous to the environment, while only 3% meant that it would not be very dangerous. However, only slightly more than one third was willing to pay much higher prices in order to protect the environment. 37% were very or fairly willing to do so. Fewer were willing to pay much higher taxes in order to protect the environment: about 30%. However, 45% were very or fairly willing to accept cuts in their standard of living in order to protect the environment.

280 See chapter 3, table 3.1.
282 ISSP, 1993.
The pie charts above illustrate the point that Germans were very concerned about the effect of temperature rise on the environment, and that they showed comparatively more willingness to pay higher taxes or accept cuts in their living standard than to pay higher prices to protect the environment.

Table 4.3 cross-tabulates the share of Germans in 1993 that thought that a rise in the world’s temperature will be dangerous to the environment and therefore expressed willingness to accept cuts in their standard of living. Slightly more than half, 52%, of those that expected temperature increase to be very dangerous to the environment were willing to accept cuts in their living standard to protect the environment, while 25% of the same group was unwilling to accept such cuts. At the same time, 24% of respondents said that temperature rise would not be dangerous to the environment, and still were
willing to reduce in their standards of living to protect the environment. More on the
expected side, we can see that more than half, 55%, of those that expected temperature
rise not to be dangerous were unwilling to accept cuts.

Table 4.3: Germany 1993

<table>
<thead>
<tr>
<th>Rise in world’s temperature pose danger to the environment</th>
<th>Very dangerous (%)</th>
<th>Somewhat dangerous (%)</th>
<th>Not dangerous (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to cut standard of living to protect the environment</td>
<td>Willing</td>
<td>52</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Neither nor</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Unwilling</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>100 (N = 1542)</td>
<td>100 (N = 328)</td>
<td>100 (N = 66)</td>
</tr>
</tbody>
</table>

$\chi^2 = 58.343$, Significance level: $p > .05$


Figure 4.3 and table 4.3 are interpreted here to indicate that there was a medium to high
public pressure in favor of a proactive climate change policy in 1993. An overwhelming
majority believed that rising temperatures pose extreme or very high danger to the
environment, but fewer were willing to reduce their living standard to protect it. The
message to politicians was therefore to address the climate change problem, but the
message was blurred by reluctance to pay.

The DP assumption that economically important and powerful interest groups
have an impact on policy outcome finds support in the present empirical data material.
We saw earlier that Germany has a powerful industry lobby, which worked together with
other important policy actors in the Enquete Commission to frame the climate change
issue, and to find policy alternatives for Germany. Hence, the industry was included in
policymaking from the start, and could participate in shaping the outcome. One example
of influence is that the subsidies to the coal industry continued throughout the period despite the fact that emissions from the use of coal represent a large share of total German GHG emissions. The production of hard coal has been heavily subsidized, with more than 10 billion DM per year. Regional concentration of coal production has made the regional and sector-specific coal lobbies powerful. Employment in the coal-producing regions has been a key question.

Another example is when the interministerial working group (IMA) considered introducing a carbon tax at the same time as the discussion progressed at the EU level. The industry associations actively worked against a carbon tax as a climate policy instrument. When the EU could not agree on a carbon/energy tax for all member states, Germany decided not to introduce a unilateral tax. The most important parts of the National Climate Protection Program that concerned the industrial sector hence became focused on legislation and economic/tax incentives. Two laws came into effect: first, the Act on the Sale of Electricity to the Grid in 1991, which established minimum compensation rates for electricity generated from renewable energy sources, with an obligation to accept such electricity into public networks; second, the implementation of the Federal Emissions Control Act in the new Federal states, which secured progress in the restructuring of the energy sector. Economic and tax incentives were concentrated on improving coal firing technologies, increased use of combined heat and power, research and development concerning the use of renewables, and also nuclear energy research.283 These were no-regrets type measures, and were in line with the type of policy instruments that the industry lobby had worked for.

The main conclusion from the empirical material on the role of the industry lobby in the agenda-setting phase is that it contributed constructively in the direction of having a proactive climate change policy in Germany, and hence supported that certain measures were implemented that would incur emissions reductions. This contributed to the pressure in favor of a proactive stance towards climate change. It also tell us that the assumption of the DP model that economically important interest groups that stand to lose economically from regulations will lobby against them finds some support. Since the powerful groups in Germany were included into the process so systematically right from

283 BMU (1997a).
the start, they managed to avoid a carbon tax and also managed to hold on to important subsidies.

Clearly, the industry lobby had a better grip on the outcome than the ENGOs. The ENGOs did not participate as actively in the process as the industry lobby, and did not manage to become established as the main proponents in favor of a highly proactive climate change policy until the UNFCCC negotiations got underway. Other actors had more influence, like the Green Party, government environmental agencies, and the news media, none of which can be said to be interest organizations trying to influence the policymaking process and outcome in the same sense as the ENGOs.

4.2.3.4 Summary
The point prediction of the DP model was that Germany in the agenda-setting phase would adopt a medium to high level of proactive climate change policy. The prediction does not quite fit the empirical findings, where the actual policy positions show that the level of proactiveness was high (a score of .83 in the “proactive climate change policy” causal set). In the analysis I find high levels of public concern about global warming only weakly enforced by ENGO activism. Other policy actors were found to have had a bigger role in pressuring for proactiveness, like the Green Party, government environmental agencies, and the news media. I also find a low degree of special interest lobbying against a proactive policy. In other words, the actual policy outcome was less proactive than the DP model would predict.

4.2.4 Germany in the domestic bargaining phase (1995-2001)
4.2.4.1 Policymaking process
Over the last part of the 1990s, as the economic growth slowed down, the public became less willing to accept regulations that could affect their own welfare directly. For example, there was considerable opposition to the ecological tax reform introduced by the government in April 1999. After 1995 urgent issues like unemployment and social welfare gained importance on the political agenda. Some surveys show a drop in the percentage of people finding environmental protection a very important policy issue from

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284 See chapter 3, table 3.1.
45% in 1995 to 35% in 1997.285 In a 2002 poll, however, 51% of the persons polled ranked environmental protection as “very important”, with another 42% giving it an “important” mark. These results were virtually unchanged from those (53% and 41% respectively) of a previous survey in 2000 – but somewhat lower than the results of the very first survey in this series. Conducted in 1991, it revealed that 59% gave a “very important” grade to environmental protection.286 The survey furthermore shows that Germans’ prime concern is global environmental problems like climate change. A quarter (27%) of all Germans are “completely convinced” that the atmosphere is experiencing anthropogenic change, and about half views the process as being “pretty likely”. In view of these perceptions, it is not surprising that 94% expect their government to take effective and urgent action in this area.287 This is a strong signal from the public to policymakers.

The clear public opinion pressure combined with the fact that the climate change issue contains a high degree of scientific uncertainty over the consequences, time frame and costs of global warming, made policymaking increasingly difficult for the government in the domestic bargaining phase. The Kyoto Protocol negotiations made it increasingly clear that a broad range of actors and sectors in German society will be adversely affected in the future if climate changes are to be mitigated. As the public policy debate shifted towards more specific policy measures, in addition to the original list of no-regrets measures in the National Climate Protection Program, more domestic actors realized that their interests were at stake and that policy measures could be potentially costly. This triggered a phase of the policy process with greater stakeholder involvement and opposition to climate policy measures, from a varied range of interests like industry associations, trade unions and the automobile organizations that had earlier been surprisingly in agreement with the government. During this period, a voluntary emissions reductions agreement between industry associations and the government was negotiated, in addition to economic strain and increasing unemployment becoming more and more important issues on the political agenda.

286 Kuckartz, Udo (2002).
287 Ibid.
The industry associations DIHT, VDEW, and BDI\textsuperscript{288} became actively involved in working groups with participants from the cabinet, the chancellor’s office, the ministries, and the industry associations, discussing new policy instruments to achieve GHG emissions reductions. A voluntary agreement was announced in 1995, and enhanced in 1996, where industrial associations representing 4/5 of final industrial energy consumption committed themselves to reducing CO\textsubscript{2} emissions by 20\% within 2005 from 1990 levels. The agreement came after intensified planning of a CO\textsubscript{2} tax in the Ministry of Economics (BMWi) prior to 1995, and was hastened because of the upcoming COP1 in June 1995, hosted by Germany in Berlin. The voluntary agreement had the effect of reducing the potential conflict level between the government and the industry that a carbon tax could have created. Given the time-pressure on the government to have some additional policy measures to present at the upcoming COP, and the potential uproar from the industry lobby against carbon taxes, both parts needed a new policy solution that they could agree upon. In achieving this, the long standing tradition of good industrial relations and policy consensus in Germany seem to have been important. The economic research institutes RWI and Ifo supervise the voluntary agreement by preparing a monitoring report every two years where they give an assessment of the progress and prospects for emissions reductions. The potential threat from the government if progress is not made according to the agreement is to introduce a carbon tax.

Another element that has been much discussed in Germany as a possible new policy instrument is a national tradable quota system. The discussion came up after the Kyoto Protocol was agreed on with its flexibility mechanisms. The EU has been discussing a joint trading system that national trading systems can link up to. The German industry lobby has sternly opposed implementation of a national emissions trading system, since they would prefer to keep on to the voluntary agreement. They were successful in pressuring the German government to work against emissions trading within the EU institutions. However, the EU in the end agreed to implement a tradable

\textsuperscript{288} DIHT is the Deutsche Industrie und Handelstag (The Association of German Chambers of Industry and Commerce). VDEW is the Vereinigung Deutscher Elektrizitätswerke (The Association of German Electricity Supply Companies). BDI is the Bundesverband der Deutschen Industrie (The German Industry Association).
quota system from 2008, and the German government has been considering the implications of a national trading system since late 2001.

The potential costs that would be inflicted on the industry sector by the Kyoto Protocol commitments became clearer as the international negotiations proceeded, and induced stakeholder groups to be active in lobbying the government. For example, the BDI and VDEW led a massive opposition to the ecological tax reform introduced by the government in April 1999. The ‘green’ taxes meant slight increases in the prices of gasoline, electricity, and natural gas, and caused a significant loss of popularity for the red-green government. The industry groups argued that they should be exempted from taxes as long as they took on emissions cuts through the voluntary agreement. The cabinet coalition parties themselves, however, expected this to be a difficult process, but perceived it as necessary to proceed with the ecological tax reform and hope for positive economic effects and thus a chance of regaining voters in time for the next election.289

The argumentation was that the current tax system was formed primarily during a time when environmental concerns were given less weight, at the same time as reorganization and structural problems in the job market were less serious than they are today.

As in many other European countries, the German society and industry are facing new challenges with trends like globalization, liberalized markets and changing industrial relations. The power-supply market is being liberalized, with tumbling electricity prices and a series of mergers between companies. The competition is very hard. In this situation it is presumably more difficult for electricity based on renewable energy to make its way into the market, even though the government has introduced a range of policy measures to secure that such energy is being channeled into the energy supply system. New energy actors do not have the same political clout as the established ones, and, in general, policy measures that impose costs upon specific sectors of the economy while benefits are widely distributed throughout society will be difficult to implement.

An example of the reluctance with which changes in the established structures in the energy sector come about is the agreement to gradually remove governmental subsidies to the coal industry that only came about after a direct ruling in the Federal Constitutional

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Court in 1994. The political will to implement the ruling was low from both the SPD and the CDU, but after the ruling they were forced to address it.

The most influential ENGOs in Germany have been the BUND with its 375 000 members, the Deutscher Naturschutzbund (an umbrella organization for German ENGOs), Greenpeace, Forum Umwelt und Entwicklung und Germanwatch. The first three have been particularly involved in domestic climate politics, while the last two have been more focused on Germany’s role in the international negotiations. After the Kyoto Protocol negotiations got underway in 1995, German ENGOs closely followed and tried to influence the development of the country’s position in the international negotiations. They were concerned with ensuring that Germany would still be working for strong international emission reduction commitments. As the negotiations developed to focus on new themes like several GHG gases, flexibility mechanisms and inclusion of sinks, German ENGOs pressured the Kohl government to oppose it. It was important for the ENGOs that as much as possible of reductions should be done domestically. The German government mostly followed ENGO and public opinion on these themes, and took a hard line internationally in opposing the use of flexibility mechanisms and sinks.

ENGOs have used very different methods to influence the policymaking process. For instance, Greenpeace has organized several campaigns and sit-down demonstrations when rounds of the international negotiations have been located in Bonn. Germanwatch, on the other hand, was part of initiating a business council – the European Business Council for Sustainable Development – in 1996. The council organizes corporations, mainly from the energy and transportation sectors, that voice a more proactive attitude to address the climate change problem. Large companies like Danforst, Rockwool, AEG household appliances, and Deutsche Bahn are members of the council.

While ENGOs have been mostly satisfied with Germany taking on a leading role in the international negotiations, they have been more critical toward the speed of implementation of domestic policies. The argument has been that the reduction target can be met only if the government shows greater willingness to take stronger domestic action. The focus of policy discussion has been on how Germany can implement policy measures beyond the original National Climate Protection Program developed by the interministerial working group. ENGOs have underlined the element of North-South
imbalance in this discussion, pointing to the UNFCCC treaty text where the industrialized
countries have accepted that it is their responsibility to take the first steps toward
addressing global climate change. As a leading country, the ENGOs have argued that
Germany has a responsibility to move ahead with domestic emission reductions that
really signal a true effort towards abatement. Particularly Greenpeace and BUND have
been actively involved in this domestic discussion, also when it comes to contributing
with significant information and acting as an opinion builder towards the general public.
German consumers are well known for being very conscious about choosing
environmentally friendly products. To a certain degree the government has been
influenced by this pressure, as when the SPD/Greens government introduced an
intensified “additional measures” policy program in October 2000.

A larger degree of involvement from several domestic actors required a
redefinition of the policy problem during the domestic bargaining phase. As such, climate
change policy became just as much a matter of energy policy, transportation policy, etc.
German ENGOs contributed to this development by increasingly focusing on sectors that
had not been the focus of emission reduction policies to the same extent as the industry
sector – for example the transportation sector. Redefining the issue and take-over of the
policy making initiative by sector agencies tend to reinforce each other.\textsuperscript{290} In the climate
change context this meant that in the domestic bargaining phase, ENGOs were part of
spreading awareness that emission reductions did not only concern industrial companies,
but also the transportation sector and individuals through choices they make.

\subsection*{4.2.4.2 \textit{Score}}

Public concern about climate change was high in Germany in the domestic bargaining
phase. This caused pressure in favor of a continuous proactive policy stance from the
government. The pressure was enforced by high activity from the ENGOs, both in favor
of additional domestic abatement policies and in favor of an environmentally efficient
international climate treaty.

The high degree of consensus about policy that had developed in Germany in the
agenda-setting phase did not continue to the same degree in the domestic bargaining

phase. Stakeholder organizations had considerable influence over the German policy choices in the period, both as a result of the degree to which the national economy depended on industrial production, and of the importance of the organizational-corporatist channel in German politics. The voluntary agreement between industries and the government was a direct result. Furthermore, the German industry’s negative attitude towards a national quota system has helped postpone political consideration of such a system up until late in 2001. The German industry wanted to keep their voluntary agreement and the focused measures approach to emission reduction that was incorporated in the national climate protection program.

The analysis shows that public pressure in favor of a proactive climate change policy had a clear effect on the policymaking process, supported by ENGO activity. I also find that there was strong involvement of the industry lobby, working to limit the level of proactiveness. Hence, concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors had some consequence for who had influence in the policymaking process, but was not decisive. The membership degree in the “public demand and support matters in the policymaking process” causal set is more or less in, and the score is set at .67.

4.2.4.3 Policy outcome
The DP model would predict that Germany would have a medium to low level of proactive climate change policy in the agenda-setting phase, for several reasons. Being a country with a strong organizational-corporatist channel, the model would predict that the interest groups that had most influence were the ones that were economically powerful, and directly affected in the distribution of costs and benefits resulting from abatement policies. Germany was predicted to face economic losses from addressing climate change, particularly in the vital industry sector, as opposed to predictions in the agenda-setting phase. There was therefore reason to expect pressure against a proactive climate change policy. The model predicts that there would be little room for influence from public opinion and ENGO activity, because economically vital interest groups have more clout. This would lead to a score of .33 in the “predicted effect of public demand and
support” causal set, and hence to a medium to low level of proactive climate change policy.

Comparing this prediction with the actual policy outcome, we see that it does not match. Germany had a medium to high level of proactive climate change policy in the agenda-setting phase.\textsuperscript{291} Taking another look at the influence of interest groups predicted to be important, we can see that substantial concern about protecting the environment continued to influence German politics. Germans continued to place environmental protection high on their personal political agenda.

Figure 4.4 shows some statistics of Germans’ attitudes towards the climate change problem in 2000. We can observe that as many as 73\% said that a rise in the world’s temperature caused by the greenhouse effect would pose extreme danger or be very dangerous to the environment. This is only a slight decrease since 1993. Only 3\% believed that it would not be very dangerous. However, the percentage of Germans that declared willingness to pay much higher prices in order to protect the environment decreased comparatively more in the same period: only 30\% were very or fairly willing to do so, whereas as many as 35\% were fairly or very unwilling to pay higher prices. Even fewer Germans were willing to pay much higher taxes in order to protect the environment. Not more than 17\% were very or fairly willing. A majority (54\%) said that they were fairly or very unwilling to pay much higher taxes. Slightly more than a third of Germans (36\%) were very or fairly willing to accept cuts in their standard of living in order to protect the environment in 2000, a decrease of 10\% since 1993. Almost as many - 33\% - were fairly or very unwilling to accept such cuts.\textsuperscript{292}

\textsuperscript{291} See chapter 3, table 3.1.
\textsuperscript{292} ISSP, 2000.
The pie charts above illustrate the point that Germans were very concerned about the effect of temperature rise on the environment, but that they showed comparatively little willingness to pay for abatement policies – even less so than in 1993, if we compare with figure 4.3.

Table 4.4 cross-tabulates the share of Germans in 2000 that thought that a rise in the world’s temperature will be dangerous to the environment and therefore expressed willingness to accept cuts in their standard of living. Like in Norway and in the United States we can observe a decrease from 1993 of Germans that expected temperature increase to be very dangerous to the environment and were willing to accept cuts in their living standard to protect the environment, from 52% to 40% in 2000. A total of 32% were unwilling to accept such cuts, a 7% increase since 1993. At the same time, 27% of
respondents who said that temperature rise will not be dangerous to the environment were nevertheless willing to decrease their standards of living to protect the environment. Perhaps less surprisingly, 54% of those that expected temperature rise not to be dangerous to the environment were also unwilling to accept cuts.

Table 4.4: Germany 2000

<table>
<thead>
<tr>
<th>Rise in world’s temperature pose danger to the environment</th>
<th>Very dangerous (%)</th>
<th>Somewhat dangerous (%)</th>
<th>Not dangerous (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to cut standard of living to protect the environment</td>
<td>Willing</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Neither nor</td>
<td>27</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Unwilling</td>
<td>32</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>100 (N = 1064)</td>
<td>100 (N = 249)</td>
<td>100 (N = 37)</td>
</tr>
</tbody>
</table>

$\chi^2 = 24.421$, Significance level: $p > .05$


Figure 4.4 and table 4.4 indicate that there was a medium public pressure in favor of a proactive climate change policy in 2000. Even though a clear majority of Germans found that rising temperatures were dangerous to the environment, only a minority was willing to suffer economic disadvantages to protect it. The public pressure was therefore not clearly in favor of a very proactive approach to address global warming.

I find support for the model’s assumption that economically vital groups have substantial influence on policy outcome. Germany’s powerful industry lobby cooperated with the government to secure a voluntary agreement for CO$_2$ emissions reductions for the major industries in Germany. This meant that the major industry associations received a cap for total emissions, and could distribute cuts between themselves to maximize cost effectiveness. The industry lobby was satisfied with this agreement, so much so that
when the question about a national system of emissions trading entered the policy agenda after the Kyoto Protocol was agreed on, the industry lobby fought against it. They preferred to regulate their CO2 emissions through the voluntary agreement also in the future, pointing out that real cuts in CO2 emissions had been achieved with the agreement. This resistance correlates with the German government’s reluctance to explore or implement a national emissions trading system in the domestic bargaining phase. Not until late 2001 did the government start to assess how and when a national system could be implemented, only after the EU had agreed to start emissions trading among member countries from 2008.

The government resistance to national emissions trading reflects its position in the international negotiations. Germany’s position was that as much as possible of emissions reductions should be done domestically and that there should be limits on the use of the flexibility mechanisms of the Kyoto Protocol. German ENGOs were in agreement with the government on that position, calling for stronger and additional domestic abatement policies and at the same time rejecting the flexibility mechanisms as an equally strong commitment. Furthermore, the ENGOs argued against applying the flexibility mechanisms also on moral grounds, since it would blur the clear commitment of the industrialized countries to take the first steps to reduce commitment.

As we can see, therefore, all major interest groups were in agreement opposing the use of emissions trading and other flexibility mechanisms. However, this opposition was based on different reasoning. The industry lobby saw it as better economically to continue the voluntary agreement, while the ENGOs used moral arguments about commitment to take the first steps. It is therefore fairly clear that there is correlation between DP assumptions about which interest groups had influence on outcome and actual policy decisions. It is, however, difficult to point out which group had most influence. In any case, the joint pressure in the same direction most certainly contributed to allowing the government to commit to a medium to high level of proactive climate change policy, in the sense that it worked to restrict the use of the flexibility mechanisms in the Kyoto Protocol negotiations.

In the case of the introduction of an ecological tax reform from 1999, the industry lobby also seems to have had substantial influence. The tax reform was not welcomed by
either the public or the industry lobby. People in general were unwilling to pay more for their gasoline or household use of natural gas, and the industry argued that they already contributed to emissions reductions through the voluntary agreement. In the end, most industries got exemptions from the taxes, and were reimbursed on the reduced tax level that they actually ended up paying via cuts in the employer-taxes levels. The ENGOs were disappointed with the government’s lenient treatment of the industry, arguing that the environmental efficiency of the ecological tax reform was reduced to the extent that it almost vanished. Particularly the Green Party was criticized for abandoning their principles when they became a part of the government, misusing an opportunity to really make a difference for the environment.

4.2.4.4 Summary
The point prediction of the DP model was that Germany in the domestic bargaining phase would have a medium to low level of proactiveness. The prediction does not fit the actual policy positions, since Germany was given a score of .67 in the “proactive climate change policy” causal set. In the analysis I find high levels of public concern about global warming, but a comparatively low willingness to pay for environmental protection. I also find a medium degree of special interest lobbying and medium ENGO activism, both with some influence on government policy positions. Hence, actual climate policy was more proactive than the DP model would predict.

4.2.5 The United States in the agenda-setting phase (1988 – 1996)
4.2.5.1 Policymaking process
In the 1980s and 1990s an increasing number of Americans classified themselves as environmentally concerned. A 1990 Gallup opinion poll, for instance, revealed that 73% of respondents considered themselves to be environmentalists, while 24% did not. A study by Kempton et al. shows that the general public seems to want more government regulation of pollution. Indeed, they signalized a willingness to sacrifice some economic output to improve the environment. The conception of environmental issues is according

293 See chapter 3, table 3.1
294 Kempton et al. (1997): pp. 4-5.
to Kempton et al. built on cultural models that function as general explanations of how the human-nature interaction works. A series of Gallup polls on the personal worry of Americans about global warming show that in 1990 30% worried a great deal, and 27% worried a fair amount. In 1991, the percentage of respondents that worry a great deal had increased to 35%, whereas the number of respondents worrying a fair amount was constant at 27%. In 1997 the numbers were 24% and 26% respectively, which indicates a slight decrease.

Interviewees in the present study expressed a more qualified impression of the American public’s attitude to climate change. The United States has slowly been moving in the same direction as Europe when it comes to heightened environmental concern, but has still not come as far along in that development. Americans tended to think of the climate change issue as a vaguer, longer-term issue than air-pollution or water/sewer issues that affect people right here and now. Hence, they were skeptical towards accepting climate change regulatory policies or environmental taxes on, for example, gasoline. If asked, people would probably agree that global warming is a problem. But the public did not demand action, and politicians consequently avoided sticking their necks out, and did as little as possible. Public pressure was hence reflected in the policymaking process.

The general public concern about the degradation of the environmental condition of the country or any irreversible damages was certainly considered and balanced by politicians against the concern of organized interest groups who were predicted to suffer economically from heavy abatement costs incurred by climate change policy measures. In the United States, lobbying is part of the pluralist nature of the political system. All interest groups have access to the process and have the opportunity to try to influence and lobby policymakers at all stages. This is an important underlying feature that is vital for a full understanding of the role that interest and stakeholder groups had in the climate change policymaking process.

Organized business lobby groups increased their presence in Washington D.C. markedly over the past two decades in what has been called an “advocacy explosion.”

There was a sharp rise in the number of groups, the scope of their activities and the intensity of their efforts. To a larger degree than earlier, business groups became well represented. Environmental organizations were also well represented, although they generally had fewer resources than business groups. Organized interests spent a lot of money and time lobbying the Congress and the government. To find support from policymakers, climate policy has been linked to other policy issues, like energy security and oil exploration. Issue linkages developed either as a result of strategic and tactical considerations, elements that are determinants of what perspectives and premises are considered relevant in the policymaking process, and which actors will have access. Interest groups used their influence and money to create favorable opinions with politicians and to frame the issue in a particular way that would benefit themselves. As in all democracies, all voices are free to participate in this exchange of opinion. However, big companies and other interest groups have made increasingly larger campaign contributions, and hence more and more economically strong groups fought for politicians’ support and understanding, which made it more difficult for smaller, less well-funded interest groups to exercise influence.

Local business and energy interests strongly influenced the way politicians handle the climate change issue. The differences in potential costs of climate policy in the various states were estimated to be large. Coal- and oil-rich states like Nebraska and Texas would most likely face higher costs and threats to the current economic structure and employment market from climate policy than states like Maine and Ohio. Industry interests are closely tied to energy endowments in the different parts of the country. For example, some industries are dependant on cheap energy in their production processes, for instance, which makes them inclined to be negative to policies that will increase prices. Other industries produce GHGs as a by-product in their production processes, and are thus faced with lower production-levels to reduce emissions.

Local electoral processes and interest group pressures, as well as the need to raise large sums of money for re-election campaigns, make politicians respond to interests and

concerns different from those affecting the nation as a whole. The enormous economic importance of the energy industries – oil and coal – has traditionally given these industries the power to influence policymaking, both in fossil fuel rich regions and nationally. For example, the energy companies Exxon and Western Fuels made up the backbone of one of the most influential interest advocacy groups in the agenda-setting phase: the Global Climate Coalition (GCC). The GCC was established in 1989 as an organization of trade associations working to coordinate business participation in the international climate change and global warming policy debate. It had more than 200 000 companies as members. Domestically, the GCC represented the views of its members to legislative bodies and policymakers, and it reviewed and provided comments on proposed legislation and government programs.299 The organization had a lot of weight on Capitol Hill in the agenda-setting phase.

Throughout the agenda-setting phase, the industry lobby in the United States opposed any kind of domestic regulations, as well as any national commitments in the international negotiations. Using many channels of influence, it managed to clearly shape the policymaking process. Several arguments that the industry lobby promoted became central. First, consider the great weight that was put on the uncertainty of climate change science. The argument was that since science was uncertain, both concerning the effect of a buildup of GHGs in the atmosphere and the effects of abatement policies, policy regulations would be economically reckless. It is no doubt that the industry lobby was actively involved in playing out this argument in the policymaking process. Second, consider the focus that was put on the grave economic consequences climate change policies would have for the ordinary citizen’s private economy. Television ads and other advertising campaigns were used to influence the public’s conception of how the climate change problem could affect them, and hence to enforce pressure on policymakers against introducing emissions reductions caps that would lead to for instance higher gasoline prices.

The environmental organizations, as opposed to the industry lobby, did not at first in the agenda-setting phase have a coordinated, powerful approach to informing about climate change. The United States has a flourishing number of ENGOs, in all kinds of

299 See the GCC homepage at: http://www.globalclimate.org/aboutus.htm
political shades. A lot of the ENGOs have strong opinions on the use of private land, and hunting and fishing rights, and interpret conservation in the meaning of preserving a particular “American lifestyle”. Other conservationist groups focus more on preserving eco-systems and species. In the climate change context, a few influential ENGOs got involved fairly early. The Sierra Club, WWF and Environmental Defense were actively involved in arranging the World Climate Conferences in Villach (1985) and Bellagio (1992): meetings that helped put the issue on the agenda, and frame the issue in the public mind. Actions like these conferences helped get the U.S. government involved because the ENGOs managed to create public attention and public pressure. This, in turn, prompted the U.S. government’s heavy support and agency during the start-up of the IPCC – an organization that has had immense influence on government decisions.

During the Rio Conference in 1992, ENGOs were actively involved in trying to influence the U.S. negotiation position. George H. W. Bush came under intensive pressure to agree to binding targets and timetables to reduce emissions. Newspaper ads, campaigns, and speeches were means that were employed to influence. The access that ENGOs enjoyed to the UNFCCC process was a new phenomenon in negotiations under the auspices of the United Nations. American ENGOs were used to lobbying and issue-framing initiatives from their domestic arena. Thus, U.S. ENGOs became dominant participants at the international negotiations events. Through the Climate Action Network (CAN), the ENGOs worked in a joint effort to influence governments. Established in March 1989, CAN has been actively monitoring and seeking to influence the climate negotiations as well as climate-related policies and measures at the national and international levels. Member organizations include noted experts on issues of climate change science and policy. CAN is the recognized umbrella NGO in the international negotiations, through which environmental groups work.

At the national level, the more radical organizations, such as Greenpeace and Earth First, have used direct action and civil disobedience to attract attention, while the more moderate organizations, such as the Sierra Club and Environmental Defense, have used lobbying, science and lawsuits as means of information. Monitoring legislative

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proposals and campaigning for implementation have been important national efforts. For instance, the ENGOs were positive to Clinton’s Climate Change Action Plan, but this turned to criticism as it soon became clear that this voluntary based effort would be insufficient to achieve the stabilization target within 2000. Environmental Defense and WWF have been particularly active in using science as a means of influencing both the U.S. negotiation position and the international negotiations agenda. For example, Environmental Defense has developed expertise in understanding and promoting emissions trading as a solution to achieve cost-effectiveness in reducing GHG emissions.

4.2.5.2  Score

The analysis shows that Americans expressed concern for the environment, but comparatively little willingness to suffer economic losses to protect it. Americans were found to have had less concern for climate change than for more immediate and local issues such as water and air pollution. This had a clear effect on the policymaking process, not signaling any strong pressure in favor of having a proactive climate change policy.

Strong and coordinated lobbying efforts by economically important business and industry actors had substantial influence on the policymaking process in this phase, both in the case of making the uncertainty of climate change science a reason for postponing abatement policies, and in the case of putting the focus on economic consequences of abatement policies for the citizens’ personal economy. On the other hand, the ENGOs had managed to organize a joint approach since the UNFCCC negotiations through CAN, and they were very actively involved in trying to lobby policymakers. However, they had substantially less influence in the policymaking process than the industry lobby.

I find that public opinion pressure was important, and that there was a clear weighting by policymakers of the pressure from economically important and powerful interest groups, such as industrial associations, and less weighting of less powerful and less well-organized interests, such as ENGOs and the public in general. Concerns for the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors was very important. The membership degree in the “public
demand and support matters in the policymaking process” causal set is fully in, and the score is set at 1.

4.2.5.3 Policy outcome

The DP model would predict that the United States would have a medium to low level of proactive climate change policy in the agenda-setting phase. The country has a pluralist type of political influence structure, where lobbying by powerful interest groups is common, and where politicians depend on campaign contributions from the same groups to be reelected. This gives less room for influence from less organized groups, and groups that do not have the same economic power. Since the United States was predicted to face severe losses in economically vital industries from introducing proactive climate change abatement policies, the model predicts that the powerful oil, gas, and coal lobbies would have a strong influence over policy outcome which would lead to a score of .33 in the “predicted effect of public demand and supply” causal set, and to a medium to low level of proactiveness.

Reviewing the actual policy outcome in the agenda-setting phase, we see that the prediction fits. The United States had a medium to low level of proactive climate change policy in this phase. Why was there a fit between prediction and actual outcome? In the United States, unlike in Europe, the awareness or concern on the part of ordinary people that global warming is a serious problem is lower. For example, a majority of people would be unwilling to pay more per gallon of gasoline to help combat climate change. In general, it seems support for the environment among Americans is very broad, but it is not very deep, i.e. people are unwilling to sacrifice a lot to protect the environment.

The role of the news media is important to consider when assessing public pressure. The media often presents the extreme views to spur a debate. As a rule, this is done without informing the readers about the background for the scientific results, such as the degree of validity, or how large a part of the scientific community supports the findings. The flow of information is large as a result of the frequent use of science in policy issues, and it is difficult for laypersons to separate different kinds of research from each other. For instance, scientists skeptical to the theory about human imprint on climate

302 See chapter 3, table 3.1.
changes had the opportunity to attract a lot of attention in the public debate in the agenda-setting phase, both in congressional hearings before a range of committees, and in the news media. These scientists actively informed about the uncertainties still facing climate change research, especially focusing on the pertinence of the computer models used by atmospheric scientists to predict the effect of GHG increases in the atmosphere, and whether temperature increases can be related to human activities or are the result of natural variations in the atmosphere.

The fact that this group of researchers was given a lot of attention, combined with the skepticism toward science as policy background, was an important contributing element to why the uncertainty of climate change became significant to a much larger degree in the U.S. than in other Annex 1 countries. The debate caused the issue framing to proceed in a way where uncertainty was used, for instance, in the discussions about the need for abatement policy, and in argumentation about the effects on American economy. This certainly had an effect on the perception of the American people about whether global warming was a threat or not. Americans were generally less worried than Europeans.

Figure 4.5 shows the attitudes of Americans towards the climate change problem in 1993. In contrast to Germany and Norway, only 41% of respondents believed that a rise in the world’s temperature caused by the greenhouse effect would pose extreme danger or be very dangerous to the environment. However, about half showed willingness to pay much higher prices in order to protect the environment. 50% were very or fairly willing to do so, while 24% were fairly or very unwilling. Considerably fewer were willing to pay much higher taxes in order to protect the environment. Not more than 38% were very or fairly willing. Almost as many - 37% - said that they were fairly or very unwilling to pay much higher taxes. Finally, 39% of Americans were very or fairly unwilling to accept cuts in their standard of living in order to protect the environment.303

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303 ISSP, 1993.
Figure 4.5: The United States, 1993

Willingness to pay much higher prices to protect the environment


The pie charts above illustrate the point that Americans were very concerned about the effect of temperature rise on the environment, but that they showed comparatively little willingness to pay for abatement policies, particularly through taxes or cuts in living standard.

Table 4.5 cross-tabulates the share of Americans in 1993 who thought that a rise in the world’s temperature will be dangerous to the environment and therefore expressed willingness to accept cuts in their standard of living. Less than half, 44%, of those who expected temperature increase to be very dangerous to the environment were willing to accept cuts in their living standard to protect the environment. Almost a third, 32%, were unwilling to accept such cuts. At the same time, 24% of respondents said that temperature rise will not be dangerous to the environment, and still were willing to cut in their living standard to protect the environment. More expectedly, we can see that more than half,
54%, of those that expected temperature rise not to be dangerous were unwilling to accept cuts.

Table 4.5: The United States, 1993

Cross tabulation:
‘Willingness to cut standard of living to protect the environment’ by ‘Rise in world’s temperature poses danger to the environment’

<table>
<thead>
<tr>
<th></th>
<th>Rise in world’s temperature pose danger to the environment</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very dangerous (%)</td>
<td>Somewhat dangerous (%)</td>
<td>Not dangerous (%)</td>
<td></td>
</tr>
<tr>
<td>Willingness to cut standard of living to protect the environment</td>
<td>Willing</td>
<td>44</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Neither nor</td>
<td>24</td>
<td>27</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Unwilling</td>
<td>32</td>
<td>42</td>
<td>54</td>
</tr>
<tr>
<td>Total</td>
<td>100 (N = 607)</td>
<td>100 (N = 488)</td>
<td>100 (N = 210)</td>
<td></td>
</tr>
</tbody>
</table>

$\chi^2 = 46.483$, Significance level: $p > .05$


Figure 4.5 and table 4.5 suggest that there was a medium public pressure in favor of a proactive climate change policy in 1993, much the same as in Norway but somewhat lower than in Germany. A majority found the issue important, but there was not a high degree of willingness to pay to protect the environment. The signal to policymakers was therefore not clearly in favor of proactiveness.

Economically powerful interest groups clearly had a more influential role in the policymaking process than other social groups in this phase. For example, the GCC and other interest groups like the American Petroleum Institute, the Chemical Manufacturers Association, and the American Automobile Manufacturers’ Association questioned the science of climate change very early in the process. In advertising efforts and newspaper articles, the assumption about a human effect on changing temperatures was written off as undecided and uncertain. The IPCC report in 1992 was portrayed as subjective, not
representative of how uncertain climate change science really was. In 1995, the GCC and the API were actively involved in portraying the IPCC as untrustworthy by saying that the “Summary for Policymakers” did not represent the view of scientists that had participated in the full report. This campaign was intended to create doubts about the science of climate change as presented by the IPCC, both in the public and as background for policy decisions about abatement policies.

It was important for these groups to have a say in how climate change was perceived by the public, since in a democracy politicians are sensitive to public perceptions. They actively tried to shape an agenda where global warming was not perceived to be a serious, human-induced problem. In the agenda-setting phase they were partially successful. In the United States, the debate about the science was much more prominent than in other Annex 1 countries. Furthermore, George H. W. Bush introduced strictly research efforts as domestic policy to meet the most urgent needs to address global warming. The United States also refused to accept specific national targets or timetables for GHG emissions reductions at the UNFCCC negotiations. When Clinton introduced the Climate Change Action plan in 1993, it was only directed to reduce emissions from the industry sector via voluntary agreements and tax incentives. In the Kyoto Protocol negotiations, the country pushed for maximum flexibility so as to secure continued growth for the national economy, and to limit the negative effect on important economic sectors. All of these policy decisions addressed industry interests.

The ENGOs in the United States were involved in the global warming issue at an early stage, but never managed to shape the agenda and direction of the policymaking process in the same way as the industry lobby. Although they developed expertise on some central issues, such as emissions trading, the ENGOs did not have significant influence on policy decisions in the agenda-setting phase.

4.2.5.4 Summary
The point prediction of the DP model was that the United States would have a medium to low level of proactive climate change policy as a result of the influence of powerful and economically important interest groups. The prediction was that since these groups stood to be substantially hurt by abatement policies, they would pressure against proactiveness.
The prediction fits well with actual policy outcome, which was medium to low for the United States in the agenda-setting phase.\textsuperscript{304} In the analysis I find weak public pressure to not employ abatement policies, characterized by medium public concern about global warming, combined with medium ENGO activism with only some impact, and high degree of special interest lobbying resulting in actual influence on government policy positions. In other words, the actual policy outcome was as the DP model would predict.

4.2.6 The United States in the domestic bargaining phase (1997 – 2001)

4.2.6.1 Policymaking process

The “greening of America” is remarkably constant over the period under scrutiny in this study (1988-2001). In a 2000 Gallup poll, for instance, 71\% of respondents said that they are either active participants in the environmental movement or sympathetic to the movement. Another 40\% also expressed a great deal of worry about the greenhouse effect, while 32\% worried a fair amount.\textsuperscript{305} In a 1999 Gallup poll, however, Americans were evenly divided between those who considered themselves environmentalists, and those who did not. The public was much more concerned about local and immediate issues such as water and air quality than a global and long-term issue such as climate change. Furthermore, the continued public debate about the high level of uncertainty in climate change science, as well as predicted negative economic effects of abatement policies, contributed to a continuous public pressure that was not very strong in the United States in the domestic bargaining phase.

The policymaking process in this phase was influenced by the same major interest groups as in the agenda-setting phase. The industry lobby continued its strong pressure against domestic regulations and commitments to an international treaty. One of the most remarkable efforts to influence the public opinion on climate change was organized in the fall of 1997, in the run-up to the Kyoto conference. Hundreds of advertisements focusing on the uncertainty of the science and the potential heavy costs of a Kyoto agreement were run in the U.S. news media, in addition to paid television advertisements. Approximately $150 million was spent by organized business interests on this campaign informing about

\textsuperscript{304} See chapter 3, table 3.1.

\textsuperscript{305} The Gallup Organization (2000): “Earth Day Poll” conducted April 3-9.
their views on global warming. The Global Climate Coalition, the most influential industry advocacy group, organized the campaign. The aim of the campaign was to portray the Kyoto Protocol as flawed, and economically harmful to the American society. A particularly underlined issue was that the treaty would also be unfair, since large developing countries like China and South-Korea – two of the country’s most important trade competitors – would have no commitments to reduce their emissions. The GCC used its influence and good economy sponsored by its members in several such serious lobby efforts, in combination with direct contact with policymakers and campaign contributions.

Another example of stakeholder group influence was at the Kyoto conference, where stakeholder organizations were well represented and made contacts and efforts to influence the U.S. negotiation position at the negotiation event. Together with senators and congressmen that expressed strong opposition to the Kyoto Protocol, the GCC, API, and other influential stakeholder organizations represented a strong reminder to the Clinton administration officials in the negotiation delegation about the sentiment at the U.S. domestic level that was strongly against any kind of commitments that implied extra costs for the U.S. economy.

It had been an advantage for the GCC that it was talking on behalf of more or less the entire American industry up to early in 1998. After the Kyoto meeting, however, this changed. More and more industry associations left the GCC. For a range of large firms, the sentiment changed as corporations realized that some kind of regulation would be necessary in the future to address the climate change problem, and that it would secure their investments to take that into account as soon as possible. Many firms considered that they would be better off trying to actively be part of shaping future policy and regulations rather than just protesting against it. Hence, the GCC lost power, while the Pew Center, the International Climate Change Partnership and other organizations organizing more proactive firms and industries gained members and influence. For instance, thirty-seven major companies, like DuPont, Alcoa, PG&E Corporation, and American Electric Power, are working together through the Pew Center's Business Environmental Leadership Council, to educate the public on the risks, challenges, and
solutions to climate change. Many of them have committed to reducing their GHG emissions on a voluntary basis.\textsuperscript{306}

However, large energy companies like Exxon Mobile, Edison Electric Company, and Western Fuels still worked strongly against regulations, and continued to have a strong say in the policymaking process. It is very likely that these firms contributed to and warmly supported President George W. Bush’s decision to repudiate the Kyoto Protocol in spring 2001, and to rather work for more long-term approaches to emission reduction like the growth indexed caps that is the main new initiative from the administration in its Global Climate Change Initiative policy program.

ENGOs were clearly focused on how the flexibility mechanisms could work for the U.S. economy. They strongly criticized the U.S. government for being too unwilling to accept emissions reduction targets, and pressured for the implementation of domestic abatement policies. There have been some disagreements about strategy to inform about climate change within the U.S. Climate Action Network between ENGOs that are advocacy oriented, like the Sierra Club, and those that are more research oriented, like Environmental Defense. This has stalled the effectiveness of the network.\textsuperscript{307}

The Sierra Club has an advocacy oriented purpose, and states that “the mission of the Sierra Club is to influence public, private, and corporate policies and actions through Club programs at the local, state, national, and international levels. The strategy of the Sierra Club is to activate appropriate portions of a network of staff, members, and other concerned citizens, using legislative, administrative, electoral, and legal approaches, and to develop supporting public opinion.”\textsuperscript{308} Together with the WWF and the EDF, the Sierra Club is perceived to be among the most influential ENGOs in the United States on the climate change issue. The WWF is one of the largest ENGOs in membership numbers, and has established itself as an expert in the international negotiations, interpreting the positions and proposals of delegations at important meetings.

The ENGOs in the United States have not been as conflict-oriented as in Europe, where demonstrations and civil disobedience have occurred more often. More groups in

\textsuperscript{306} See Pew Center website at: www.pewclimate.org
\textsuperscript{308} Purpose and strategy as stated on the Sierra Club website at: www.sierraclub.org/policy/goals.asp, 29.01.02.
the United States have sought to base information on science and research. They use their capacity to go into direct dialogue with large corporations to try to influence corporate policy, and also to lobbying directly towards politicians in Congress and in the administration. ENGOs had significantly less influence over the policymaking process in this phase than did the industry lobby.

4.2.6.2 Score
There was recurrent public attention and general public concern about the effect of rising temperatures on the environment in the domestic bargaining phase. Americans in general expressed concern for the environment and global warming, but found local and immediate issues more important. Business stakeholder lobbying lost some of their leverage as they could no longer stand together as a united interest block. However, oil and coal industries seem to have regained powerful influence channels into the new Bush administration. In the domestic bargaining phase the ENGOs gained a higher level of influence, especially as they developed expertise in essential areas like emissions trading and joint implementation, but compared to the industry lobby their influence was low.

The analysis shows that public pressure was about the same as in the agenda-setting phase. It also shows that the policymaking phase was clearly influenced more by economically important and powerful interest groups, such as industrial associations and large corporations that stood to lose from abatement policies, and less by ENGOs and the public in general. Concerns about the distribution of costs and benefits resulting from climate change and abatement policy between domestic actors was very important. The membership degree in the “public demand and support matters in the policymaking process” causal set is fully in, and the score is set at 1.

4.2.6.3 Policy outcome
The DP model point prediction for the domestic bargaining phase would be much the same as for the agenda-setting phase – a medium to low level of proactive climate change policy. The reasons for this prediction are tightly connected to the country’s pluralist type of political influence structure. Lobbying by powerful interest groups coupled with politicians depending on campaign contributions from the same groups to be reelected
gives less room for influence from less organized groups, and groups that do not have the same economic power. Since the United States was predicted to face severe losses in economically vital industries as a result of introducing proactive climate change abatement policies also in the domestic bargaining phase, the model predicts that the powerful oil, gas, and coal lobbies would have a strong influence over policy outcome, which would lead to a score of .33 in the “predicted effect of public demand and supply” causal set, and to a medium to low level of proactiveness.

Comparing this prediction with the actual policy outcome, we see that it fits. The United States had a medium to low level of proactive climate change policy in the domestic bargaining phase. Public pressure remained at a medium level, enforced by news media attention and to some extent also ENGO activity. After the second IPCC report in 1996, the “war of public perception” changed in the United States. There has been less focus on whether there really is an anthropogenic influence on the climate, and more on how it will affect the United States and the world. Although scientists that are skeptical to the idea of human influence on climate changes are still active in the media, the majority of newspaper articles and media coverage portrays global warming as a serious problem that must be dealt with. For instance, PBS television had a two-hour special broadcast during spring 2000 where the problem was thoroughly analyzed, and where both mainstream and skeptical scientists had their say. Also, in Congressional hearings the witness list is more balanced than it was in the agenda-setting phase when most witnesses were experts or scientists with a skeptical perception about the anthropogenic influence on the climate. In the domestic bargaining phase, Senators and Congressmen signal more interest in hearing both sides.

Figure 4.6 portrays Americans attitudes towards the climate change problem in 2000. As many as 48% believed that a rise in the world’s temperature caused by the greenhouse effect would pose extreme danger or be very dangerous to the environment, approximately the same as in 1993. 11% believed that it would not be very dangerous. Slightly less than half (45%) showed willingness to pay much higher prices in order to protect the environment, while 26% were fairly or very unwilling. As one could expect, fewer Americans than Norwegians and Germans were willing to pay much higher taxes.

309 See chapter 3, table 3.1.
in order to protect the environment – not more than 32%. Only 29% of Americans were very or fairly willing to accept cuts in their standards of living in order to protect the environment, compared to a majority of 44% that were fairly or very unwilling to accept such cuts.\textsuperscript{310}

Figure 4.6: The United States, 2000


The pie charts above show that Americans were concerned about the effect of temperature rise on the environment, but that they were relatively unwilling to pay for abatement policies.

Table 4.6 cross-tabulates the share of Americans in 2000 that thought that a rise in the world’s temperature will be dangerous to the environment and therefore expressed willingness to pay much higher prices to protect the environment and cut their standard of living to protect the environment.

\textsuperscript{310} ISSP, 2000.
willingness to accept cuts in their standard of living. As in the case of Norway, a comparison of table 4.5 and 4.6 show a decrease in the percentage of respondents that expected temperature increase to be very dangerous to the environment, and were willing to accept cuts in their living standard to protect the environment, from 44% in 1993 to 40% in 2000. A total of 33% were unwilling to accept such cuts, slightly more than in 1993. At the same time, 21% of respondents said that temperature rise will not be dangerous to the environment, and still were willing to cut in their living standard to protect the environment. There were as many as 56% of Americans that expected temperature rise not to be dangerous to the environment, and were unwilling to accept cuts.

Table 4.6: The United States, 2000

<table>
<thead>
<tr>
<th>Rise in world’s temperature poses danger to the environment</th>
<th>Very dangerous (%)</th>
<th>Somewhat dangerous (%)</th>
<th>Not dangerous (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing to cut standard of living to protect the environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willing</td>
<td>40</td>
<td>23</td>
<td>21</td>
</tr>
<tr>
<td>Neither nor</td>
<td>28</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>Unwilling</td>
<td>33</td>
<td>48</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>100 (N = 486)</td>
<td>100 (N = 400)</td>
<td>100 (N = 133)</td>
</tr>
</tbody>
</table>

$\chi^2 = 47,612$, Significance level: $p > .05$


Figure 4.6 and table 4.6 indicate that there was only a slight public pressure in favor of adopting proactive climate change policies in the domestic bargaining phase. A majority was convinced that increasing temperatures would pose a real danger to the environment, but fewer were willing to pay higher prices or taxes to mitigate the effects of climate
changes on the environment. I interpret this to have resulted in a relaxed public pressure in favor of proactive climate change policies.

A much stronger public demand and pressure on policy outcome came from the industry lobby. Representing powerful corporations that stood to be adversely affected by mitigation policies, these groups had substantial influence on policy outcome. In spite of a trend towards less coordinated lobbying efforts against climate change policy initiatives from the industry lobby, large energy corporations in the oil, gas and coal industries continued to have substantial clout working against any kind of commitments. However, the signing of the Kyoto Protocol convinced some major stakeholder groups that some kinds of policy action or regulations were going to be introduced at some point in the future. They wanted to be able to plan for sound investments in the present to be prepared, and they wanted to participate in shaping future policy choices. Therefore constructive participation became more important than earlier, when protest was the main activity.

Particularly for multinational corporations, proactive and constructive participation has become important regardless of whether the United States will ever ratify the Kyoto Protocol, since these corporations have to take into consideration what regulations and mitigation policies are implemented in other countries where they have plants and operations. There are generally three main reasons for this change in parts of American stakeholders’ attitudes. First, companies care about the climate change issue. More and more business leaders believe that there is reason for concern, and acknowledge the need to reduce emissions now. One example of this is CEO John Brown in BP Amoco. Second, companies want a seat at the table and want to be constructive. They have experience in facing challenges, and with mechanisms that can be used to face those challenges. They want to shape the process. Third, this is a long-term position to maximize the opportunities that are available for them. For these firms, it makes more sense to position themselves for future competition and new world markets. For instance Shell and BP are buying companies that are developing new renewable energy sources because they want to expand to become energy companies rather than oil companies.

Hence, after the signing of the Kyoto Protocol, increasingly more companies were affected by these new priorities, and the petroleum industry and the GCC were not as
strong a voice as before. However, not all signals point to a greener, more proactive attitude. For instance, a report from Public Campaign shows that the auto industry gave twice as much in campaign contributions to senators who voted against new fuel efficiency standards in 1999 as it gave to senators who voted for new standards.  

In this case, campaign contributions may have the effect of stalling improvements in fuel efficiency. Likewise, several newspaper commentators have pointed out that, according to the Center for Responsive Politics, $10 million out of $14 million in political contributions from oil and gas companies to the election in 2000 went to Republican candidates.  

Furthermore, in 2001 the Bush administration withdrew from the Kyoto Protocol, because they believed that the U.S. commitments to the protocol would result in negative consequences for the U.S. economy. No doubt this decision was colored by the strong influence of the powerful oil, coal, and gas lobby groups. This conclusion is strengthened by several other policy decisions by the Bush administration in its two first years in power. For example, the administration has presented a new energy policy where increased use of fossil fuels is central. It has also clearly refused to regulate CO₂ emissions through the “Clear Skies Initiative” policy program. These decisions support the conclusion that the influence of the energy industry lobby has increased in the policymaking process.  

Compared to the industry lobby, the U.S. ENGOs had little influence in the domestic bargaining phase, although their influence increased somewhat since the agenda-setting phase. For example, Environmental Defense (EDF) has been partially successful in the domestic bargaining phase in influencing policy choice both in the domestic arena and at the international level. EDF has several employees that are considered among the country’s best experts on some aspects of climate policy, and the organization has had success in creating partnerships with U.S. firms that are interested in gaining experience with emissions trading in advance of the establishment of an international market. In 2000, Entergy Corporation, one of the largest utilities in the

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311 Reported in The New York Times, April 19, 2000. Public Campaign is a non-profit, non-partisan organization dedicated to sweeping reform that aims to dramatically reduce the role of special interest money in America's elections and the influence of big contributors in American politics.  

United States joined the EDF “Partnership for Climate Action.” Other member companies are Alcan, BP, DuPont, Ontario Power Generation, Pechiney, Shell International and Suncor Energy. The companies have pledged to report their greenhouse gas emissions publicly and each has set a firm target for reducing emissions.313

Environmental Defense has also been a player in advocating flexibility mechanisms as a cost-effective alternative to emissions reductions at the international negotiations. For instance, when the United States government decided to withdraw from the Kyoto Protocol, the EDF claims to have been working behind the scenes with Japan, Russia, and the European Union to reach agreement at COP6 in Bonn on a framework for rules requiring industrial nations to cut emissions of greenhouse gases.314 This may have contributed to keeping the Kyoto Protocol alive, but it did not have an effect on the United States’ decision to withdraw from the Kyoto protocol cooperation. In general, the ENGO influence on government policy decisions remains limited, also in the domestic bargaining phase.

4.2.6.4 Summary
The point prediction of the DP model was that the United States would have a medium to low level of proactive climate change policy in this phase, a prediction that fits with the actual policy outcome.315 In the analysis I find that public concern about global warming was medium, combined with high ENGO activism with only limited impact, and a high degree of special interest lobbying resulting in actual influence on government policy positions. In other words, the actual climate policy outcome was at the same level that the DP model would predict.

4.2.7 Summary
The scores summarized in table 4.7 indicate degree of membership for all six cases in the fuzzy sets concerning whether DP assumptions about public demand and support were in fact important in the policymaking processes and for policy outcomes.

313 See the EDF website at: www.environmentaldefense.org, 29.01, 2002.
314 Stated on EDF’s website at: www.environmentaldefense.org/system/templates/page/successstories.cfm?focus=3, 29.01.02.
315 See chapter 3, table 3.1.
Table 4.7

<table>
<thead>
<tr>
<th>Cases</th>
<th>Policymaking process: score</th>
<th>Predicted outcome</th>
<th>Actual outcome&lt;sup&gt;30&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.67</td>
<td>.33</td>
<td>.83</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.83</td>
<td>.33</td>
<td>.50</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.67</td>
<td>.67</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.67</td>
<td>.33</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
<td>.33</td>
<td>.33</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
<td>.33</td>
<td>.33</td>
</tr>
</tbody>
</table>

We can see, first, that for the DP model assumptions about factors that matter in the policymaking process, all six cases are more in than out. This is interpreted here to give more support to the model than inclination to reject its assumptions. In all the cases, the distribution of power and influence among social interest groups had a significant impact, and contributed to focus the policymaking process around the economic consequences of abatement policies for economically vital sectors. Powerful interest groups, like the industry lobbies of the countries, became influential participants in the policymaking process, and had more impact than less powerful or less well-organized interest groups like ENGOs or the general public. In none of the cases do I find empirical support for the opposite, i.e. that ENGOs or public opinion had more clout in the policymaking process than economically important stakeholder groups.

Even for cases where predictions about economic consequences of mitigation policies were very different, this holds true. Consider, for example, Germany in the agenda-setting phase where the predictions were that no serious negative effects would result from the abatement policy suggested by the Enquete Commission. German industry associations were found here to have had a very influential part in shaping the specific policy proposals from the Enquete Commission, since large industries stood to lose economically from other types of regulations, like carbon taxes. On the other hand, in the
United States the prediction was that there would be adverse economic effects resulting from abatement policies in both phases. The U.S. industry lobby, and particularly energy-related stakeholder groups, was found to have had substantially more impact on the policymaking process than ENGOs, resulting in only symbolic domestic policy regulations that did lead to actual emissions reductions. I find stronger support for these DP assumptions in the United States in both phases than in the other four cases.

Second, I find that for two cases – the United States in both phases – the predicted outcome matches the actual outcome. For the other four cases, the actual outcome was a more proactive policy than predicted by the DP model. One element found to be separating the United States from the other four cases in terms of the effect of public demand and supply on outcome was that the predictions about economic effects of abatement policies were so much more focused on negative consequences both for important industries and for the general citizen. The push from the industry lobby was therefore stronger, more coordinated, and focused than in Norway and Germany, resulting in real impact on the outcome. Enforcing this clout was the policymakers’ dependency on campaign contributions from these very same groups.

Another element that separates the United States from the other two countries is the difference in what channels of influence are available. Because it has a pluralist type of political system, the channels of influence are not as formalized as in Norway and Germany. The findings here therefore indicate that in a pluralist system, lobbying efforts by economically powerful interest groups have even more impact than in organizational-corporatist political systems such as Norway or Germany. The scores in table 4.7 also indicate that at least for Germany and Norway there must be other factors than the ones discussed in this section that mattered more in terms of policy outcome. It is plausible to look for additional explanatory factors that are related to the differences in political systems mentioned above. I therefore now move on to examine whether governmental supply and system design matter more than public demand and support.

316 See chapter 3, table 3.1.
4.3 Governmental supply

The Domestic Politics model assumes that the distribution of power and influence among the institutions of the political system determines the development of the policymaking process and policy outcome. The political preferences of government declared in its political platform are important for policy outcome. Furthermore, the design of the political system shapes process and outcome in a particular way, so we would expect differences between, say, a parliamentary system and a federal system. The degree to which the DP model’s assumptions fit with the data in this study is discussed in two rounds, establishing measurements and assessing membership in two causal sets. Assessment of the degree of membership will be based on three factors: First, the constitutional division of powers between government branches, particularly the degree to which political system design allows one governmental branch - executive or legislative - to dominate the policymaking process; second, the degree of centralization of authority within the state bureaucracy, and cooperation or conflict about climate change issues between ministries/agencies in the administration (the institutional capacity and degree of involvement are considered important for the clout an agency has over policy formulation and implementation); and third, the possibility in the system for strong political leadership from the head of government. In addition to ideology and political platform, the degree of internal unity in the administration, the cooperative relationship with the political opposition, and the political authority of the head of government are considered decisive for ability to come to agreement among the many domestic political actors.

Applying these factors, I discuss the design of the political system, and how ideology and political platform of the government matters. First, I establish membership degree in a causal set defining in what way governmental supply mattered in the policymaking process in the six cases. Second, I discuss degree of membership in a causal set defining how governmental supply mattered for policy outcome.

In the “governmental supply matters in the policymaking process” causal set then, I measure the degree to which the distribution of power and influence among the institutions of the political system was decisive for the development of the process. To be fully in (a score of 1) would mean that political system traits were decisive for the
development of the policymaking process. The constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change are factors that must have played a decisive role. To be mostly but not fully in (a score of .83) would mean that the constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change were factors that were important but not decisive in the policymaking process. A case is more or less in (a score of .67) if the constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government combined with political preference in favor of addressing climate change were factors that had some influence on the policymaking process, but where other, issue-specific factors also mattered.

A case is neither in nor out (a score of .50) if, on balance, the empirical data show that the policymaking process was dominated partly by how the constitutional division of powers, the degree of centralization of authority and resource allocation within the state bureaucracy, and the possibility for strong political leadership from the head of government worked, and partly by relevant issue-specific elements.

To be more or less out (a score of .33), power and influence distribution among political system institutions mattered less on balance for the development of the policymaking process than issue-specific factors. In other words, the perspectives and interests of policymakers were not as clearly marked by role and position (“where you stand depends on where you sit”), neither in terms of the division of powers between the executive and the legislative, the degree of centralization of authority and resource allocation within the state bureaucracy, nor internal unity of administration/cabinet or ability to secure coalitions with the political opposition parties. Furthermore, political ideology and preference of the government was not in favor of addressing climate change. To be mostly but not fully out (a score of .17), this combination of traits must have been even less influential, causing the distribution of power and influence among
political system institutions to not matter much for the development of the policymaking process. Furthermore, political ideology and preference of the government was not in favor of addressing climate change. Climate change-specific issues must have been decisive. This is the realistic minimum of the set, since in democracies with multiple political institutions that are constituted to speak for a range of social interests, the distribution of power and influence always to some degree matter for how the policymaking process develops.

Second, I measure how the predicted effect of governmental supply matches with actual policy outcome for the six cases. The main prediction is that all institutions of the political system (executive, legislative, agencies, political parties, etc.) have perspectives and interests clearly marked by their roles and positions, and that the distribution of power and influence among the institutions is decisive for climate change policy outcome. To be fully in the “predicted effect of governmental supply” causal set (a score of 1), a case must have had either clear executive or legislative domination, combined with high centralization of authority within the state bureaucracy with clear dominance of sector-specific agencies/ministries with ample resources representing economically important societal interests in favor of proactiveness. Furthermore, it must also have shown a head of government with strong authority enforcing unity in the administration, and securing political majority in the legislature that made the administration/cabinet independent of pressure from the political opposition. This would open for a very high level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a proactive climate policy.

To be mostly but not fully in (a score of .83), a case must have had either clear executive or legislative domination, combined with high centralization of authority within the state bureaucracy and a weighty influence from sector-specific agencies/ministries with ample resources representing economically important societal interests in support of a proactive policy. Furthermore, it must have shown a head of government with some authority enforcing mostly unity in the administration, and securing stable cooperation/coalitions with the political opposition. This would open for a
high level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a proactive climate policy. A case is more or less in (a score of .67) if it had either executive or legislative domination most of the period, combined with high centralization of authority within the state bureaucracy with some influence from sector specific agencies/ministries with ample resources representing economically important societal interests more or less positive to a proactive policy. Furthermore, it must have shown a head of government with some authority struggling to enforce unity in the administration, and struggling to secure cooperation/coalitions with the political opposition. This would open for a medium to high level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a proactive climate policy.

The crossover point (a score of .50) is identified as when a case experience executive or legislative domination. Furthermore, when on balance the empirical data show that both issue specific elements and influence from sector specific agencies/ministries with ample resources representing economically important societal interests matter for outcome. This must have been combined with coalitions of political parties that were not supported by strong political leadership in any particular direction. This would open for a medium level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a medium proactive climate policy.

To be more or less out (a score of .33) of the set, is equal to non-consistent governmental supply of climate policy, and is characterized by legislative or executive domination, incidents of interministerial conflict on central issues caused by issue specific matters rather than the power and influence rank between them, and few possibilities to perform strong political leadership from the head of government. This would result in weak political authority of the head of government, and case-to-case cooperation between political parties, opening for a medium to low level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a medium to low level of proactive climate policy. A case is mostly but not fully out (a score of .17) when there is
legislative or executive domination, strong conflict within the state bureaucracy on central issues caused by issue specific matters rather than the power and influence rank between them, and inability to perform strong political leadership from the head of government. This would result in weak political authority of the head of government, and lack of stable coalitions between political parties. This would open for a low level of proactive climate change policy. In addition, to actually realize this potential, the political ideology and preferences of the cabinet must have been in favor of a low level of proactive climate policy. This also constitutes the realistic minimum of the fuzzy set, since a score of 0 would entail a degree of overt conflict between central governmental institutions and political actors that would lead to the resignation of the cabinet/administration in the democratic countries under study here.

4.3.1 Norway in the agenda-setting phase (1988 – 1993)

4.3.1.1 Policymaking process

Norway’s multi-party political system allows for minority cabinets when either a coalition of parties or the largest party in parliament that equals less than half of the seats still represent the best possible cabinet alternative. This happens when it is impossible for the parties that represent the majority to agree and decide on a joint policy program to rule by. A minority cabinet will depend on building support in parliament on a case-to-case basis with different parties to get enough votes for its policy proposals. The minority cabinet can risk being overruled by the parliamentary majority on a proposition, and thus be forced to implement policy it doesn’t support or have as a first choice, or choose to resign. A cabinet’s maneuvering to avoid stepping down in such situations can mean a weakening of authority both in parliament and in the public opinion. The executive-legislative balance in the Norwegian parliamentary system gives the parliament the right to overthrow the cabinet in the case of a no confidence situation. The cabinet, however, does not have the right to dissolve the parliament and call for new elections. This gives the parliamentary majority leverage over a minority cabinet.

In the period 1986-1993, Norway was ruled by minority cabinets. The Labor party was in office for 6.5 out of these 8 years. From the fall of 1989 to the spring of 1991, a coalition led by the Conservatives was in office. Being in a minority position, both of the
cabinets in power in the agenda-setting phase were forced to seek support for climate policy propositions from the parties that promoted a policy program that most resembled their own, and open for adjustments and admissions to the cooperation partners. The system design, allowing for minority cabinets, consequently defined the climate policymaking process since majority policy solutions had to be secured through constellations and alliances from case to case. Political platforms and preferences on climate change had to be adjusted so as to secure majority. For example, all political parties had been part of a rush to declare a high national emission reduction target in 1989. The Conservative cabinet secured a majority for its proposal to stabilize emissions at 1989 levels by 2000 with the votes of the Labor party, which had the most similar proposal. When the target was decided upon, the preferred policy instrument for all political parties was indirect regulation through the introduction of a carbon tax. However, disagreement surfaced when the Labor cabinet after taking office in 1991 wanted to impose the carbon tax also on the offshore petroleum sector. In the parliamentary vote that followed, the cabinet had to get support for its proposal from the center parties, and managed to do so.

Cabinets in the agenda-setting phase planned and proposed policy after what could be expected to pass through parliament. Having access and control over the state bureaucracy, the cabinet is able to control the political agenda and the shaping of policy alternatives to a larger degree than the opposition in the parliament. Still, the legislative had a dominating position over the cabinet in this phase when we look at system design.

The Norwegian state bureaucracy is centralized in structure, with much power and influence concentrated in the ministries. Consistent recommendations from bureaucratic expertise within the ministries have important bearing on policy. To achieve consistency about climate policy advice, the Labor cabinet made some proposals in 1989 for adjustments in the Norwegian ministries’ work-process. In light of the WCED Report, a White Paper on environment and development (No 46, 1988-89 – the plan for national follow up of the WCED) outlined how Norwegian ministries could change their policymaking process to incorporate the idea of cross-sector management of environmental policy.317 The context in which climate policy was framed was one where

national eagerness to achieve results dominated, and where the expressed political wish was that Norway should take a leading role internationally in this policy area. The cross-sector management perspective was further developed through the establishment and work of the interministerial working group. The group’s mandate was to develop a cost-effective policy program for emission reductions. Climate policy became the first and obvious policy area where the new cross-sector policy management was tried out. The result, in form of the group’s report, became one of the most important issue-framing policy assessments, giving a thorough evaluation of Norway’s potential and vulnerability towards climate policy. It was an important and influential document that laid down the pillars for climate policy throughout the 1990s. In other words, Norwegian ministries are centralized in power, and have a lot of influence over the course of the policymaking process.

The interministerial process was a new and unfamiliar way of working for the bureaucrats involved. Conflicts were unavoidable when widely different interests and cultures from ministries as distinct as the Ministry of the Environment and the Ministry of Petroleum and Energy were to agree on a joint approach. The Ministry of the Environment was accustomed to promoting traditional environmental conservation principles, while the ministries of petroleum and energy, trade, and finance traditionally promoted economical and sector-specific interests.

Differences in size and level of expertise about climate change are significant for explaining the conflicts in the first interministerial group. The Ministry of the Environment had the chairmanship, even though it is a weaker ministry than the others both in budget size and staff. It is also a much younger ministry, established only in 1972. The other sector ministries that have been strongest involved in the climate policymaking process are the Ministry of Foreign Affairs, the Ministry of Petroleum and Energy, the Ministry of Trade, and the Ministry of Finance. The Ministry of Foreign Affairs has been mostly involved in assessing the mandate of the Norwegian delegation at the international negotiations, and participating with expertise on international relations. The Ministry of Petroleum and Energy and the Ministry of Trade had sector specific interests to take care of that would be affected negatively by an extensive tax regime or other unilateral regulatory regime. For an oil-dependant economy like the Norwegian, where the
government is the main owner of the oil and gas resources in the North Sea, petroleum sector interests naturally were weighted heavily. The Ministry of Petroleum and Energy thus had substantial leverage in the interministerial group. The Ministry of Trade has had an important position since industrialization and modernization made Norway an export oriented economy after World War II. The link persists between competitive market opportunities for export-oriented industries and employment opportunities for people living in districts where these industries provide the majority of workplaces. It has oriented the work in the Ministry of Trade towards accommodating export-oriented industries. This gave the Ministry of Trade leverage in the interministerial group.

Factors like these made the work of the first interministerial climate group conflict prone throughout the whole 1.5-year period it was working. Sector interests came into conflict with environmental protection interests. Despite of disagreements, however, the group managed to write a report that became very influential in the government and in parliament. From a focus on environmental taxes and a domestic approach to reducing emissions, the group assessed also the cost-effectiveness benefits of market-based, flexibility-focused emissions reduction mechanisms.

When it comes to political leadership, Norway has a stronger party system than in, for instance, the United States, which also entails less personification of politics. Political parties declare a political platform that all politicians representing the party are supposed to follow and promote. The room for individual proposals and ideas is therefore limited. However, in the agenda-setting phase Brundtland was Norway’s prime minister. She had developed authority on environmental issues, and had a personal interest. Particularly in the preparations before the UNCED in Rio in 1992, Brundtland took an active role both within the Labor party and as the leader of the cabinet from 1991 for putting climate change high on the political agenda.

Labor did seek support in parliament from the Conservatives and the liberalist Progress party to secure the preferred direction of climate policy. The same alliance secured the majority under the Conservative cabinet. As we know, policy direction changed somewhat during the agenda-setting phase. This happened partly because of changes in political parties’ conception of the global warming problem. In wake of the WCED report, and the high attention level for environmental issues in the public, the
Labor party experienced that new thinking entered the party organization. On one side, the left-wing of the party wanted more comprehensive domestic action on climate change, whereas the majority wanted a more cautious strategy that incorporated many of the traditionally important issues for the Labor party; preserving employment opportunities, and securing competitive conditions for export oriented industries.

The concept of sustainable development that Brundtland and the WCED process brought into the party introduced a decoupling of the traditional conception of contradictory relations between economic growth and environmental conservation. As a result, new enthusiasm for issues like mitigating climate change and ozone depletion was injected into the party organization. Solutions that did not afflict the economy in a negative way now seemed possible, while at the same time both traditional voter groups and new, environmentally concerned voter’s interests could be attended to. Hence, traditional ideology and values was followed. Of course, the Labor party benefited from having first-hand access to the ministries’ know-how for the most part of the agenda-setting phase, when the concept of a cost-effective climate policy focused on flexibility solutions was developed in government and parliament. The party hence became a decisive issue-framing actor.

The Conservative party and the Progress party both supported the view of the majority within the Labor party, since it also best accommodated their core voter groups. The Conservatives have traditionally catered for business interests in Norwegian politics, and have built much of their support promoting an economic policy to secure sustained growth. In climate policy this meant concern for vulnerable industries, and a tax level that secured both room for economic growth and environmental benefits. Ideological concerns therefore shaped the Conservative Party’s handling of the climate change issue as well. The Conservatives, when they were out of office, did not have the same capacity as the Labor party to come up with policy alternatives during decisive parts of the policymaking process. However, the party has traditionally had good relations and access to information through important industry associations, like the NHO, that has contributed with assessment reports that have had an issue framing effect on climate policy, for instance in promoting a national tradable quota system. Furthermore,
independent research performed at universities and research institutes was ample and readily available for all parties.

The direction towards support for more multilateral, flexibility-oriented policy solutions that Norway’s position in the international negotiations developed in found even greater support within the Conservative party than in the Labor party. In the Labor party the left-wing faction has been more supportive of arguments resembling the centre parties, the Socialist Left party and the ENGOs – that is, that Norway should set an example by undertaking most of its reductions domestically. The Progress party, on the other hand, wanted as little as possible to be done to address global warming, as their core argument was that the uncertainty in science was too substantial to justify costly policy actions. Hence, they supported the alternative closest to their position. Together the three parties constituted the majority in the parliament in 1989-93 on a case-to-case basis. At the same time, the political influence that was secured for powerful interest groups through the organizational-corporate channel that is dominant in Norwegian politics was important for what policy solutions were chosen.

4.3.1.2 Score
The political system design gave the parliamentary majority leverage over the minority cabinets’ decisions in the agenda-setting phase. But the parliamentary majority was in agreement with the Labor cabinet’s increasing emphasis on flexibility and cost effectiveness, and thus gave the cabinet support. Prime Minister Brundtland had a high degree of political authority, which enforced the role of environmental issues on the policy agenda in the early 1990s. The cabinet had greater resources to draw from to produce policy proposals and creative solutions than the parliamentary opposition parties, and thus can be said to have had greater potential to influence the framing and alternatives for policy choice.

Environmental policy management was restructured to a cross-sector approach after the WCED report. Norwegian ministries were unaccustomed to this new form of tight cooperation. The interministerial climate group experienced conflict throughout their 1.5-year period of work, as ministries were promoting their traditional sector
interests into the new cooperation system. However, the group managed to produce a very influential report.

A relatively stable cooperation took place throughout the period between the three largest political parties; the Labor party, the Conservative party, and the Progress party. Constituting the parliamentary majority, these parties have been the main architects of Norway’s climate policy in the 1990s.

The analysis shows support for the DP assumptions. The constitutional division of powers was decisive for who had most influence in the development of the policymaking process. Furthermore, the centralized state bureaucracy was decisive, as were the conflicts between ministries resulting from distribution of power and influence for framing of the process. Strong personal leadership from the head of government was also found to have been decisive for the development of the process. The membership degree is defined to be fully in, and the score is set at 1.

4.3.1.3 Policy outcome

The DP model would point predict that Norway would have a high level of proactive climate change policy in the agenda-setting phase. The legislative branch dominated the executive in terms of majority in parliament over the minority cabinet, and this would have a strong effect on outcome. At the same time, the centralization of power within the state bureaucracy with resourceful and powerful sector ministries was important, particularly in combination with strong political leadership from the head of government both in terms of unity in the cabinet and stable cooperation with the political opposition. In addition, the political majority had a strong political preference for Norway to lead a proactive climate policy. The membership degree was predicted to be mostly but not fully in the “predicted effect of governmental supply” causal set (a score of .83), which opened for a high level of proactive climate change policy.

The prediction fits the actual policy outcome for Norway in the agenda-setting phase. Gro Harlem Brundtland had a dominant position within Norwegian environmental politics, and particularly important was her role as chair of the WCED. She brought home with her the ideas and policy solutions that the WCED had promoted, both in her role as prime minister and party leader. The Labor party climate policy also became Norway’s
climate policy, and very much followed the recommendations of the WCED as a result of Brundtland’s engagement. One clear result was that Norway wanted to be a frontrunner on climate change issues. Another result was that, to enhance its leadership role, Norway was the first country to introduce a carbon tax. Hence, personal leadership on a particular issue can generate visible results on Norwegian policy, when, as in Brundtland’s case, the political party she represented was used actively in the process.

Gradually, in 1990 and 1991, Norway’s position in the international negotiations changed from focusing on domestic emission reductions to the flexibility and cost-effectiveness of multilateral approaches. Domestically, however, the carbon tax remained the preferred policy instrument. At the time, an international carbon tax was envisaged as a viable alternative, but joint implementation came more seriously into the discussion from 1991. The Conservative cabinet worked with the flexibility and cost-effectiveness issues as a natural result of the development in the international negotiations, and in the interministerial working group giving advice on climate policy. The Labor cabinet continued to focus on these issues when they took office. The two parties voted in the same way in climate debates in the parliament, securing majority votes for each other’s minority cabinet. Hence, the political majority had a political preference in climate change issues that lead to this particular level of proactiveness.

The Ministries focused on environmental taxes as the preferred political instrument to address climate change. The policy advice they gave shaped the discussions in cabinet and in parliament. Even the Conservative cabinet proposed taxes on fossil fuels to avoid increased energy use, and to encourage the switch to more environmentally friendly energy, despite the party’s long-time platform of reducing the Norwegian tax level. The focus on taxes was a result of the familiar way of thinking about how to handle environmental issues within the bureaucracy. The Ministry of Finance has had a strong position as an important economic-theoretical institution, and a provider of the social conception about how the Norwegian economy should be organized into a welfare state after World War II. Whereas the Ministry of the Environment has been in favor of policy programs with direct regulations of emissions through laws, the Ministry of Finance has been promoting indirect regulations through adjustments of the tax system.\textsuperscript{318} This

\textsuperscript{318} Asdal, K (1998).
conflict reflects a game of power between the two ministries. Sector interests came into conflict with environmental protection interests. The Ministry of Finance traditionally had almost complete control over economic policy issues, whereas the newer Ministry of Environment was trying to position itself as a forceful player in the environmental policy area with another type of regulations – direct regulations – that would deprive the Ministry of Finance some of its power and influence. Factors like these contribute strongly to explain why there was such a strong and continuous focus on carbon taxes as the preferred policy instrument in Norway in the agenda-setting phase.

Furthermore, taxation as a policy instrument held a prominent place within the Labor party ideology, where redistribution of society’s income among the citizens in a welfare state has been the prime target of policy. When the climate change issue came up, therefore, the Labor party was pre-disposed to support use of taxes. In the parliament, Labor was able to secure a stable cooperation with the Conservative Party on how to address the problem – largely due to the strong leadership of the party leader, as discussed above. An early version of this cooperation established during the parliamentary discussion about the stabilization target in 1989, when the Labor party eventually ended up supporting the Conservative party proposal to stabilize emissions at 1989 levels by 2000. There was also agreement between the two parties – at that time the two largest political parties in Norway – about introduction of the carbon tax. The discussion went on in 1990-91, on the background report that the interministerial climate group (IMCG) provided, and on the background of research results from projects like SIMEN and KLØKT that showed the effect of climate policy on Norway’s economy. The two parties were the driving force behind the climate policy outcome in Norway in this period, and there political preferences and ideology on the issue were similar, securing a political majority in favor of a high level of proactivity.

A “climate opposition” in parliament developed in response to Labor-Conservative-Progress party cooperation, and consisted of the Liberal party, Socialist Left party, Centre party, and the Christian Democratic party. These parties generally believed that Norway had a responsibility to reduce national emissions domestically to a far greater extent than the majority opened for. The opposition also meant that the tempo
in oil-production should be reduced as part of climate policy, and that more effort should be put into research and development of new renewable energy sources.

4.3.1.4 **Summary**

The point prediction of the DP model was that the distribution of power and influence between the institutions of the political system in Norway in the agenda-setting phase would lead to a high level of proactive climate change policy. This fits with the actual policy outcome.\(^{319}\) In the analysis I point to legislative dominance over the executive, but also suggest that strong influence from the centralized state bureaucracy, where power and resource allocation was decisive, and strong political leadership and authority of the head of government secured a stable cooperation with the political parties in opposition which was decisive for policy outcome. Party preferences were similar, securing political majority in favor of a high level of proactivity.

4.3.2 **Norway in the domestic bargaining phase (1994-2001)**

4.3.2.1 **Policymaking process**

The Labor party was in office in the years 1993-1997, and in 2000-2001. It ruled by a minority cabinet and support from case to case by changing majorities in the parliament. In climate change issues Labor continued to get support from the Conservative party and the Progress party, given that these parties had similar preferences for how global warming should be handled. Since Labor was in office throughout most of the 1990s and managed to get support in parliament for its policy, the party became the main architect of a Norwegian climate policy concerned first and foremost with promoting cost effectiveness and flexibility in approaching emission reductions. This also framed the mandate Norway negotiated with at the international negotiations from Berlin to Kyoto to Marrakech. The three parties that formed the parliamentary majority agreed throughout the domestic bargaining phase that Norway’s prime objective was to negotiate an international treaty with flexibility mechanisms and multilateral cost-effectiveness, since this would be the best economic alternative for Norway.

\(^{319}\) See chapter 3, table 3.1.
In September 1997, the parliamentary elections resulted in a change of cabinet, where a new centre-based coalition consisting of the Christian Democratic party, the Liberal party, and the Centre party seized power. As with all governments in Norway since 1986, this too was a minority cabinet – only this time with no more than 42 of 165 seats in parliament, a record low. The centre cabinet therefore ruled more or less by the will of the opposition, and at the same time as a coalition facing the pitfalls of internal disagreements. Together with the Socialist Left party, the three centre parties had voiced strong criticism of the Labor party’s climate policy. As a result, they had generated support from the ENGOs. A visible change in policy was expected when the coalition took power, and especially the ENGOs had expectations about changes towards a climate policy more focused on domestic regulations. Many were disappointed to find the new Liberal environmental minister going to Kyoto to negotiate on the same mandate as the Labor cabinet had done since Berlin in 1995. The narrow space of maneuvering available for such a minority-based coalition cabinet was a decisive factor for the lack of immediate changes in policy.

The stable cooperation between the three largest parties constituted the base for the policymaking process up till 1997, and the legislative branch continued to dominance the executive branch as had also been the case in the agenda-setting phase. Similar political preferences and values in this particular issue were decisive for the development of the policymaking process. The dominance by the legislative was demonstrated clearly in the debate about the most contentious domestic climate change issue between 1994 and 2001, the question about building natural gas-fired power plants. The Labor party, also here with the support of the Conservatives and the Progress party, represented the majority that wanted to build the power plants. The parliamentary minority wanted more environmentally friendly approaches to managing the increasing need for electricity, for instance energy conservation and renewable energy sources like photovoltaic and wind. The cabinet proposed using Norway’s emission control act to impose relatively strict emission standards on the power plants. Labor and the Conservative party interpreted the proposal as a way of hindering the building of the plants by making the projects

320 Statistics Norway’s website: http://www.ssb.no/emner/00/01/10/stortingsvalg/valg97/addendum.shtml, 16.05.2002.
economically unsound, and hence made a counter proposal to change the law to allow building of the plants with conventional technology and without having to stay within strict emission standards.

The question about natural gas-fired power plants was an issue where the centre coalition had made their opposition to the previous Labor cabinet very clear, and hence prestige was involved for all parties. The vote hung on whether gas-fired power plants should be built with conventional technology or construction should wait for new technology that potentially can produce the same energy without CO₂ emissions. Furthermore, the question was whether the parliament should open for a change in Norway’s emission control act to accommodate conventional gas-power plants, so as to secure that they could be built without risking future economic punishments for high emission rates. Labor, the Conservatives, and the Progress party wanted to open for legal changes and allow conventional technology, while the parliamentary minority consisting of the centre-coalition and the Socialist Left party wanted the opposite alternatives. The parliamentary majority imposed their will with 81 against 71 votes, sending a clear message to the cabinet about not being able to avoid the majority decision to allow emission quotas that made it economically possible to build the plants. The defeat forced the centre cabinet to choose between the humiliation of giving in to the opposition, or resigning. The centre coalition resigned, and in March 2000 became the world’s first that stepped down because of a climate change related issue. This is another example of the domination of the legislative over the executive branch in the Norwegian climate policymaking process.

The distribution of power and influence between the ministries in the centralized state bureaucratic structure was important for development of the policymaking process also in the domestic bargaining phase. However, this was somewhat checked by a new, permanent interministerial group that was established in 1993 to work with coordinating policy on climate change and acid rain: the KLISUR group. Participants have been the Ministry of Foreign Affairs, the Ministry of the Environment, the Ministry of Petroleum and Energy, the Ministry of Finance, the Ministry of Agriculture, the Ministry of Transportation and Communication, and the Ministry of Trade. The group has been

working throughout the domestic bargaining phase, providing assessments and policy advice for the government’s climate policy strategy. After a fair amount of conflict in the agenda-setting phase, cross-sector work between the ministries has become less conflict prone in the domestic bargaining phase. It was established right from the start that a cost-effective approach should be at the base of climate policy. Ministries disagreed more about what policy instruments were right to achieve cost effectiveness. While the Ministry of Environment favored using the emission control act in direct regulation of emissions, the Ministry of Finance favored a tax regime where all sectors were taxed. In other words, the power-conflict between these two ministries continued to a certain extent, although not as dominant as in the earlier phase.

The Ministry of Trade favored voluntary/negotiated agreements with industries that risked adverse economic effects of emission reductions, and later joined the Ministry of Petroleum & Energy in favoring a tradable permit system. The international negotiations after COP1 focused more and more on how flexibility mechanisms would be the most cost effective way to reduce emissions, and this naturally had an effect on the interministerial group’s work also. Norway had introduced domestic measures early, and had already used the least costly ways to reduce emissions. Further domestic reductions were hence not perceived by the sector ministries involved to be a sensible way to go.

The Ministry of the Environment had the coordinating responsibility of the KLISUR group, and together with the Ministry of Foreign Affairs were the senior participants in the Norwegian delegation in the Kyoto Protocol negotiations. The Ministry of the Environment has had the delegation leader, a break with diplomatic protocol in international negotiations where normally the Ministry of Foreign Affairs has the leader. This indicates that the Ministry of the Environment had a stronger expertise on the climate change issue. Furthermore, Norway’s delegation leader, Mr. Dovland, gained a high degree of credibility in the international negotiations community. Personal leadership, credibility, and mutual trust were factors that mattered to bring the negotiation process forward. The Ministry of the Environment over the years has developed a strong position in the KLISUR group on decisive advice on the negotiation position, largely due to this expertise. However, this is effectively checked by the powerful sector ministries – the Ministries of Petroleum and Energy, and Finance, in particular – that have the final
say in matters that concern the national economy. The increased degree of cooperation and agreement between the ministries in the KLISUR group resulted in a joint advice on what would be the right policy choice for Norway in the Kyoto Protocol negotiations. This advice was to a large extent colored by the sector interests of the most powerful and influential ministries in the KLISUR group.

When it comes how political leadership shaped the development of the policymaking process in the domestic bargaining phase, it was markedly different from the agenda-setting phase. The political authority of the heads of government was not particularly strong on climate change issues in this phase, neither for Jagland, Bondevik or Stoltenberg. Neither of them seemed to be personally engaged in setting the issue high on the policy agenda. In the case of both Labor cabinets (Jagland and Stoltenberg), the political party platform they worked from on climate change issues had been shaped in the agenda-setting phase (focus on multilateral emissions reductions and flexibility mechanisms), and was essentially just continued and modified during the course of the Kyoto Protocol negotiations. One major domestic issue was the discussion about a national tradable quota system to replace carbon taxes. It followed logically from the position in the international negotiations that a national tradable quota system would be a more cost-effective solution for Norway, particularly since it could later be connected to an international emissions trading system. Despite some disagreement within the Labor party, the political party platform became a support for a national tradable quota system. In other words, there was neither enough unity within the party nor strong political leadership to use the party apparatus to promote a stronger domestic climate change policy in terms of emission cuts or commitments. Furthermore, this position gained support in the parliament, and hence laid the basis for a continuous dominant position for the Labor party in shaping Norwegian climate change policy.

In the case of the centre-coalition cabinet (Bondevik), the internal unity on climate change issues was strong in terms of agreement to work for more domestic regulations of GHG emissions. However, faced with a parliamentary majority that voted against proposals about removing the exemptions from carbon taxes for the export industries, and in favor of building gas-fired power plants that would increase CO₂ emissions, the coalition cabinet was not strong enough to gather support for its own
proposals. This tendency was enforced by the policy advice given by the KLISUR group, which supported the policy of the parliamentary majority.

4.3.2.2 Score
In the analysis I find continuous legislative dominance in the domestic bargaining phase, caused by the stable cooperation between the Labor party, the Conservative party, and the Progress party. In most contentious issues in the period, the Labor-Conservative-Progress party alliance won decisive votes. This cooperation was enforced and stabilized by relatively high agreement on policy advice from the ministries in the powerful and centralized state bureaucracy that corresponded to these parties’ positions. Referring to policy assessments and advice made it easier to achieve and continue a viable majority in parliament between old contesters like the Labor and Conservative parties. Ideology was not decisive for the handling of climate change issues. Rather, securing a political majority was, hence necessitating compromise. Furthermore, there was no strong personal leadership or authority by any of the prime ministers in the phase that particularly enforced unity in party organization, cabinet coalition, or parliamentary majority cooperation.

After a fair amount of conflict in the agenda-setting phase, cross-sector cooperation between ministries involved in the climate policymaking process became less conflict prone in the domestic bargaining phase. However, the distribution of power and influence between them colored the joint advice that they gave, in terms of a strong focus on strong sector specific interests like the petroleum sector. This seems to have been strongly contributing to the development of the policymaking process in the domestic bargaining phase.

Norway was mostly but not fully in (a score of .83) the “governmental supply matters in the policymaking process” causal set in this phase, since the specified causal factors were shown to be important for the development of the policymaking process.

4.3.2.3 Policy outcome
The point prediction of the DP model would be for Norway to have a medium level of proactive climate change policy in the agenda-setting phase. The legislative branch
dominated the executive in terms of majority in parliament over the three minority cabinets, and this would have a strong effect on outcome. Furthermore, the centralization of power within the state bureaucracy with resourceful and powerful sector ministries would be important for outcome, at the same time as their regular cooperation would enhance the effect of issue-specific knowledge on their advice and hence the outcome. Finally, the coalitions of political parties were stable, but not supported by strong political leadership in any particular direction. This would lead to a membership degree predicted to be neither in nor out of the “predicted effect of governmental supply” causal set (a score of .50), which would open for a medium level of proactive climate change policy. The political platform of the political majority would realize this potential for a medium proactiveness.

The prediction matches the actual policy outcome for Norway in the agenda-setting phase. The legislative dominated over the executive in case of all the three cabinets when it came to decisive votes in parliament. A number of issues caused disagreement between political parties in the middle of the 1990s. First, the tempo in oil and gas production in the North Sea generated controversy. All prognoses pointed to a rather steep increase in Norway’s GHG emissions, particularly CO₂, and this was mainly because of the increased rate of petroleum production. Political parties differed on whether the production tempo should be reduced to halt this development, or whether considerations of desired economic growth should weigh heavier. Second, as emissions trading became a prominent topic in the Kyoto Protocol negotiations, discussions came about in Norway on whether there should be a national quota trading system to replace the carbon tax. The dispute here was to what extent emissions reductions abroad would replace domestic reductions, and the moral duty Norway as a rich country has to take first steps to address global warming. Third, there were disagreements about whether or not to build natural gas fired power plants to secure domestic energy needs in the future, and to export the energy to other European countries as more environmentally friendly than coal or oil based energy.

In all of these contentious issues, the parliament split into two groups sharing main arguments. The majority continued to consist of the Labor party and the

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322 See chapter 3, table 3.1
Conservative party, with the Progress party as an unwilling supporter of the least ambitious proposals. Cost effectiveness, securing national economic growth and favorable competition conditions for the export-oriented industries, and taking care of Norway’s interests as a petroleum-exporting country were major issues for these parties in addition to environmental concerns. The minority consisted of the Christian Democratic party, the Liberal party, the Centre party, and the Socialist Left party. Here, the main arguments continued to be that Norway had a moral responsibility to carry out most of the emission reductions domestically. They pointed to the UNFCCC treaty that specifically mentions industrialized countries’ responsibility to take first steps, and that the Kyoto mechanisms were never meant to be more than supplementary. In many cases, the Socialist Left party has stood out as the most vocal opponent against the majority in parliament, for instance in opposing the tempo of petroleum production. The parliamentary minority has also pushed for a quick ratification of the Kyoto Protocol, without waiting for specified interpretations of the many paragraphs. The center parties and the Socialist Left party lost all major votes in parliament in the domestic bargaining phase. It is therefore clear that the political platform of the political majority in the 1990s was an important factor to decide that the level of proactiveness in Norway would be medium. There were no clear ideological differences between the Conservatives and Labor along traditional political differences that were decisive for outcome.

The room for big alterations was constrained by the parliamentary majority, a majority that was accustomed to working together in the climate policy process, and that had developed similar perspectives on basic policy elements. For instance, the centre cabinet proposed alterations to the carbon tax in spring 1998 that would affect sectors that had previously been exempted, like the process industries. The parliamentary majority voted against the cabinet proposal, and hence hindered the centre coalitions in implementing the policy that it preferred. The authority of the cabinet became weakened after the defeat, since they lost votes in parliament on several other issue areas also. The most serious defeat came when the building of the natural gas-fired power plants came up for decision in parliament in March 2000. This vote also ended in defeat for the cabinet, and as a result it resigned.
When it comes to decisive advice on developing domestic policy alternatives, the Ministry of the Environment cannot be pointed out as having played the major role. According to the ministry itself, Norway’s climate policy is not developed as a result of primary interest for the environment. It is more a result of economic and sector-specific interests. This indicates that sector-specific ministries were the decisive actors in the KLISUR group when it comes to domestic policy assessments. For instance, it is the view of the Ministry of Petroleum and Energy that the cost-effectiveness strategy has secured a climate policy that is environmentally effective but at the same time takes into consideration Norway’s need for a sound production sector that can secure the country’s economic welfare.

On the other hand, because of the long-term cooperation in the KLISUR group, the ministries have become accustomed to working with each other, and know where the other parties are coming from and where they stand on difficult issues. This has made interministerial cooperation better than it was in the agenda-setting phase, and given more importance to issue-specific factors in the cooperation. The disagreement in the domestic bargaining phase has been more about abatement measure choice than about the basic approach to solving the climate change problem. When the ministries have not been able to solve differences, they have sent the decision to the cabinet. Decisive and difficult issues, such as a tradable quota system and the natural gas-fired power plants debates, obviously had to be solved at the political level of government in the domestic bargaining phase.

The lack of political leadership to put the climate change issue high on the political agenda is interpreted here to be an important contributing factor to the outcome, especially in combination with the influential role of the joint advice of the KLISUR group. None of the three prime ministers in the domestic bargaining phase had the same personal interest or willingness to initiate activity in terms of a more proactive climate change policy as Gro Harlem Brundtland had in the agenda-setting phase.

4.3.2.4 Summary

The point prediction of the DP model was that the distribution of power and influence between the institutions of the political system in Norway in the domestic bargaining
phase would lead to a medium level of proactive climate change policy. This fits the actual policy outcome. In the above analysis I point to legislative dominance secured by cooperation between the Labor, Conservative, and Progress parties to lead a centrist policy, where ideology was less decisive than ensuring a political majority. Furthermore, I point to findings of a strong influence for the joint ministerial policy advice. This advice was a result of dominant sector ministries’ interest preferences, and combined with weak political authority of the heads of government it resulted in a medium level of proactiveness. In other words, the point prediction of the DP model fits the actual level of proactiveness for Norway in the domestic bargaining phase.

4.3.3 Germany in the agenda-setting phase (1988-1995)

4.3.3.1 Policymaking process

The formal decision-making system is rooted in the federal, parliamentary democratic state system that West Germany has had since World War II. The German parliamentary democracy is an executive-dominated system, where initiation and proposal of legislation and policy programs most often comes from the chancellor’s office or the ministries. In the agenda-setting phase Chancellor Helmut Kohl showed a personal interest and engagement in the climate change issue, and he took initiatives to put the issue high on the political agenda, employing the right to initiate legislation.

To further intensify the domination of the executive over the legislative, parliamentary work is dominated by the strong political parties. The party factions (Fraktionen) decide their standing on important votes before the issues go to the parliamentary committees, and therefore much is decided even before a proposal reaches a committee. Party discipline and partisan voting are high in the parliament. There is little room for representatives’ individual impact. Approximately 85 to 90 percent of all votes are straight party votes, with all delegates following the instructions of the Fraction leadership.

Once a government proposal reaches the Bundestag, the party fractions decide on approach and strategy of response to the proposal. Since the chancellor is elected by the

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323 See chapter 3, table 3.1.
325 Ibid., p. 185.
majority of the Bundestag there have been no cases of minority cabinets in Germany since the origin of the federal republic in 1949. The majority, most often one of the large parties (CDU/CDS or SPD) with the support of a junior coalition party (the FDP or the Green party) secure the support of cabinet policy proposals. An enduring feature during the agenda-setting phase was that the major political parties agreed that climate change was an issue that needed to be addressed, and that the precautionary principle should come into use to avoid irreversible environmental consequences from not acting now. This agreement across traditional party lines can be attributed explanatory power for the high placing of climate change on the political agenda. In combination with the Chancellor’s active engagement in favor of proactiveness, it was an important trait that shaped the policymaking process. Hence, ideology in terms of traditional party lines did not play as much a role in handling climate change. All parties were in favor on policy action to address the issue, and the conservative Chancellor was a pusher. The Greens were at odds with the political majority in terms of wanting to do more than the others.

One way for the parliamentary minority to express opinion goes through the work of the parliamentary committees. The committees can exert their right to substantially rewrite proposals from the government, without necessarily undermining the authority of the cabinet. Hence, the opposition can express disagreements, and bargaining can be exerted before the formal vote in the parliament. Going back to the Enquete Commission again, substantial discussions and bargaining took place between the political parties before agreement was reached on an emission reductions target. Strong and non-partisan leadership by the commission chairman (CDU) is mentioned by interviewees in this study as an explanatory factor for the high rate of success for the commission. Hence, the Bundestag supplies the government with a working majority, but through a strong committee system and the prevalence of coalition governments it has been able also to maintain some independence from the executive. Both the partisan composition and leadership of committees are proportional to party strength in the chamber, giving the opposition parties a share of committee chairmanships. Climate change matters are primarily handled by the Committee on the Environment, Nature Conservation, and Nuclear Safety while energy matters are handled by the Committee on Economic Affairs.

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326 Ibid., pp. 185 and 190.
and Technology. In these kinds of processes, the parliamentary committees initiate proposals and frame policy issues. The parliamentary Enquete Commission on Protection of the Earth’s Atmosphere, which was independent of the regular committee system, had significant influence in the agenda-setting phase of German climate change policy.

The chancellor has direct supervisory authority over cabinet ministers, and can rewrite proposals and shape ideas. But most often the ideas and first framing of a proposal is done in the issue-specific section of the ministry in charge. Section heads are the “princes of the policymaking process”, and have considerable influence.327 Because of a strong demand to show success, given the chancellor’s supervisory rights, the approach to policymaking is often concentrated to limited, short-run projects that contribute modifications to already existing policy but that will be judged as successful by superiors agreeing to the existing policy direction. Sections hence have a lot of power in formulating policy, and at the same time the consensus policymaking style in Germany has secured that interest groups have access to the ministries during the writing and framing of policy issues concerning them. The fragmentation of responsibility by issue-specific sections works against comprehensive policy planning and cross-sector approaches that may require interdepartmental and interministerial cooperation and reform initiatives.328 When the climate change issue came on the agenda in German politics, these problems were actualized. This was probably a contributing factor for Germany choosing to approach the climate change problem by introducing sector-specific measures regulated by laws and ordinances in the national climate protection program.

The government decided in 1990 to establish an interministerial working group, where several central ministries became involved in the climate policymaking process. The group was given the responsibility of working together to develop a climate policy strategy, and to report to the government every second year on progress and suggestions for new policy measures. With strong, sector-specific ministries involved in the policymaking process together with the Ministry of the Environment, the instructions from the chancellor were to ensure cooperation, flexibility and new initiatives to address

327 Ibid., p. 224.
328 Ibid., p. 224.
this new and difficult issue. The relative strength of the different agencies of government became a factor in the first rounds of discussions,\textsuperscript{329} where elements like the institutional capacity and degree of involvement was important for the degree of influence over policy formulation and implementation.

The Ministry of the Environment (BMU) had the chairmanship and a coordinating role in the interministerial working group. This gave the BMU the right to present initiatives in the group, and the power to define problems. But the BMU has had a weak role in comparison to the Ministries of Economy (BMWi), Transportation (BMVBW), and Buildings (BMBF). The BMU has a small budget, only 0.7% of the total, and a small staff (see table 4.8).

<table>
<thead>
<tr>
<th>Ministry</th>
<th>Total personnel costs (in 1000 DM)</th>
<th>Other administration expenditure (in 1000 DM)</th>
<th>Total expenditure (in 1000 DM)</th>
<th>Difference</th>
<th>Civil servants</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMF</td>
<td>3,281.967</td>
<td>1,196.936</td>
<td>5,814.374</td>
<td>5,899.911</td>
<td>+85.537</td>
</tr>
<tr>
<td>BMWi</td>
<td>581.609</td>
<td>283.722</td>
<td>5,436.837</td>
<td>14,145.230</td>
<td>-1,817.407</td>
</tr>
<tr>
<td>BML</td>
<td>438.303</td>
<td>152.811</td>
<td>14,271.075</td>
<td>13,326.419</td>
<td>609.376</td>
</tr>
<tr>
<td>BMV</td>
<td>2,097.970</td>
<td>2,434.256</td>
<td>43,871.946</td>
<td>53,808.262</td>
<td>+9,936.745</td>
</tr>
<tr>
<td>BMU</td>
<td>02.338</td>
<td>285.395</td>
<td>1,262.953</td>
<td>1,331.375</td>
<td>68.979</td>
</tr>
<tr>
<td>BMBau</td>
<td>115.284</td>
<td>136.560</td>
<td>7,988.932</td>
<td>10,537.608</td>
<td>+2,548.676</td>
</tr>
<tr>
<td>BMFT</td>
<td>90.796</td>
<td>36.125</td>
<td>9,610.982</td>
<td>9,468.132</td>
<td>-142.850</td>
</tr>
<tr>
<td>BMI</td>
<td>3,247.371</td>
<td>1,020.694</td>
<td>8,789.388</td>
<td>8,527.167</td>
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<tr>
<td>AA</td>
<td>1,134.801</td>
<td>261.304</td>
<td>3,632.539</td>
<td>3,803.824</td>
<td>+171.285</td>
</tr>
</tbody>
</table>

Source: Beuermann and Jäger, 1996, p.196

More people work on climate and energy related issues in the BMWi than in the BMU. In addition, there was a conflict of sector interests versus environmental conservation interests within the interministerial group. Particularly the first two reports to the government were difficult to reach an agreement on, as they introduced many new measures and proposals affecting sector interests within the ministries.\textsuperscript{330}

\textsuperscript{330} Ibid., p. 198.
4.3.3.2 Score

The German political system design allows for executive dominance over the legislative. Factors like majority-based cabinets and the chancellor’s personal initiatives enforce this dominance. Helmut Kohl was personally involved in climate change issues, and prioritized the issue on the cabinet agenda. In the most decisive issues in the period, the CDU/FDP coalition won all major parliamentary votes, but with support from the opposition. The general agreement on policy approach to address climate change was high between the political parties.

Cross-sector cooperation between ministries involved in the climate policymaking process was difficult because of the fragmented responsibility hierarchy in the German bureaucracy. The distribution of power and influence between the ministries was decisive for the policymaking process. The IMA group experienced a fair share of disputes between the interest of protecting the environment and sector-specific interests. The degree of membership in the “governmental supply matters in the policymaking process” causal set is fully in, and the score is set at 1.

4.3.3.3 Policy outcome

The DP model would point predict that Germany in the agenda-setting phase would have a high level of proactive climate change policy. The executive branch dominates the legislative as a result of the system traits, and this would be expected to have an effect on the outcome. Second, the federal bureaucracy has substantial influence in environmental policy issues, and the distribution of power and influence between the ministries is important for outcome. Finally, the chancellor had the interest and opportunity to personally put the issue on the agenda, and to secure political agreement in the parliament. In addition, the political majority had proactive climate policy as a political preference. This would lead to a membership degree in the “predicted effect of governmental supply” of mostly but not fully in (a score of .83), which would result in a high level of proactiveness.
The prediction matches the actual policy outcome for Germany in the agenda-setting phase. Helmut Kohl as chancellor had a personal interest in global warming issues. On several occasions he expressed concern about the gravity of the problem, and Germany’s intention to do its share to address it. For instance, it was Kohl who at UNCED announced that Germany would host the first COP in 1995. Furthermore, the CDU environmental minister Klaus Töpfer had a strong personal commitment and high integrity in climate change issues. On several occasions Töpfer stressed the importance of Germany as a leader in international climate policy and therefore the necessity to act nationally. Both Kohl and Töpfer had a personal commitment that worked to define the issue within the government’s political priorities.

In the agenda-setting phase, the CDU/CDS was in coalition with the FDP and secured a parliamentary majority for the Kohl government. Climate change policy was one area where all the political party fractions showed a high degree of support for government proposals, as in the case of support for the national climate protection program in 1991 and 1992. Hence, the similarity in political preferences for all major parties made a proactive climate change policy possible to initiate. Although there was general agreement on climate policy direction, there were some differences on strength and speed of implementation. In the agenda-setting phase, the SPD was more inclined than the CDU/FDP coalition to support introduction of a national carbon tax, even though the EU never could agree to such a tax at the EU level. A national carbon tax never became a reality because of the parliamentary majority against that proposal.

The coalition between CDU and FDP between 1982 and 1998 was a relatively harmonious collaboration. It was the CDU that took the lead on environmental issues, and had the Minister of the Environment throughout the agenda-setting phase: first Klaus Töpfer, and later Angela Merkel. FDP was not very active in climate change matters. On the important issue of what approach to choose, German political parties seem to have been primarily focused on a national reduction target and domestic policies. The list of policy measures that the interministerial working group presented was a choice of policy direction that followed directly from the focus of the political debate, namely domestic

331 See chapter 3, table 3.1
initiatives. Negotiated political influence through the organizational-corporative channel was important for the solutions that came into focus in the policymaking process. Traditionally powerful and well organized interest groups played an important part in achieving negotiated solutions to policy choice, i.e. the list of measures for each sector.

One remarkable feature of the climate policy in the agenda-setting phase was the high level of agreement across traditional political divisions. There was a high degree of support from the opposition for climate policy decisions by the Kohl government. The political agreement in the Enquete Commission made any other suggestions and alternatives less visible. Direct regulations were also a way for the political parties to cater to interest groups that they have traditionally supported. The SPD supported introduction of carbon taxes, in line with that party’s traditional focus on regulations through taxes. From the middle of the 1980s, the SPD was dominated by people (the so-called “Brandt-wing”) who emphasized ecological issues. They ensured that many of the positions of the SPD took environmental considerations into account, and they were relatively close to the Greens positions on many issues. Particularly the study by Greenpeace in collaboration with DIW on double dividends was used in the debate to support the economic and labor market gains that a carbon tax could result in.

The CDU on the other hand collaborated with the industry to find alternative solutions to taxes. Emphasis was put on Germany’s long-term gains from having been a preferred site for large industry corporations (Standort Deutschland), and the benefits for the German economy to keep it that way. This was a core issue in the CDU political platform, and derailed the carbon tax debate. CDU instead supported the voluntary agreement that the BDI proposed in March 1995. Both the government and the industry had to take a lot of criticism from the opposition and the ENGOs for allowing the rather weak commitments in the first version of the agreement: to reducing industry emissions by up to 20% from 1987 levels by 2005. The year after, therefore, 19 industry associations were involved in the renewed agreement with a tighter reduction target, agreeing to reduce emissions with 20% from 1990 levels by 2005. This was a policy that was agreed to by the political majority. Once again we see that the political preferences

of the political majority were important for allowing a high level of proactivity, and that the organizational-corporative channel of influence was important for choice of policy solution.

The agreement on the political scene about putting climate change high on the agenda was enforced by the strong role of the federal level of government in environmental issues. Although the federal states are generally relatively autonomous, in environmental policy there is a hierarchical relation between the federal states and the federal government, which makes the federal government largely responsible through the division of jurisdiction. The federal Basic Law (constitution), as well as the rule of ‘competing’ legislation and the right to issue framework legislation, makes federal jurisdiction rule over federal states jurisdiction in most parts of environmental policy. Although political institutions are decentralized and fragmented, German law is the same in all states of the federation. The implementation of both federal and state legislation is almost entirely a matter for the federal states with their two or three-tiered administrative structure. A high degree of centralization of formal authority at the federal level facilitates the implementation of climate policy. This has most likely encouraged an approach to policy implementation based on laws and ordinances, an approach which has been the main thrust of the national climate protection program. However, some effects can be seen of vertical fragmentation can be seen, for instance in Nordrhein Westfalen where the state-government continue to subsidize the coal industry while the federal government are reducing its coal subsidies.

The work within the IMA group in the agenda-setting phase was marked by conflict on some central issues, like allocation of emission-reduction measures between sectors of the economy, and unfamiliarity with the cross-sector approach in a bureaucracy used to working with sector-specific issues and with an inclination to choose measures that would protect those sector-specific interests. Hence, the distribution of resources and power between the ministries had a decisive effect on the outcome: securing a sector-by-sector approach to emissions reductions.

4.3.3.4 Summary

The point prediction of the DP model was that the distribution of power and influence between the institutions of the political system in Germany in the agenda-setting phase would lead to a high level of proactive climate change policy, and that the political preference of the political majority realized this potential. This prediction fits the actual policy outcome. In the above analysis I point to executive dominance over the legislative as a result of the constitutional division of powers, enforced by personal involvement by the chancellor. Further enforced by cooperation across traditional political divisions, the largely unanimous sentiment in the German parliament was in favor of a high level of proactive climate change policy. There was broad agreement between the two large parties (CDU/CSD and SPD), while the Greens wished to go further. The policy instruments chosen were a result of dominant sector ministries' interest preferences, and of the negotiated solutions reached as a result of the important role of the organizational-corporative channel of influence in German politics. The membership degree in the “predicted effect of governmental supply” was found to be mostly but not fully in (a score of .83), which resulted in a high level of proactiveness. This fitted the actual findings and outcome for Germany in the agenda-setting phase.

4.3.4 Germany in the domestic bargaining phase (1995-2001)

4.3.4.1 Policymaking process

The executive dominance over the legislative was continued in Germany in the domestic bargaining phase, since majority coalitions have been in power in the cabinets of the Federal Republic and won through with all major climate policy initiatives. The coalition between CDU and FDP continued to be harmonious, with CDU the most active partner on climate change issues, until it was replaced in 1998 by the SPD/Greens. The red-green coalition government has had internal differences of opinion when it comes to how to address global warming. There have been internal disagreements about which policy measures are most adequate: energy savings or clean energy investments. This was a disagreement that went between the Green Party allied with the left-wing of SPD against

337 See chapter 3, table 3.1.
the center-wing of SPD. It also boiled down to which interest/stakeholder groups out of its traditional voters the different wings and parties found it most important to support.

An energy-savings approach would reduce emissions while upholding the present energy supply system, based mostly on fossil-fuel produced energy. This would indicate support for traditional SPD voter groups within the trade unions of coal mining and automobile production. Investments in clean energies would gradually replace the existing energy supply system. That would indicate support for traditional Greens voter groups, and also the left-wing of the SPD, that have had renewable energy initiatives on their political agenda since the early 1980s.

There was also friction between the Greens and parts of the SPD that were criticized for being too closely connected with the coal and automobile lobbies. Chancellor Schröder has been criticized for having personal contacts in the car industry, and to have been influenced by them. However, the center-wing with chancellor Schröder controls the party, and hence has a decisive influence over the party platform. Schröder has not shown particular personal engagement in terms of setting the climate change issue on the political agenda, or to push in favor of a proactive policy. In comparison to Kohl, Schröder in his work as head of government has not been a strong leader on the issue.

Despite disagreements within the ruling SPD/Greens coalition, one of the most remarkable features of the climate policy in Germany has been the high level of agreement across traditional political divisions. This bipartisan support to a large degree continues today: the main framework of approach to reducing emissions remains the same as it was in the early 1990s. So even if the opposition parties – now the CDU and the FDP – have criticized the introduction of the ecological tax reform, they support the government’s main policy direction that they were part of building in the early 1990s. The similarity in political preferences that dominated the policymaking process in the agenda-setting phase has continued in the domestic bargaining phase, and has had a causal effect on the development of the process. The coalitions of SPD and the Greens against CDU and FDP have remained stable throughout the domestic bargaining phase, although the SPD/Greens coalition has experienced some internal disagreements on how to shape policy instruments.
The federal level of bureaucracy has, as we saw in the previous section, a central position in determining environmental policy. The ministries continued to share a joint responsibility to work together in the IMA-group to further develop the climate policy program continuously through the domestic bargaining phase. The mandate of the interministerial working group was redefined by the cabinet in September 1994, and was to report on a regular basis to the cabinet on the progress concerning implementation and refinement of the national climate protection program. The Ministry of the Environment had the chairmanship of the group. Since the sector-by-sector approach continued to be the dominant policy approach, it signalizes that the distribution of power, resources, and influence continued to be an important underlying factor shaping the policymaking process.

In its work with the fourth report due in 1997, the pressure on the IMA group was strong to find ways to develop additional measures since it became clear that there would be a gap of about 8% between the national reduction target and GHG reductions actually achieved. Even though the ministries had become used to working together and knew each others positions and sector interests, it was still difficult to grind out and distribute policy measures that would additionally affect important sectors of the economy. The distribution of power and influence between the ministries, based on budget size, staff, etc., did not change much from the case in the agenda-setting phase. Neither did the fragmented way that issues are treated in section of the ministries.

4.3.4.2 Score

There was executive domination over the legislative also in the domestic bargaining phase. System design allowed for the majority coalition cabinets to win all major parliamentary votes, and this was enforced by a general agreement on policy approach to address climate change that was high between the political parties. There were some disagreements within the SPD/Greens coalition.

The IMA group continued to have conflicts between the interest of protecting the environment and sector specific interests. The fragmented responsibility in the bureaucratic system in Germany with sections that specialize on particular issues result in
policy advice based on previous experiences. Ministry sections have a lot of influence in formulating policy.

In the above analysis I point to executive dominance as decisive for the development of the policymaking process. Furthermore, high degree of centralization of authority in the state bureaucracy on environmental issues combined with importance of the resource allocation and distribution of power between the ministries was found to be decisive. There was no strong political leadership from the head of government, but this was mitigated by the general political agreement to address climate change among all political parties in Germany in this phase. The degree of membership in the “governmental supply matters in the policymaking process” causal set is mostly but not fully in, and the score is set at .83.

4.3.4.3 Policy outcome

The DP model would predict that Germany in the domestic bargaining phase would have a high level of proactive climate change policy. The executive dominated over the legislative in this phase also, which would be expected to have an effect on the outcome. The federal bureaucracy continued to have a lot of influence in environmental policy issues, and the distribution of power and influence between the ministries was expected to be important for outcome. Finally, while Kohl had a strong personal engagement and Schröder did not, they both had authority within the administration, and managed to maintain the high degree of political agreement in the parliament to address this issue. Hence, the political platform of both CDU and SPD incorporated a high level of proactivity on climate change. This would imply a membership degree in the “predicted effect of governmental supply” of more or less in (a score of .67), which would lead to a medium to high level of proactiveness.

The point prediction matches the actual policy outcome for Germany in the domestic bargaining phase. The COP1 meeting in Berlin was an important event in the German climate policy process. For the chancellor and the government, it was particularly important since Kohl was personally involved in getting the meeting to Berlin. Chancellor Kohl’s interest in climate change issues encouraged him to take

338 See chapter 3, table 3.1
initiatives that pushed the policy process forward. For instance, his speech at the COP1 in Berlin is regarded as decisive as an incentive to the elaboration on domestic strategies. And he said several times that it was Germany’s goal to reach a real obligation for the industrialized countries in the negotiations about a Kyoto Protocol.339

The government wanted to have something to show for itself as a host at COP1, a visible sign of implementation and progress to reach the national reduction target. Therefore the voluntary agreement with the industry associations was forged so it could be ready before the conference. The voluntary agreement was a result of the debate over green taxes that had been intensified after the influential Greenpeace/DIW study in 1994 (see section 3.1.4). The CDU/FDP coalition did not want to provoke reluctance towards climate change policy from the industry, and therefore sought alternative solutions congruent with the tradition of negotiating political solutions through the organizational-corporatice channel. At the same time, public pressure was high on the government to do something to address the problem, and the media attention to the issue of green taxation and the possible gains in new employment opportunities and economic gains to society was high. The voluntary agreement was therefore not the preferred choice of policy measure for the parliamentary opposition. However, the ruling coalition brought it to parliament and won the vote. This is an example of how the German political system gives the executive branch dominance over the legislative.

Another major climate policy initiative in the domestic bargaining phase came under the SPD/Greens coalition in 1998, namely the introduction of a three-step ecological tax reform from 1999. The main idea of the reform reopened the discussion from 1994/95 about the potential benefits of green taxes, which had been derailed by the voluntary industry/government agreement. The SPD/Greens proposal would secure taxation of fossil fuel and electricity use to give the state income so that traditional labor-taxes could be reduced. Although the industry associations protested about the extra burden that the tax would impose on them in addition to the voluntary agreement, and CDU did not support new taxes, the parliamentary majority – now consisting of the SPD and the Greens – secured a majority for the government’s proposal.

A third initiative was when the government decided to assess the pros and cons of a national quota trading system in 2000-2001, paving the way for introducing a national system from 2005 or 2008 when the rest of the EU member states do the same. This decision came despite loud protests from the influential industry associations. There is no final decision yet as to when and by what allocation criteria a national tradable quota system should be implemented. The majority of the parliament has the same political platform as the cabinet, ensuring that they can work cooperatively together and be able to dominate policy direction. Traditional ideological differences between CDU and SPD did not matter much for the climate policy outcome. Both parties wanted a high proactivity level.

Despite the cooperation within the interministerial working group, power and influence distribution among the ministries was important for the policy outcome also in the domestic bargaining phase, although less than in the previous phase. The 1997 IMA report followed the same general direction that the CDU/FDP government had promoted throughout its period in power. The main bulk of emissions reductions were to come from sector-specific CO2 reductions. A slight strengthening of the voluntary agreement, together with increased use of industrial combined heat and power generation systems were the two main additional measure suggestions. A third measure, an amendment of the Thermal Insulation Ordinance and the Ordinance on Heating Systems addressed buildings and would also contribute to additional reductions. The sector that was least affected was the transport sector.

When the new ecological taxes were introduced in 1998, there were discussions in the ministries about the costs and benefits. The Ministry of Finance was heavily involved in shaping the new tax system so that it would work cost effectively, despite the fact that many got partial exemptions from the tax, like Deutshe Bahn and the agricultural sector. Once incorporated into the state’s financial circle, generating income for the federal state, the tax is difficult to remove or reduce. As we can see, sector-specific interests were protected, signaling that the interests represented by strong sector ministries were important for the outcome.

In October 2000, the SPD/Green coalition presented its new national climate protection program, based on the fifth report from the IMA. The program presented a range of new measures, but no radical change of the concept of addressing the problem via a list of sector-specific policy measures. The IMA group had discussed how the additional measures that were required could be broken down to individual sectors’ responsibility for CO₂ reductions by 2005: Private households and buildings (18-25 million tonnes), energy sector and industry (20-25 million tonnes), and transportation (15-20 million tonnes). The sector responsibility approach indicates that the ministries shared the responsibility of additional measures approximately evenly between them. So, despite the introduction of the eco-tax, the German national climate protection program still focuses on direct regulations through ordinances, laws, and incentive programs, rather than on economic instruments optimizing cost-effectiveness.

In October 2001, the EU Commission decided that an emissions trading system would address the issue of how to reduce CO₂ emissions in targeted industries from 2005. Germany has in 2000 and 2001 seriously assessed how to introduce a national emissions trading system. After hefty protests from industry associations, the most likely outcome is that Germany will seek exemptions from the EU-system until 2008, which the EU Commission does allow. The national climate protection program is preferred, and it therefore seems like the fragmented responsibility in the bureaucratic system in Germany promotes limited changes to already existing policy in form of limited policy programs. This means that despite a change in government, sections that specialize on particular issues will promote policy suggestions and advice based on previous work they have done. Ministry sections hence have a lot of influence in formulating policy. Comprehensive climate policy planning and cross-sector approach have not been realized in the domestic bargaining phase.

The platform on climate change took some time to develop for the new government, presumably because of the cross-cutting interests within the SPD/Greens coalition. The most boasted measures are listed in the revised national climate protection program that was presented in October 2000. These are the ecological tax reform, the Renewable Energy Act, the “100 000 roofs” program that gives incentives to PV
solutions, and the promotion of low-sulfur and non-sulfur fuels for development of low-emitting vehicles technology.341

The junior coalition partner, the Green Party, has had as one of its main policy issues for two decades the fight against nuclear power. Environmental minister Trittin has openly said that he will spend 60% of his time on working for a phase-out of nuclear energy. But of course, a total phase out of nuclear power in Germany would most probably mean that more power plants would be fired by fossil fuels, i.e. coal, oil, or gas, in the future, which will have a negative effect on the climate. In a coalition, concessions have to be made to the junior partner. That the Green party has been able to get many of its positions on nuclear power onto the cabinet agenda is an indication that there have been trade-offs between the coalition partners, and that the SPD has given the nuclear issue to the Greens in return for something else – perhaps the continuing support of subsidies to the hard coal industry.

4.3.4.4 Summary

The point prediction of the DP model was that the distribution of power and influence between the institutions of the political system in Germany in the domestic bargaining phase would lead to a medium to high level of proactive climate change policy. This matches with the actual policy outcome.342 In the above analysis I point to executive dominance over the legislative as a result of the constitutional division of powers as an important factor for outcome. Political cooperation across traditional political divisions was less marked than in the agenda-setting phase, and political leadership was much weaker in terms of putting climate change on the political agenda. This was reinforced by a less clearly developed policy preference by the political majority in favor of high proactiveness. The policy instruments chosen were a result of dominant sector ministries’ interest preferences, but also a result of more issue-specific considerations by sector ministries. The membership degree in the “predicted effect of governmental supply” was found to be more or less in (a score of .67), which resulted in a medium to high level of

341 BMU (2000).
342 See chapter 3, table 3.1.
proactiveness. This fits with the actual findings and outcome for Germany in the domestic bargaining phase.

4.3.5  The United States in the agenda-setting phase (1988 – 1996)

4.3.5.1  Policymaking process

The political system in the United States is characterized by checks and balances between the governmental branches. No single governmental branch can introduce major reforms or changes in policy direction without support of the other branch. The system is also characterized by a high degree of openness, transparency, and access, often more so than in European countries.

Under the U.S. Constitution, the Congress has the chief responsibility for legislating public policies and for appropriating the funds necessary to implement them. In fact, historically it has been the Congress rather than the White House that has led the way on environmental policies, usually with broad bipartisan agreement. Climate change was discussed regularly in various committees both in the Senate and in the House of Representatives in the agenda-setting phase. For instance, an internet search of the Federal News Service database of testimonies given in congressional hearings in 1996 shows that 18 testimonies that year concerned climate change.

Congress exercises its powers to enact or reject policy proposals. Therefore, it is decisive for the president to have a Congress that cooperates with him. It is easier to work with a Congress where one’s own party has the majority, although many presidents have managed to cooperate well with opposition-ruled Congresses. Both George H. W. Bush and Bill Clinton had to struggle against a majority in Congress from the opposition party, where there was marked policy distance on climate change between democrats and republicans. Environmental issues have traditionally been part of the liberal agenda, and gained support by more democrats than republicans in Congress. In 1987-1992, the Democrats had the majority in Congress, and continued to struggle with issues that had been stalling in Congress for years, like the renewal of the Clean Air Act. The Clean Air Act Amendment was finally agreed upon by George Bush and Congress in 1990 after 13

343 Kraft, M. (2000): p. 120.
years of gridlock. This is an example of the importance of ideology as a causal factor for governmental supply of policy in the United States: If Bush had not had the Clean Air Act Amendments as a political preference for his presidency the gridlock with Congress would have continued.

In 1993 and 1994, the Congress still had a Democratic majority, but Clinton has a mixed record of introducing climate policy in this period. The CCAP was mainly based on voluntary action, and it soon became clear that voluntary measures would not be sufficient to reduce emissions significantly. When the new Republican-majority Congress came back with an agenda to reduce the size of government regulation in 1995, environmental regulation came under attack. It became more difficult for Clinton to pursue an abatement strategy in climate change politics.

The U.S. courts are another element in the checks and balances system. Under environmental law, there are two possibilities for seeking assistance from the court in a case: either as a matter of compensating injury, or as a matter of preventing injury. Under public law, judges have become more and more not only responsible for interpreting the law, but also for ensuring that the public agencies uphold the law. This implies a new role for the judges over the last couple of decades. The liability clause has been used by environmental organizations to file lawsuits against federal agencies for not upholding the law as strictly as it was intended when adopted by Congress. In this way, the environmental organizations ensured that their interpretation of the law was the dominant one. In later years, the industrial sector has started to use the same tactics, attempting to have their interpretation of the law dominate. In many cases they have been successful.

The president can to a large degree influence policy formulation by devoting staff and government agencies to work with the climate change issue. The president appoints both political leadership and bureaucrats to work within the agencies of the government down to a much lower level of the bureaucratic hierarchy than in Germany and Norway. By doing substantial changes in manpower, the president has the control over what focus

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344 Using the FNS search engine, at www.fnsg.com, with the search string “climate change” and the dates 12/31/96-01/01/96.
the work of the agency should take under his administration, and it allows for a much stronger role for ideological differences between cabinets than in Germany and Norway. That so large a part of government is renewed when a new president appoints his administration allows new ideas and focus into the agencies. The flip-side is that it creates discontinuity and a slowness in the system as new competency has to be rebuilt rather often.

Another distinct feature about the U.S. government is that so many agencies participate in policy formation. Right from the early stages of the international climate change negotiations the United States had the full range of agencies participating, such as the State Department, the EPA, and the Treasury Department. At the White House, the CEQ (Council on Environmental Quality) is the environmental advisory office to the President. Along with the CEA (Council of Economic Advisors) and OSTP (Office of Science and Technology Policy), the CEQ played a very influential role in the formulation of climate policy in the agenda-setting phase.

During the George H. W. Bush administration there was initial opposition within the U.S. government from the EPA and the State Department to introducing the comprehensive approach and the flexibility mechanisms approach into the international negotiations. It was perceived as being too complicated and likely to obstruct the ability to reach an agreement. A simpler approach – reducing only CO₂ emissions – was preferred by those agencies. On the other hand, there was disagreement within the White House about whether global warming was a real problem. The policy decisions were dominated by influential advisors within the White House staff. These advisors – Sununu, Bromley, Boskin – were all emphasizing the potential costs of mitigation actions, and that the scientific evidence was too uncertain to justify high costs.³⁴⁸ This hampered the policymaking process. At length, the EPA and the State Department agreed that the comprehensive approach and the flexibility mechanisms were useful approaches, and a process of refining the ideas was started. The Justice Department oversaw an interagency task force on the comprehensive approach and emissions trading which had all major

agencies involved.\textsuperscript{349} This is one example of how the president, in this case Bush, could use his power to shape policy formulation by making key appointments to agencies and devote staff to work with an issue.

The Clinton administration focused on climate change by mobilizing expertise both inside and outside of the government, involving all major decision making levels of the agencies. Its major policy instrument in the agenda-setting phase was the Climate Change Action Plan introduced in October 1993, which aimed at stabilizing GHG emissions at 1990 levels by 2000. The program established partnerships between government and the private sector in several key areas. By focusing on a mutual responsibility of both the private sector and the government to improve environmental performance, and at the same time enhance economic growth and job creation, the Clinton administration wanted to include industry interests and thus influence the design of their climate policy. This effect most probably also went the other way, allowing the industries to shape the U.S. climate change policy to a certain degree.

The party system in the United States is considerably weaker than in countries like Germany and Norway, allowing party representatives to exercise a lot of personal judgement from case to case in the Congress. There is no strong political party-program that incorporates the political platform of every Republican or Democrat. Hence, local interests and pressure groups have the opportunity to influence the stance of individual politicians to a stronger degree than in countries with strong party systems. It also contributes to a short-term and narrow view of climate change policy issues rather than to the long-term and broad perspective advocated by environmental scientists and policy analysts. The political values and preferences of each politician become more decisive for the way climate change is handled in the policymaking process.

Congress is an assembly of politicians who represent politically disparate districts and states in being a national lawmaking body. Members of Congress are likely to be as concerned with local, regional and economic impacts of environmental and resource policies as with their ultimate benefits to the nation as a whole. The different circumstances and preferences of the states and districts that congressmen represent, and the considerations that politicians have to make to accommodate their constituencies, all

\textsuperscript{349} The "Task Force on the Comprehensive Approach to Climate Change."
play a major role. All politicians most likely have the next election, and their own chances of re-election, in mind when they make policy decisions.

The effect of the institutional characteristics of the Congress is that policy action on global warming is difficult. In reality the Congress in the 1990s has not been able to act because it has been deeply divided, and could find no way to reconcile diverse and conflicting interests and form a policy consensus.\(^{350}\) The constitutionally mandated separation of powers among policymaking institutions, with multiple opportunities to check and balance each other is one reason for this increasing degree of partisanship. It is designed to frustrate the whims of temporary majorities and make changes difficult. Another reason is that the more complex the issue, and the less consensus there is among scientists on causes and solutions, the more likely gridlock is to occur. Insufficient public pressure may have further contributed. The more the public agrees on basic policy directions, the easier it is for Congress to act.

4.3.5.2 Score

The George H. W. Bush administration cooperated with the democratic Congress to pass the Clean Air Act Amendments, an important piece of legislation to halt local air pollution. Clinton used his right to initiate to dominate the agenda. He introduced both a GHG stabilization target and the policy program CCAP, although the Congress did not support it through enough funding. After 1995, the legislative branch dominated the executive on climate change issues. The republican Congress reduced the size of government, and environmental policy programs came under attack. There was a stable majority in Congress against instigating more direct abatement policies in the agenda-setting phase. Clearly, ideology played an important role for the development of the policymaking process in the agenda-setting phase.

There was extensive interagency cooperation to shape climate policy, and some conflicts between agencies that represented different interests – particularly early in the period. Through presidential initiative and appointments of staff, the president steered the policy direction. Appointments of staff supportive of the president’s political platform a long way down in the bureaucratic hierarchy also eased cooperation between agencies.

The analysis shows that the legislative branch dominated the executive in terms of not appropriating funds to climate change policy initiatives. I also find that the executive dominated the legislative in terms of initiating policy, and dedicating staff and agencies’ work in the direction of prioritizing climate change issues. In other words, I find that the constitutional divisions of powers resulted in checks and balances between the legislative and the executive, and hence that the design of the political system had a strong influence on the development of the policymaking process. A slight weakening of that conclusion is that the possibility for leadership by the president wasn’t exploited very strongly by either Bush or Clinton. Furthermore, that the political preferences and values of the cabinet were decisive for how the climate change issue was handled. The membership degree is therefore mostly but not fully in, and the score is set at .83.

4.3.5.3  Policy outcome
The DP model would predict that the United States in the agenda-setting phase would have a medium to low level of proactive climate change policy. The executive and the legislative branches check and balance each other, which would be expected to make a high level of proactiveness difficult. The federal agencies are staffed with the administration’s choice of people, enhancing issue-based cooperation more than in political systems where the distribution of power and influence between the ministries are more important for outcome. Finally, during this period, President Bush did not have much personal engagement for the climate change issue, while Clinton and Gore had. The model would therefore expect us to see a higher degree of proactivity towards the end of the phase than in the beginning. This would lead to a membership degree in the “predicted effect of governmental supply” of more or less out (a score of .33), which would lead to a medium to low level of proactiveness.

The prediction matches the actual policy outcome for the United States in the agenda-setting phase. Climate change was a controversial issue in the United States throughout the agenda-setting phase, an issue that both former presidents Bush and Clinton had to deal with. The president of the United States has great potential influence on domestic climate policy. He has a major role in agenda setting, and is able to raise the

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351 See chapter 3, table 3.1
climate change issue to public attention through media events and speeches. Furthermore, the president’s political platform and ideology is important for governmental supply of policy, and more so than in Norway and Germany. For instance, George Bush addressed the issue in his election campaign in 1988, promising to be “the environmental president” and to “meet the greenhouse-effect with the White House-effect”. After taking office, he approached the global warming issue by focusing on the need for more research. He did not play an active role in setting climate change on the political agenda.

Bill Clinton was more active in addressing climate change issues, not least because of the influence of Vice President Al Gore, who had been working with environmental issues throughout his career as a public servant. Clinton focused on the potential of “win-win-policy” when he addressed climate change, thus moving away from the traditional rhetoric about environmental regulations as a constraint on economic development and increased welfare. However, despite Clinton and Gore’s personal interest in the climate change issue, the Clinton administration did not manage to implement a more proactive climate policy domestically. The Congress did not appropriate enough funds to implement the CCAP program fully.

The personal involvement of the president had more effect on the positions of the United States in the international negotiations. It is also likely that the liability clause affected the U.S. position in the international climate change negotiations. The country wanted to be cautious about taking on mandatory emission reductions that would prove difficult to achieve because the government could risk being sued by domestic interest groups. International treaties that are ratified automatically become domestic law, and policy to implement the law is under scrutiny by interest groups and citizens and may be enforced in the courts. In the Kyoto Protocol negotiations, for instance, the United States worried that other countries didn’t seem like they would be as bound by the treaty. A lot of the discussions between the negotiators from the United States and from Europe and Japan bore out this concern, where the latter parties emphasized that agreeing to a target was a way to start the process. European and Japanese negotiators were much less fearful that these targets would be immediately legally binding, coming from a different legal

and cultural tradition, and taking a different view on what the future would hold once they had signed the treaty than the U.S. negotiators did. The United States has often been perceived as legalistic and litigious, where everybody sues everybody. The government knows that, and worries that anything it agrees to internationally will be enforced in the courts. However, during Clinton’s presidency the United States became clearly more willing to accept “targets and timetables” for GHG emissions reductions. At COP 2 in Geneva the United States declared that it would accept a judicially binding target.

So, what are the factors that restrained a more proactive domestic climate change policy during the Clinton administration? First, the possibility of the government being held responsible for the policy it enacts by interest groups and citizens is likely to be a factor influencing the policy choices that are being made on climate change. The policies that have been implemented in the United States since 1993 are of a no-regrets character. The CCAP emphasized the opportunity that exists for low-cost and even profitable investments to reduce GHGs. The focus was on reducing market imperfections like transaction costs, information gaps and regulatory barriers, and thereby reducing emissions while saving money for consumers and firms.\(^{354}\) The weight that Clinton put on emphasizing the “win-win” aspect of his policy proposals, underscoring both environmental and economical benefits may be at least partly attributed to the tradition of lawsuits to affect the interpretation and implementation of policy.

The CCAP aimed to include a wide range of actors, and was thus developed as an interagency process that involved both the White House and key agencies, including the EPA and the Departments of Agriculture, Commerce, Energy, Interior, State, Transportation and Treasury.\(^{355}\) Thus, the president aimed to influence of policy formulation and implementation through steering of his administrative potentials. Clearly, political preferences in favor of a more proactive climate change policy were present in Clinton’s administration compared to the George H. W. Bush administration.

The government’s supply of domestic policy depends also on the internal unity of the government, and that explain parts of the difficulties with implementing a climate

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\(^{354}\) The White House, 1993, p. 3.

\(^{355}\) Ibid., p. 3.
policy in the United States. The former Bush administration experienced internal disagreement on climate policy design, and skepticism towards climate change was dominant. The Clinton administration experienced a much higher degree of agreement on policy design, and also benefited from the personal engagement of Vice President Al Gore. The way Clinton organized his office and utilized his executive powers also affected the internal unity. President Clinton delegated much of the responsibility for climate policy design to his vice president and executive offices.356

The higher degree of engagement by the Clinton administration for addressing the global warming issue was checked by the powers of the Congress. Several factors worked to aggravate the unwillingness to address the issue in the Congress in the agenda-setting phase. As long as there was no strong counter-force to doing nothing on climate change (i.e. public pressure to take action), the Congress majority was able to point to scientific uncertainty, and an insufficient information basis for decision-making to justify that it was best to wait before enacting policy action on emissions reductions. Also, the more interest groups disagree, and are well positioned to act on their beliefs, the greater the probability that congressmen will be reluctant to take decisive policy action. The willingness of the American people to bear the costs of climate policy programs was limited (see section 4.1.5), and, to a large degree, political institutions are guided by public preferences. Hence, weak public pressure and the power of organized interests were some of the difficulties political leaders in Congress faced in the prevailing political climate in trying to build majority coalitions.

4.3.5.4 Summary

The point prediction of the DP model was that the United States would lead a medium to low level of proactive climate change policy in the agenda-setting phase, as a result of checks and balances between the executive initiative and legislative right of appropriating funds to implement policy programs. This fits with the actual policy outcome.357 The membership degree in the “predicted effect of governmental supply” is found to be more or less out (a score of .33), which would lead to a medium to low level of proactiveness.

357 See chapter 3, table 3.1.
The analysis shows a presence of executive initiative, for the most part in the Clinton administration, where political preferences in favor of a proactive policy were stronger than in the Bush administration. This had a visible effect on the positions in the international negotiations, where the United States accepted a “targets and timetables” approach. Domestically, however, this willingness for proactive policy was effectively checked by the legislative branch. I also find both extensive interagency cooperation which was mostly harmonious, as well as stable, case-to-case party cooperation in Congress about doing as little as possible, given that there was a weak public pressure in favor of taking immediate action.

4.3.6 The United States in the domestic bargaining phase (1997-2001)

4.3.6.1 Policymaking process
The Democratic Party was in a minority position in Congress after the 1994 mid-term elections, while Bill Clinton continued in a second term as president after 1996. The coalition building and policy compromise that such a division necessitates if anything is to be accomplished was not possible to achieve. Congress’s willingness to work cooperatively with the White House seems to have been negatively affected as the partisanship and polarization between Democrats and Republicans became increasingly more severe throughout Clinton’s presidency. The result was a gridlock in the development of climate change policy, and environmental policy more generally, in the United States. The Congress was continuously negative to implementing policies that would directly impose GHG emissions reductions, particularly as long as there were predictions about high costs for the U.S. economy, combined with no major changes in terms of more secure knowledge in climate change science.

Clinton continued to take initiative to establish a more proactive climate change policy than the Congress would accept or appropriate funds for. This is exemplified by the Climate Change Technology Initiative (1998), but even more clearly so in terms of positions in the international negotiations. The signing of the Kyoto Protocol by the United States was uncertain right up to the last day of the meeting. The fact that Al Gore signed it, disregarding the advice from the Congress in the unanimous Byrd-Hagel
resolution from July 1997, clearly shows that the executive branch’s willingness to take initiative was checked by the legislative in the policymaking process.

After George W. Bush repudiated the Kyoto Protocol, there has been more evidence of partisanship in Congress. Democratic senators have suggested several bills to improve U.S. efforts to reduce its emissions, and have been met with resistance from a majority of Republican senators. Some Republicans have openly criticized the Bush administration for not taking the problem seriously enough, as for instance Senator John McCain. Senator Jeffrey Jeffords even decided to leave the Republican Party in 2001 because of the environmental agenda of the Bush administration, and by that causing the Senate majority to go over to the Democrats.

The liability clause affects the relationship to other countries that may not be as strongly bound by their court systems to achieve whatever obligations they agree to internationally. This may be one of the reasons why the United States has been reluctant to ratify the Kyoto Protocol, and also why Bush has rejected the treaty. The way the domestic legal system would operate within each country may thus influence a country’s willingness to make commitments to other countries. Countries that can credibly promise to be more bound by the treaty by their own domestic legal systems might be seen as more attractive partners by other countries.

Within the U.S. government three core agencies have been heavily involved in climate change policymaking since climate change became an issue: the Department of State, which has the lead on all foreign policy issues, the EPA, which has been a driving force on the emissions trading issue as a result of their domestic experience with the SO2-program, and the Department of Energy. Those three agencies were not only the most involved, but also had clear sector interests to represent, and also a history on the issue. Immediately prior to Kyoto and thereafter, there was more involvement from other agencies. Two in particular have been very important: the Treasury Department and the Council of Economic Advisors. Both have been very influential because of the credibility they bring when it comes to economic analysis and hence serving the need the Clinton administration had to be able to go to Capitol Hill and present credible cost estimates for the Kyoto Protocol.
Under the Clinton administration an inter-agency working group met every week. This was a general policy group, led by the State Department and with the participation of all agencies involved in climate change policymaking: EPA, DOE, USDA, Treasury, USDOT, NOAA, etc. The meetings in this group were a mix between a stocktaking exercise, just to keep people aware of what was going on in the international process, and a lot of reporting, where agencies report on their agenda. Because the policy-issues have become so complicated there usually were separate meetings on for instance a particular emissions trading issue, and a separate meeting on CDM baselines. The process also generally took place at different levels. For instance, people at the lower level of the bureaucratic hierarchy did technical work together, and developed position papers. When a decision could not be made among people at that level, because of either a dispute or uncertainty about which way to have a position, then it had to be kicked up to the political level - the assistant secretary’s level - where the bigger decisions can be made. Ultimately, like prior to Kyoto, there were high level meetings to decide policy direction. For the big decisions – like how much of a target the United States was going to accept – there were multiple meetings at all levels of the policymaking process.

The inter-agency climate change process was fairly balanced in that it seems to have been a consensual process. There was a fairly equal balance of power and no one agency was completely able to push or run a process. On the other hand, occasionally one agency was more influential because it had more resources to bring to bear: ability to do more analysis, having more people involved, meeting with more people outside the agency, and so on. Positions developed by the interagency group frequently could go one way or the other because of that. One agency can have one person working on the issue, while another agency can have lots of people working on it; they can usually back their position up with data and statistics. For instance, air pollution, clean air, and air quality information is provided by the EPA’s Office of Air and Radiation (OAR). OAR develops national programs, technical policies, and regulations for controlling air pollution and radiation exposure. OAR is concerned with pollution prevention, indoor and outdoor air quality, industrial air pollution, pollution from vehicles and engines, radon, acid rain, stratospheric ozone depletion and radiation protection.
Finally, the agencies work under different roles. For instance, the EPA is an environmental agency, and it is supposed to be more concerned about the environment. On the other hand, the State Department is more worried about the politics. The State Department is responsible for the negotiations, and is hence the agency that is going to be called to Capitol Hill if the United States does agree on an international treaty that the Senate has advised against. The State Department also has to be more neutral because it is supposed to represent the combined, common view of all the agencies. It cannot go against the wishes of the other agencies. In sum, the issue-specific relations seem to have dominated the policymaking process in the U.S. bureaucracy more than the distribution of power and influence between them.

4.3.6.2 Score

The legislative branch checked and balanced the initiatives of the executive branch in U.S. climate change policy in the domestic bargaining phase. Congress actively limited the Clinton administration in implementing policies that could be taken as a backdoor implementation of the Kyoto Protocol. In the case of climate change politics partisanship was countered by a general impression by Senators from both parties that they had been deprived of their right to advise and consent to the administration in the Kyoto negotiations. After Bush repudiated the protocol, the democratic majority in the Senate has proposed several bills to enhance efforts to reduce emissions. Clearly, ideology and political preferences played important roles to shape the direction of the policymaking process, also in the domestic bargaining phase.

There was a high level of interagency cooperation in this phase, due to the executive branch’s right to appoint positions in agencies and thereby affect schedule and direction of policy assessments and advice.

I find that the constitutional division of powers between the executive and the legislative branches was decisive for the development of the climate change policymaking process in the United States in the domestic bargaining phase. This was further enforced by the role of the agencies, which are controlled and appointed by the executive. The membership degree in the “governmental supply matters in the policymaking process” causal set is fully in, and the score is set at 1.
4.3.6.3 Policy outcome

The DP model would point predict that the United States in the domestic bargaining phase would have a medium to low level of proactive climate change policy, for much the same reasons as in the first phase. The executive and the legislative branches checked and balanced each other, having an effect on the outcome. The federal agencies were staffed with the administration’s choice of people, and finally, Clinton had a personal involvement in the climate change issue, and the right to initiate policies on it. This could however be stalled by Congress. This would lead to a membership degree in the “predicted effect of governmental supply” of more or less out (a score of .33), which would lead to a medium to low level of proactiveness.

The prediction matches the actual policy outcome for the United States in the domestic bargaining phase.\textsuperscript{358} Climate policy outcome has been affected by the constitutional separation of powers. The right to negotiate a climate change treaty is in the hands of the administration. However, the rights of the Congress are to give advice and consent to the administration during treaty negotiations, and ultimately approve any agreement. Under Clinton’s 2\textsuperscript{nd} administration, the Democratic Party was in minority position. Congress was very active but not very cooperative towards the administration in climate change issues. For instance, Congress issued several resolutions, even one about how the negotiations themselves should proceed. In a 95-0 vote, the senate in 1997 stated their indications that they would not ratify a climate change treaty that did not have a minimum representation of developing countries (the Byrd-Hagel resolution). The Senate also passed several resolutions and bills that severely limited the ability of agencies involved in climate policy to proceed with policy implementation. For instance, funding was cut, which resulted in agencies like EPA and DOE being unable to conduct analysis of policy options that have been considered under the Kyoto Protocol. This also points out that differences in political preferences and ideology between the republican majority in Congress and the democratic Clinton administration was important for policy outcome.

The United States was lacking a domestic implementation strategy on key issues such as emissions trading. In some areas neither the Clinton administration nor the

\textsuperscript{358} See chapter 3, table 3.1
Congress had a clear view of what policies should be implemented domestically. As a result, it was hard to develop a position on emissions trading in the international negotiations. The United States was very active in pushing for emissions trading, and did an active job in informing the international community. But at a certain level of detail, it became difficult to proceed, because the country did not want to restrict its ability to have maximum flexibility about how a trading system should be implemented domestically. That prevented the United States from wanting to make decisions at the international level that would avert it from making domestic implementation decisions one way or the other.

The president’s power rests to a certain extent on his ability to persuade the public that he is on the right course. With the American public divided about whether climate change is a problem that justifies economic sacrifice, President Clinton had difficulties with this persuasion. Also, his authority was strongly reduced after the impeachment process, which affected all policy areas. George W. Bush may also run into problems on this account, because of the massive critique he has met both at home and abroad – a critique he perhaps underestimated prior to his decision to withdraw the support of the United States of the Kyoto Protocol. For instance, a poll from ABC News showed that 61% of Americans thought the United States should join the treaty, while 26% thought it shouldn’t. In the Republican Party, 52% supported joining the treaty while 37% opposed it.\footnote{Sussman, D. (2001).} However, Bush presented a domestic approach to reducing emissions in February 2002, as an alternative to the Kyoto Protocol, and can thus gain support for taking action on the problem – although many have criticized the new climate policy program for being too weak.

Members of Congress are concerned about local, regional and economic impacts of environmental and resource policies, perhaps even more so than with their ultimate benefits to the nation as a whole. Clinton addressed this problem in his speech on Earth Day 2000, where he announced two new initiatives to prevent global warming, and used the opportunity to chide the Republican-led Congress for not passing more environmental legislation: “While the science on climate change has grown stronger, and the need for American leadership has grown greater, some in Congress have buried their heads even
deeper in the sand.” President Clinton and his vice president often spoke publicly of
global warming. However, Al Gore did not make climate change a campaign issue in
2000 because he stood to get hurt by it. If he pushed the Kyoto Protocol, he took the risk
of losing the labor vote.

In Congress, the Republicans may not benefit from pushing the issue since they
can get attacked for their environmental record in general. Also, corporate interests are
some of the most potent in the policy process, and they traditionally support the
Republican Party. Republican interviewees in Congress claimed that there is a fairly
strong bipartisan consensus on the climate change issue, and the Byrd Hagel resolution
was used as an example of this. However, it was claimed that there is more intense
skepticism on the part of conservative Republicans, who have less faith in international
forums and protocols of the sort that Kyoto represents.

Democrat interviewees, on the other hand, claim that global warming has become
a very partisan issue. These sources refer to the close contact between the GCC and other
stakeholder groups with the Republicans in Congress as a reason for the increased
partisanship. The example they use is that the key issue for the Senate concerning the
Kyoto Protocol was really developing-country participation. In other words, they argue
that climate change is a global problem and that the solution should be global. Some of
the Republicans have very deliberately, and with a lot of support from some of the
industry that is opposed to any action on climate change, interpreted the clause about
participation of developing countries in the Byrd-Hagel resolution in much greater detail
than the majority of senators from both parties who voted for it would have interpreted it.
Whether or not climate change has come down to a partisan issue seem to be dependant
on who you talk to. More important than party affiliation in many cases are the interests
and circumstances of the politicians’ constituency. Clearly, ideology and differences in
political platforms play a substantial role for explaining outcome in climate change policy
in the United States.

4.3.6.4 Summary

The point prediction of the DP model was that the United States would adopt a medium to low level of proactive climate change policy in the domestic bargaining phase. This fits with the actual policy outcome. The checks and balances between the executive initiative and legislative right of appropriating funds to implement policy programs were decisive for policy outcome. In the analysis I find that there was executive initiative, for the most part in terms of the positions in the international negotiations, where the United States signed the Kyoto Protocol. Domestically, the presidential initiatives were effectively checked by the legislative, and differences in political preferences between the two parties were decisive for outcome. I also find extensive interagency cooperation and stable agreement by politicians in congress about doing as little as possible. The membership degree in the “predicted effect of governmental supply” is found to be more or less out (a score of .33), which resulted in a medium to low level of proactiveness. In other words, the actual level of proactiveness was the same as the model would predict for the United States in the domestic bargaining phase.

4.3.7 Summary

The scores summarized in table 4.9 illustrate that the assumptions of the DP model concerning governmental supply find substantial support in the data material used in this study.

<table>
<thead>
<tr>
<th>Cases</th>
<th>Policymaking process: score</th>
<th>Predicted outcome</th>
<th>Actual outcome362</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>1</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.83</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>1</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.83</td>
<td>.67</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

361 See chapter 3, table 3.1.
362 See chapter 3, table 3.1.
The executive branch’s right to initiate policy was found to be an important factor, since it obviously is determined by the political ideology or political program by which the cabinet governs, as well as the degree to which the head of government had the authority and personal engagement to place the issue high on the political agenda. A head of government with personal interest in the issue and the ability to create enough political will and cooperation between the political parties in parliament/congress was found to have been decisive for the policy process and outcome in two of the cases under study here; In the case of Norway in the agenda-setting phase, the role of prime minister Gro Harlem Brundtland was pointed to as decisive; and in the case of Germany in the agenda-setting phase, the role of chancellor Helmut Kohl was crucial. In the United States in both phases, Bill Clinton showed personal interest in putting climate change high on the agenda, but he did not have the authority or the ability to create enough political support to do it. In the other two cases, the lack of personal interest and authority of the head of government was pointed out as important for the policymaking process and for the level of proactiveness.
Political ideology and preferences of the various political actors was found to matter substantially in the United States to explain the role of governmental supply on policy process and outcome. Room for developing individual policy platforms as a result of less strict party programs result in clearer ideological differences and different political preferences between politicians, so also regarding climate policy issues. In Norway and Germany, on the other hand, the similarity of preferences for climate policy between major political parties was found to be a result of the need to gather political majority near the center of the political spectrum, and thus to compromise on ideological differences and differing political preferences to achieve this majority.

The degree of centralization of authority in the state bureaucracy, and the distribution of influence and power among the agencies/ministries were found to be important, particularly in Germany and Norway. Both of these countries have a highly centralized authority in their bureaucracies, where the ministries have a lot of influence over policy development. Power and interest conflicts between the ministries were pointed out as influential for the direction the policymaking process took in both phases, and also as influential for choice of policy instruments, and hence policy outcome. In the United States, the president has the right to appoint people to work on his policy program in the agencies to a much higher degree, and can therefore control the focus of the agencies’ work. This dampens the power-conflict between the agencies in the United States compared to Norway and Germany.

Comparing the predicted versus the actual outcomes for the six cases, we see that there is a perfect match. This indicates that the DP model assumptions about how governmental supply influences policy outcome can explain the cases’ level of proactiveness fairly well.

When looking at the relationship between public demand and governmental supply, taking all the assumptions in section 4.1 and 4.2 into account, I find that the DP model explains very much of both the policymaking process and policy outcome. There is of course a close relationship between public demand and governmental supply in democratic countries like the three under study here. I find, however, that public demand seems to have a stronger effect in the United States than in Germany and Norway. Well organized and economically powerful interest groups seem to have more clout in the
policymaking process and for policy outcome in the United States than in Norway and Germany. In all three countries, however, the distribution of power and influence between the institutions of the political system was found to have been more decisive. The way the governing system with its many institutions handled the climate change issue was found to be key to understanding and explaining both process and outcome. My interpretation in the case of the United States is therefore that it is the design of the system itself that opens for more influence from public opinion on the policy process and outcome. Specifically, I focused on the independent position each politician in Congress has in terms of shaping their own political platform not bound so closely by party politics as in Norway and Germany. This gives public demand, particularly from strong and resourceful interest groups, clout in the U.S. governing system. Furthermore, it leads to a clearer role for ideological differences between politicians as decisive for policy outcome. In Norway and Germany, centrist policy is necessary to achieve political majority, and compromises on own policy program are therefore more common.

In sum I find that the DP model has substantial explanatory power both for which factors were important in the policymaking process in all three countries, and for which factors were decisive for the level of proactive climate change policy they eventually decided on.
5 THE SOCIAL LEARNING AND IDEAS MODEL

5.1 Introduction

The objective of the analysis in this chapter is to use the Social Learning and Ideas model to explain the differences in the development of both phases of policymaking for each case. Translating empirical evidence into membership scores in causal sets for all six cases is the method by which this is done. Having discussed the assumptions of the URA and DP models in relation to the empirical material for both policymaking process and policy outcome (level of proactiveness) in the previous two chapters, in the present chapter I will assess the benefit added by applying the SLI model’s assumptions to explain climate policymaking in the three countries.

The nature of the SLI explanatory model, more specifically its focus on the underlying processes and elements of learning and ideas, makes it difficult in a fruitful way to deduct predictions about level of proactiveness in climate policy. Ideas and learning processes first and foremost shape the conception of the problem at hand, and contribute to explaining elements of the policymaking process. Furthermore the model can be useful to explain differences in policy choice in terms of why countries prefer certain policy instruments and measures over others. In other words, the model can contribute substantially to a better understanding and explanation of the policymaking process and certain aspects of policy outcome, like choice of policy instrument. It is, however, less beneficial to apply the model’s assumptions directly to a country’s choice of proactiveness in climate policy, which is the dependent variable in this study. However, in making an effort to understand broadly the sources of influence in climate change policymaking, the analysis of the policymaking process in this chapter will incorporate the aspect of policy outcome that the SLI model can explain.

In the “ideas” set, the assumption is that decisions are made on multiple grounds. Part of it is interest-based, and other parts of it are based on preset conceptions about the world, like culture, norms, and ideas. Ideas are defined as normative beliefs about right and wrong behavior, indicating that decisions are partly based on interpretation of the situation and preferences surrounding the decision. Information used in decision making is filtered through a social and cultural process. Interpretation is, therefore, in addition to
interests and structures in part dependant on the perception of reality that the decision maker holds. Hence, what actors conceive of as the best policy approach is determined by normative factors. For instance, it means that we are guided in our behavior by preset conceptions about what are the best solutions to a problem. The degree to which normative factors and cultural traits have an influence on policy making may vary from one country to another.

Two ways that ideas can affect decision making and behavior are considered here. First, ideas may serve as road maps. Out of the universe of possible actions decision makers select those which fit best with their normative and analytic understandings. Thus, cultural and normative differences between Norway, Germany, and the United States can account for different policy choices. Second, widely shared ideas may facilitate cooperation in the absence of total agreement, serving as focal points which help define acceptable solutions to collective action problems. Thus, a country able to shape the ideas that become dominant in international negotiations is getting more of its own interests and preferences fulfilled. Once ideas have become embodied in institutional frameworks, they constrain public policy as long as they are not effectively undermined by new scientific discoveries or normative change. I focus on how the countries tried to control the agenda, create possible pathways for the negotiation development, and introduce ideas for solutions and agreements.

In the “learning” set, the assumption is that new information affects prior understandings of the issue, and that the way new information is received and interpreted is also affected by prior knowledge. Learning is “a change in beliefs, or the development of new beliefs, skills, or procedures as a result of the observation and interpretation of experience.” New understandings of the society and political issues and circumstances may prompt decision makers either to alter their strategies to achieve basically unchanged goals, or to redefine the very content of the national interest, which involves selecting new goals and searching for appropriate strategies. The focus is on how the governments have perceived of and described the climate change issue, and whether policy description and the conception about policy options has changed during the course of the

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negotiations as a result of new knowledge about the climate change problem or about other actors in the negotiations. To be able to assess if learning has taken place, I have to ask questions about the parameters of both new info and prior beliefs that affect the likelihood of governmental learning. Moreover, one should not forget that not only prior beliefs but also structures of power can have bearing upon actors’ receptivity to new information.

Scientific consensus may lead to shared conceptions among policymakers, but not always. First, in the sense that consensus in science with relevance for policy is very difficult, and second in the sense that even if scientific communities manage to come to some sort of agreement, this will not necessarily lead to consensus along the political dimensions of the issue in question.\textsuperscript{365} In other words, the relationship between science and politics is not clear-cut. Policy advice is most often tainted with the ideological and/or political values and ideas of the advisor, and sometimes also by the receptor since he picks the kind of advice he want to listen to. Decision-makers may enter policy-processes with imperfect information and a will to learn. Accordingly, they engage in an active search for information and ideas, as well as in persuasion of other actors. Social learning will lead to diffusion of policy measures and ideas between countries. What we are looking for is special efforts of knowledge building that have had an impact on the development of the policymaking process and for policy choice.

\section{Ideas}

I assess degree of membership in this causal set in the following way. First, I discuss to what extent positions and policy approach of the country can be said to be guided by cultural and normative understandings of that country, hence indicating whether ideas have worked as road maps in the policymaking process under the uncertainty circumstances that the climate change issue incorporates. Is policy approach for instance a result of prior experiences with handling environmental issues, or a result of habitual treatment in the bureaucratic tradition of the country? Second, I define the country as an idea exporter or importer, i.e. if the country has a greater extent of creative contributions to the negotiations than being a receptor of new ideas. This will indicate the degree to
which the country managed to provide ideas as focal points in the international negotiations.

To be fully in (a score of 1) this causal set a case must have a high degree of policy positions that clearly mirror cultural and normative understandings of that country. In other words, there must be clear indications of the existence of ideas as road maps having been decisive in the policymaking process. Furthermore, the country must be clearly defined as an ideas exporter, i.e. there must be clear indications that the country have tried to introduce focal points into the negotiations to control the agenda. To be mostly but not fully in (a score of .83) requires a lower degree of policy positions that clearly mirror cultural and normative understandings of that country. It is also required that the country can be clearly defined as an ideas exporter. A case is defined as more or less in (a score of .67) when only a low degree of policy positions mirror cultural and normative understandings of that country. Furthermore, the country can only weakly be defined as an ideas exporter.

The crossover point (a score of .50) is defined as when on balance the empirical data show that membership degree is neither in nor out, and that policy positions reflecting cultural and normative understandings are equally present and missing, i.e. policy positions also mirror imported cultural and normative understandings. This is reflected in no clear culturally based ideas as road maps. This combined with equal incentives to make a definition of the case as either an ideas exporter or importer.

A case is defined as more or less out (a score of .33) when some of its policy positions mirror other countries’ cultural and normative understandings. In other words, when there are indications of the existence of imported ideas as road maps having been decisive in the policymaking process. Furthermore, the country can be clearly defined as an ideas importer i.e. there must be clear indications that the country have failed to introduce focal points into the negotiations to steer the agenda. A case is defined as mostly but not fully out (a score of .17) of the set when a high degree of policy positions mirror imported cultural and normative understandings, combined with a clear definition as an ideas importer. This is also the realistic minimum of the set, since a definition of

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fully out (a score of 0) would require a degree of passivity that is not found for the three countries under study here.

**5.2.1 Norway in the agenda-setting phase (1988 – 1993)**

**5.2.1.1 Policymaking process**

Norway’s social democratic welfare system and the social democratic ideology became an increasing part of Norwegian political culture from the 1930s and up to the 1990s. The Labor party was in power for large periods of that time span. The social democratic ideology incorporates solidarity with and aid to the developing world as central, and those issues became an integrated part of Norwegian foreign policy. Norway has, because of its role as one of the world’s most aid-giving countries per inhabitant, come to envision itself as a bridge-builder between the North and the South. In the climate change negotiations, therefore, the country was a natural part of the majority of countries that envisioned the only way to handle the climate change issue for industrialized countries was to take the first steps towards emission reductions. The core of the argumentation was (and is) that the industrialized countries have the historic responsibility for emissions that have induced the threat of climate change on the earth, and therefore should be responsible for taking the first steps towards reduction and structural changes. Also, the argument was that these countries have economies that are better equipped to handle such structural changes.

The idea about “common but differentiated responsibilities” soon became one of the basic elements of the negotiations preceding UNCED in 1992, and was written into the text of the UNFCCC. It was one of the elements that kept the developing countries into the climate negotiations, and prevented the cooperation climate from becoming a North/South standoff to the degree that other global negotiations have become, for instance the negotiations on a New Economic World Order in the 1970s. Norway was supporting the idea about common but differentiated responsibilities right from the start of the climate negotiations. In fact, governmental climate policy assessments and position papers make a specific point of underlining the historic responsibility that industrialized countries have for taking the first steps to address the problem.\(^{366}\) In this respect, Norway

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\(^{366}\) See for instance Miljøverndepartementet (1993).
used its familiar conception of itself as a bridge builder between the North and the South as a road map, so as to secure continued support for international cooperation on climate change from the developing countries.

The choice of a tax as the preferred domestic policy measure was partly culturally conditioned. Government regulations and huge tax programs to redistribute income according to a social democratic welfare model have been central in Norwegian policy since World War 2. Norwegians are accustomed to paying high taxes, and have supported this policy approach. The carbon tax was therefore considered as both an economically sound and politically possible policy instrument. From a Norwegian perspective, therefore, a tax-approach was a natural choice since it folds in with a type of policy measure that has had a large part in Norwegian policy approach during the whole post-war period. As such, taxes fit well as a road map, and fit with the normative and analytic understanding of what Norway would perceive as a favorable policy solution. An international carbon tax, on the other hand, was an idea that did not find a broad positive response in the majority of other industrialized countries. In the EU, it was impossible to come to an agreement among the member countries about a joint EU carbon tax. In the United States, a tax was not even considered as a serious alternative since the political support for increasing taxes are generally very low.

In 1990-1991, Norway’s policy changed towards increasing focus on multilateral solutions to enhance cost effectiveness, as described in previous parts of this dissertation (chapters 3 and 4). This also meant that new policy solutions were formed. More specifically, the thorough work that was made within the ministries, in the stakeholder organizations and in the political parties made it clear that Norway was in a special situation. Economic and structural circumstances would make it necessary for the country to focus on multilateral, flexible, and cross-sector approaches to emission reductions rather than solely domestic action. Multilateral solutions to international environmental problems were not a stranger to Norway. The country had been an active participant in a range of international negotiations concerning environmental problems, like ozone depletion and acid rain. The idea that an international treaty could regulate the policy options was therefore one that was conceived of as favorable in Norway, contrary to other countries – like the United States – where international solutions are often seen as
interfering with the domestic policymaking process. For Norway, then, the conception about multilateral policy solutions to reducing GHG emissions were something that passed favorably through the filter of culture and norms, i.e. the preset conceptions about what solutions were available.

The elements of the multilateral approach - joint implementation and a comprehensive approach - were centered on a philosophy that promoted cost-effectiveness as a guide for successful policy. This idea fits the idea about new public management that has reformed most of the OECD countries’ public policy over the past 20 or so years. New public management as a concept is imported from Anglo-American countries, and is as such not an idea that can be traced to Norwegian cultural and normative understandings. The concept is market oriented, and focuses on solutions like outsourcing of welfare goods, privatization, and more efficiency to save money and improve the functioning of the welfare state. Norway’s positions and promotion of proposals in the international negotiations were seemingly directly related to normatively preset conceptions about the economic efficiency benefits that multilateral approaches could provide.

Furthermore, the work that was done in the WCED was very important for the issue framing in Norway. The involvement in the WCED process by the Prime Minister and her closest advisors channeled new ideas into the Norwegian political system. It gave Norwegian policymakers a basis of understanding, where the link between economic growth and the environment was important, that they brought with them in work both nationally – like in the IMCG – and internationally in the UNFCCC negotiations.

5.2.1.2 Ideas exporter

Norway was an ideas exporter in the agenda-setting phase. At the outset of the negotiations, Norway worked for an international carbon tax that should be internationally harmonized to maximize cost effectiveness. In fact, the preferred policy measure at the time for Norway was an internationally harmonized carbon tax. However, it soon became clear that this position would not gather support from pivotal actors like the EU and the United States.
Having decided on a multilateral approach in 1990-91, Norway worked, often in cooperation with other countries, to include two distinct elements into the international negotiations: cost effectiveness and flexibility towards several important treaty elements. First, flexibility towards what gases were reduced, emphasizing the difference in costs that this would imply for the countries. Second, a differentiated target approach that secured flexibility and considerations for the different circumstances the countries start emissions reductions from. Third, cross-sector and cross-country strategies to reduce emissions in the most cost effective way, for instance through a clearing house for project-based joint implementation between industrialized and developing countries.

Norway’s activity during the UNFCCC negotiations on these policy approaches contributed to putting those ideas onto the agenda, most often in cooperation with other, more influential countries. More specifically, Norway contributed to develop the proposal from the United States which incorporated that to keep costs at a lowest possible level countries should have the flexibility to choose which gases they should introduce measures to reduce emissions from, and how. The flexibility was proposed to allow reductions across all GHGs, their sources and sinks, and across national borders. The implication was that countries could comply to their commitments either jointly or individually. Norway suggested that cooperation about reduction efforts across national borders could be implemented through the establishment of a “clearing house,” where projects that limit emissions were coupled with financing from countries that wanted to implement parts of their commitments in other countries, and achieve credits for these reductions in their own emission reduction commitment account. In bilateral talks with the United States, and in collaboration with other industrialized countries, these ideas were nurtured during the UNFCCC negotiation period. It developed to become the concept of joint implementation, a topic that has been a focal point in both the UNFCCC and Kyoto protocol negotiations.

The positions Norway had on joint implementation and a comprehensive approach to which gases to reduce were supported by a group of countries (JUSCANNZ) that were allies in the UNFCCC negotiations. Proposals were partly initiated by countries in

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367 Members in the group were Japan, the United States, Canada, Australia, Norway and New Zealand. This later developed into the Umbrella group.
this group, the most powerful of which was the United States. The fact that Norway supported the JUSCANNZ group indicates that cost effectiveness and flexibility became focal points that these countries managed to gather around and agree on, and to dominate the agenda with. The cost effectiveness and flexibility strategies were written into the treaty text to a large degree, including the cost-effectiveness approach both across sectors and countries, and the flexibility approach both towards which gases to reduce and towards which way gases are reduced as long as the country works towards implementation of its convention obligations.

Norway worked for other things as well during the negotiations, also that as part of a coalition of industrialized countries. This was the case for the proposition that all industrialized countries should commit to a binding reduction target already in 1992. Norway, the EU, and other industrialized countries were in favor of such an approach in the UNFCCC negotiations. In the treaty this was not achieved, and the treaty does not bind the industrialized countries to concrete reduction targets or time-plans for implementation of reduction policies. The Convention states in article 4.2 (b) that countries should work to reduce their emissions “with the aim of returning individually or jointly to their 1990 levels of these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol.” However, there were no compliance mechanisms to enforce that commitment. Still, this is an example where Norway and other countries created a focal point for the negotiations, but did not manage to gain enough support for it in this first phase. However, the issue about targets and timetables remained a focal point also in the Kyoto protocol negotiations, and became included in the protocol text.

5.2.1.3 Score
To a certain degree, policy positions reflect cultural and normative understandings as road maps for Norway’s policy choices in the agenda-setting phase. In terms of supporting the “common but differentiated responsibilities” approach to dividing responsibilities for emission reductions between the North and the South, ideological and cultural understandings were identified. The same goes for supporting that a multilateral

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treaty was the best way to handle the climate change issue. The choice of a tax as the preferred domestic policy measure was partly culturally conditioned. Government regulations and huge tax programs to redistribute income according to a social democratic welfare model have been central in Norwegian policy since World War 2, and the carbon tax was considered as both an economically sound and politically possible policy instrument. On the other hand, the elements of the multilateral approach that became the dominant policy positions in this phase - joint implementation and a comprehensive approach - were closely tied to the idea about new public management, a concept that is imported from Anglo-American countries, and as such is not an idea that can be traced to Norwegian cultural and normative understandings.

Norway was a creative and active participant in the agenda-setting phase, introducing focal points in the international negotiations. Norway’s ideas and proposals were often shared by other industrialized countries, like the United States on the issue of a comprehensive approach, or developing countries, like on the issue about financial and technological support for developing countries to implement emissions reductions. Other issues, like the proposal about an international carbon tax, were rejected. In other words, Norway was an ideas exporter, but often as part of a group or bilateral agreement. This qualifies for a weak definition as ideas exporter.

In the analysis I find some ideas and concepts reflecting own cultural and normative understandings, but also road maps that could not be defined that way. I also found Norway to be a weak ideas exporter in the agenda-setting phase. The degree of membership in the causal set is more or less in. The score is set to .67.

5.2.2 Norway in the domestic bargaining phase (1994-2001)

5.2.2.1 Policymaking process

The normative idea about Norway having a moral solidarity-based responsibility to help the poor countries of the world was still very much alive in Norway in the domestic bargaining phase. Norway still perceived itself as a bridge-builder between the North and the South, and was among the few countries that took initiatives to fill the GEF with fresh funding to support technological change and a less carbon intensive development in developing countries. Norway was part of the grand coalition of industrialized countries
that supported the “common but differentiated responsibilities” doctrine throughout the Kyoto protocol negotiations. However, the country was underlining the necessity of cost-effectiveness in climate policy more often in this phase than in the previous. In the international negotiations this can be seen from the positions that Norway supported, like joint implementation and emissions trading that were contrary to the kinds of emission reducing instruments that most developing countries wanted to see from the Annex 1 countries.

The basic element of “common but differentiated responsibility” has continued to be contested throughout the domestic bargaining phase. It has been hard to swallow for countries expecting relatively large negative economic effects from emission reductions, like the United States, that other populous and future huge emitters like China and India can get away with no major policies to reduce their emissions. Norway, on the other hand, has been among the countries that have supported the principle. Norway has worked to involve the developing world through measures like joint implementation and the CDM. Joint implementation was part of the UNFCCC negotiations, and was further developed in the Kyoto protocol negotiations. Norway has been supportive of the ideas all along, and initiated pilot projects for joint implementation already in 1993.369 In 1995, Norway expressed that contrary to an emissions trading system, joint implementation could be a first, practical approach towards a cost-effective multilateral climate policy. At COP1 in Berlin, Norway supported that a pilot phase of Activities Implemented Jointly was initiated to get experience with the mechanism.370 Norway consistently supported the mechanism, and specifically stated in several documents that support for the JI mechanism would be a way for Norway in the negotiations to “signalize will to implement cost-effective policy measures in other countries to enhance the effect of climate policies.”371

The idea behind the CDM and JI are consistent with Norway’s policy focus on cost effectiveness and flexibility in policy approach, and also to involve developing countries. The mechanisms give the business communities in industrialized nations an incentive to start preparing for emissions reductions. It also represented a more

economically tempting alternative than direct regulation by the government through increased taxes, for instance. Norway was an early participant in the pilot phase (AIJ) that was started in 1995. With projects in Poland and Mexico, Norway wanted to get early experience with this new concept before it was officially in progress. Norway gained useful experience that was used to further expand and develop the rules for JI and CDM in the negotiations after Kyoto to finalize the rules of the mechanisms. JI and CDM are presently the only ways that developing countries are participating directly in global emissions reductions. The concepts were written into the Kyoto Protocol, in Articles 6 and 12, and were subject of negotiations until the Marrakech-agreement was reached in November 2001. However, by being part of the Umbrella Group Norway lost some of its credibility as a bridge-builder, since this group was perceived to be positioned furthest away from developing country positions in many important issues during the negotiations, especially since the United States was a vital member of the group.

Another road map that was challenged in the domestic bargaining phase was the thought about Norway leading the way as an environmental showcase for other countries, showing in praxis via the national carbon tax how countries could face the climate change challenge. Gradually the perception of a carbon tax as the preferred policy instrument was replaced by more market oriented solutions. In domestic politics this was expressed through continuous difficulties throughout the domestic bargaining phase to introduce a comprehensive carbon tax that would target the 40% of CO₂ emissions that had been exempted. When emissions trading became an increasingly important part of the international negotiations, the possibility of a national tradable quota system became part of the domestic politics agenda.

This transition from perceiving taxes as the preferred policy instrument to embracing a market oriented solution can be seen as an expression of a transition in road maps for policy choice. Thatcherism in Great Britain and Reagan’s reforms of the U.S. welfare-system had spilled over to the rest of the industrialized world via the new public management concept. From the middle of the 1990s, Tony Blair’s New Labour initiatives to reform the British welfare state had visible effects on the Scandinavian countries’ perceptions about policy solutions. Opening up for market oriented policy instruments

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like a national tradable emission quota system hence can be seen as part of this ideological change in the Norwegian social democracy.

As we can see, then, the transition in road maps from more traditional social democratic ideology towards more modern, market oriented solutions had an effect on the policy choices, both domestically and in the international negotiations, that were perceived to be the best options for Norway in addressing the climate change issue.

5.2.2.2 Still an ideas exporter?

Norway has continued to be an ideas exporter in the domestic bargaining phase. In cooperation with other countries with comparatively high marginal costs for reduction of fossil energy use and/or production, Norway has developed several ideas that have become part of the Kyoto treaty. Norway’s role has been creative, but it is very likely the fact that the country had coinciding interests with important and large actors that has been decisive for the success of the ideas it has supported and developed.

Norway continued to be involved in introducing new creative policy solutions, and was particularly active in developing further elements that secured flexibility and cost effectiveness. Burden sharing is an example of a new idea that Norway gave a contribution to develop, along with Australia, Japan, France, and Switzerland. The main concept of the burden sharing idea was to avoid flat reduction targets that would have harder economic effects for some countries than others, depending on national circumstances like energy sources and to what degree they had already implemented the least expensive forms of climate policies. The concept of burden sharing was controversial, and was rejected by important actors like the USA and the EU on grounds that it would be too difficult to figure out fair differentiated targets.\(^{372}\) The controversy was to decide on a formula of how to distribute reduction responsibilities between countries in a way that everybody could agree was fair. Norway’s proposal for a key to quantification of reduction targets was prepared in time for the COP 2 in Geneva in December of 1996. The proposal was that differentiation be based on a specific multi-criteria indicator that combines and attaches weights to three individual indicators: CO\(_2\) equivalent emissions per unit of GDP, CO\(_2\) equivalent emissions per capita, and GDP per

\(^{372}\) Torvanger, A. et al. (1997).
Norway may not have had expectations for acceptance of the proposal as a definite key for distributing commitments, but saw it more as an illustration to show that differentiation was possible and to move the negotiations forward.

During the AGBM negotiations Norway consistently called for differentiated commitments for individual parties. Although this would require sophisticated approaches, workshops and seminars during the negotiation period had revealed several suggestions for how to approach a fair differentiation. Norway’s main objection to the flat-rate approach was that it would not be cost-effective. A cost-effective approach would, in Norway’s view, facilitate agreement on more ambitious commitments. In the end, the differentiated approach was included in the Kyoto protocol. Article 3 and Annex B describe how the parties to the protocol should “ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B….with a view to reducing their overall emissions of such gases by at least 5 percent below 1990 levels in the commitment period 2008 to 2012.”

The distribution of commitments between the parties was in the end not based on a formula, as in the Norwegian proposal, but on assessments by key countries of the costs that the commitment would incur weighted against the expected damage costs from climate changes. It was also a result of give and take negotiations between the major parties, where the United States, the EU, and Japan were important participants. It was quite an achievement of a small country like Norway to initiate, gather support, and eventually also a majority for the differentiated target approach. In this case, Norway was indeed an active participant in creating a focal point for the negotiations.

The idea about emissions trading originated in the USA, where trading of SO₂ quotas has been used successfully to curb the acid rain problem. Norway was actively involved in the group of countries that promoted emissions trading in the protocol negotiations from 1995-97, the JUSCANNZ/Umbrella group. Having coinciding interests with the USA and other important actors gave Norway a role to play in this influential

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group of countries. In 1995, Norway’s critical assessment of the emissions trading idea was that two factors could be problematic. First, there was no experience with an international trading system, only with the SO2 trading system in the United States. Second, the initial allocation of permits would be problematic to reach an agreement on. Both of these factors contributed to an anticipation by Norway that this policy instrument would not be operational in a short or medium time frame. However, Norway saw it as clearly preferential that emissions trading be allowed. Under the Kyoto protocol, emission trading was included as one of the main mechanisms to secure flexibility for reduction alternatives. Article 17 defines that emissions trading can take place to achieve emissions reductions, and states the conditions and rules for such trade. In the negotiations after Kyoto Norway has been an ardent supporter of emissions trading, and has opposed limitation on the amount of trading – a proposal introduced by the EU countries.

Having assessed how the burden sharing idea, the emissions trading mechanism, and the joint implementation and CDM mechanisms were important focal points that Norway promoted in the negotiations, it is possible to say that on balance Norway contributed more with creative solutions than it was a receptor of new ideas. It is also quite obvious that the main focus behind Norway’s policy positions and decisions is the effort to shape the agenda into concentrating on cost effective solutions and allow for flexibility in the choice of approach to reduce emissions. It is however not possible to give a definition as an ideas exporter, since Norway promoted these stances as part of a coalition.

5.2.2.3 Score

In the analysis I find that only some ideas and concepts reflect own cultural and normative understandings. A transition in road maps took place, from more traditional social democratic ideology towards more modern, market oriented solutions. This had an effect on what policy choices that were perceived to be the best options for Norway in addressing the climate change issue both domestically and in the international

negotiations. In other words, I find equal degrees of policy positions and decisions that mirror cultural and normative understandings as I find imported ones.

Norway continued to be a creative and active participant in the negotiations in the domestic bargaining phase. It supported and developed several ideas that were included in the Kyoto Protocol, most importantly the differentiated targets approach but also the joint implementations and emission trading proposals. However, the country functioned as an ideas developer in cooperation with other countries that often were more powerful and had more weight in the negotiations, which allows for an unclear definition as ideas exporter. The degree of membership in the causal set is therefore neither in nor out, and the score is set to .50.

5.2.3 Germany in the agenda-setting phase (1988-1995)

5.2.3.1 Policymaking process

As we have seen many times already, the Enquete Commission process framed the climate policy process in Germany. The pivotal elements of the Enquete Commission’s work became central points for the German domestic policy, and framed the ideas that Germany brought with it to the international negotiations. The high degree of agreement about policy solutions among political and private actors in the German policy process put alternative approaches in the shadow. What we need to ask, then, is if these ideas had cultural and normative bindings?

The central concept emerging from the Enquete Commission was that targeted emissions reduction was the preferred alternative. This concept can be traced back to how Germany had handled other environmental issues, like ozone depletion and acid rain. The German public had been very engaged in environmental issues since the early 1980s when acid rain had negative effects for the German forests. Scary pictures of a seriously damaged Schwarzwald rallied a strong public opinion to address the problem. In addressing the SO$_2$ problem, sector specific end-of-pipe solutions were both possible and preferred since that limited the impacts of policy instruments to the sources of emissions. The German industry sector was targeted with legal demands to reduce emissions dramatically. When the climate change issue came on the agenda, it was obvious that

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end-of-pipe solutions were not possible to implement. However, the sector-by-sector, targeted emissions reductions approach that Germany ended up with had the same basic idea behind it: to limit the impacts of policies to emission intensive sectors. German industries again became the target of achieving emission reductions. As a consequence of this framing of policy alternatives, the German government developed a national climate policy program that consisted of a range of direct regulations and support for specified policy measures.

Enforcing that preference for policy choice was the fact that in German culture the bureaucracy is valued as effective and reliable. A legalistic-bureaucratic mentality to the political culture has proliferated, and is in part a result of the far greater stability of the bureaucratic institutions than other branches of government, and hence the more extensive experiences Germans have had with them. For instance, political institutions changed dramatically over the 20th century, while bureaucratic institutions remained more or less the same. For politicians, therefore, a policy approach including direct regulations was preferred because it would leave the policy administration and implementation to the trusted bureaucracy. Hence, it is right to say that this policy approach was culturally and normatively anchored, being a result of tradition and habit in policymaking.

Furthermore, the choice of direct regulations as preferred policy can be traced back to the role that EU membership played as a road map for German decision-making. Within the EU expertise and capacity had developed to handle environmental problems like ozone depletion and acid rain through direct regulations. In other words, there were already bureaucratic traditions in place within the EU that shaped the spectrum of options that were preferable for EU members. Creating such agreement across so many member countries is time consuming and difficult, indicating that when a certain capacity to handle issues within the organization is built up it is hard to change. Supporting this finding is the faith of the German proposal about introducing an EU-wide carbon tax. Germany first considered a carbon tax as a domestic policy measure to reduce CO2 emissions. However, it was found to produce too negative effects on the national economy unless the rest of the EU countries also implemented such a tax. The introduction of a tax at the supra-national level was new, and had no traditions in the EU.

After years of discussions in the 1990s, the idea proved too difficult to agree on for the member countries, and was abandoned. Hence, indirect regulation of environmental issues at the EU level was an unfamiliar policy approach, and was not able to agree on. In the UNFCCC negotiations, most European countries, among them Germany and the EU, supported adopting the approach that had been used for the acid rain and ozone depletion problems. This entailed establishing quantitative limitations on national emission levels of GHGs. All industrialized countries should commit to the same percentage of GHG emissions reductions. The flat targets approach meant that one should focus on achieving emission reductions in sectors of the economy that gave visible and short term results. Furthermore, the policy measures should be concentrated at reducing CO₂, the most serious greenhouse gas, at the largest sources of emissions in the energy sector. A vital issue was to keep the developing countries/G77 involved in the negotiations and to avoid a North-South standoff. Germany was therefore part of the group of OECD countries that pushed forward the idea about “common but differentiated responsibilities” between industrialized and developing countries, and also the idea that flexibility mechanisms should be only additional to domestic reductions. Germany wanted to preserve its role as a front runner and leader in the climate change negotiations, since environmental issues were one area where the country had the opportunity, because of its militant history, to take an internationally leading role. Hence, cultural and normative bindings about Germany as a large and influential country had an effect on the policymaking process.

5.2.3.2 Creating some focal points
Germany was creating focal points in the negotiations. The country contributed to setting the agenda by focusing on targets and timetables as the way to handle the global warming problem. However, this position was following the “business as usual” thinking in international environmental negotiations rather than being an introduction of new thoughts and ideas. Targets and timetables were well known issues from both the acid rain and ozone depletion negotiations. Germany and the majority of other industrialized countries were positive to binding targets and timetables already in Rio in 1992. As we know, this position was defeated by the United States and was not included in the treaty.
However, after the Rio Conference the issue was put on the agenda again, and persisted to be a focal point throughout the Kyoto protocol negotiations. In that respect, Germany was part to exporting the targets and timetables idea into the climate change negotiations.

In the UNFCCC negotiations Germany insisted on a flat targets approach, and for countries to concentrate on reducing emissions in targeted sectors. Flat targets and focus on major emitters was as we saw above policy solutions that the EU preferred as an approach that could give visible, short-term results. In an effort to shape the agenda, Germany presented its list of specified policy measures in the national climate protection program as a policy alternative also for other countries. The catalogue of more than 130 policy measures was a policy approach the Germans would want other countries to copy.\(^{379}\) In fact, it was used as an example of how one could proceed to get a speedy reaction to the imminent climate change problem. Most other governments perceived Germany as a pusher in the negotiations, and few were willing to take on a similarly comprehensive policy program at that early stage. However, the main elements of the policy program – energy efficiency and conservation – were also part of policy implementation alternatives in most other industrialized countries, without necessarily being a result of German influence but rather a common sense no-regrets approach.

Naturally following from the domestic policy focus on direct regulation was another proposal Germany put forward in the international negotiations; to focus the effort to reductions of CO\(_2\) only, not a basket of gases as proposed by the United States and others. The efforts to have the CO\(_2\)-only approach dominate the agenda failed, as the comprehensive approach became dominating. The creation of a GWP index and the increasing support for the comprehensive approach culminated in the inclusion of this flexibility element in the UNFCCC treaty, and inability for Germany to create a CO\(_2\)-only focal point.

When the negotiations about a protocol to the UNFCCC started in 1995, Germany and the EU resubmitted many of their ideas on how to organize legally binding emission reductions through a protocol. The main points were that all countries should have a target (the same percentage for all countries), and that emission reductions should concentrate on CO\(_2\). These ideas were highly contested by other parties, like Norway and

\(^{379}\) BMU (1999).
the United States, and became focal points for disagreement during the whole negotiation period.

Joint implementation was an issue that Germany supported when it came on the agenda of the UNFCCC negotiations, but only if the flexibility of the mechanism was restrained. The EU in 1993 stated that national emission reductions targets should be fully met before crediting through joint implementation projects should be allowed.\(^{380}\) Again, this was an issue where Germany was defeated by countries that wanted maximum flexibility.

On the balance, Germany had to accept a treaty without binding targets and timetables (UNFCCC), and a treaty text allowing for a range of other measures than the ones Germany had promoted. But the country created several focal points in the negotiations in the longer term. Germany can therefore be defined as an ideas exporter.

5.2.3.3  Score

The central concept in Germany’s abatement policy was that targeted emissions reduction was the preferred alternative. This concept can be traced back to what Germany had experiences with from other environmental issues like acid rain and ozone depletion. Germany’s choice of direct regulation policy measures was colored by the legalistic-bureaucratic political culture of the country. Furthermore, EU membership also played a role in shaping road maps for policy choice. In other words, strong cultural and normative bindings contributed to shaping Germany’s climate change policy.

Furthermore, Germany was an ideas exporter in the agenda-setting phase. It created several important focal points in the negotiations, like targets and timetables, flat targets, and support for common but differentiated responsibilities for industrialized and developing countries. Many of the ideas that Germany promoted in the agenda-setting phase was rejected and defeated by other countries in the international negotiations. The membership in this causal set is mostly but not fully in, and the score is set to .83.

5.2.4 Germany in the domestic bargaining phase (1995-2001)

5.2.4.1 Policymaking process

After COP1 in Berlin, the dynamics of the international climate negotiations changed. New pivotal issues were introduced, more specifically flexibility mechanisms that were intended to increase cost effectiveness. Emissions trading, sinks, and the CDM became dominating topics on the agenda, and these were ideas that Germany did not support. Market oriented approaches to reducing a basket of GHGs was difficult to support, presumably since they did not have dominating cultural roots in German politics. The fact that Germany had no experience domestically with such instruments made support difficult. The country has, as we saw above, a legalistic-bureaucratic tradition for implementing policy, and the proposed market oriented policy instruments collide with these kinds of conceptions.

Germany has to a far lesser degree than other Western European countries gone through the wave of reforms in the welfare state that the New Public Management and New Labour ideology changes led to. Increasing efficiency and cost effectiveness were not as immediate policy issues in Germany as in other European countries. One example of the resistance to change in the German society is found in the public sector. Civil servants in Germany have gained very lucrative pension rights over the years, and can retire at a comparatively low age with very good pensions. Considering the size of the public sector, it becomes evident that it would be a very unpopular political decision to remove some of these rights. The same is true in the private labor market. Stringent regulation of the roles and privileges of employers and employees cannot be easily changed without a storm of protests. Hence, cultural conceptions about what policy solutions were available and sensible did not change in Germany in the domestic bargaining phase. Legalistic-bureaucratic traditions paved the way for choosing direct regulations as the preferred climate policy instruments also in this phase.

One policy instrument became particularly important in the German abatement policy program, namely the voluntary agreement between the government and industry associations. The agreement conserved the consensus in the policymaking process between industries and government, and included even large emitters that contribute to a large share of the total national emissions. The choice of a voluntary agreement can be
traced to cultural and normative understandings in German politics. In the 1980s a major effort to reduce sulphur dioxide emissions from major emission sources had been successful, precisely though the use of voluntary agreements between the government and industry associations. This was, in other words, another case of having positive experience and ready bureaucratic capacity to handle an environmental issue in a particular way.

5.2.4.2  Weak ideas exporter

Germany had to face a range of ideas and focal points that it opposed in the Kyoto protocol negotiations. Market oriented policy approaches, proposed by the United States and the Umbrella group countries were not supported by Germany.

However, one issue that the country did support remained an important focal point also in the domestic bargaining phase: targets and timetables. Of essence was the flat targets approach that was conceived by Germany to be the most fair and rational way to allocate commitments among countries. Every country should be assigned the same percentage of emission reductions to reach within a specified year, an idea that was consistent with principles of egalitarianism and sovereignty. In Germany’s view, the same percentage for each country was also considerably easier to administer than a differentiated approach. Practical difficulties and obstacles with identifying relevant factors for how to establish the differentiated targets were foreseen, creating more complicated and lengthy negotiations without necessarily ensuring a more equitable outcome. Germany preferred a flat percentage that was easy to manage. This was also the joint position of the European Union. At the third session of the AGBM in Geneva in March 1996, Germany proposed CO₂ reduction targets of 10% by 2005 and 15-20% by 2010, both against a base year of 1990.\textsuperscript{381} The targets were suggested to be binding, with some flexibility for economies in transition, and would fit into the protocol structure proposed by the EU. Once again it was underlined that the single gas approach has greater precision, avoiding CO₂ equivalent calculations of greenhouse warming potentials that could make a “basket of gases” approach difficult.

Germany was a leading actor within the EU, and promoted the flat target approach also in internal EU preparations for the negotiations. When the EU in October of 1990 declared that the joint target for the EU was to stabilize CO₂ emissions at 1990 levels by 2000, it was already pretty obvious that Germany would be responsible for a large share of those reductions. However, even if the EU intended to distribute different reduction shares among its member countries, it did not support the idea that this could be a cost effective solution among the other countries taking on commitments. In fact, the internal burden sharing that the EU agreed on in 1997 worked as an example that it was indeed possible to have differentiated targets. It might even have been an involuntary contribution to an acceptance of the feasibility of differentiated targets by other countries.

Germany continued to oppose the use of flexibility mechanisms also after Kyoto. One idea that Germany and the EU promoted as a focal point, was that maximum 50% of emissions reductions could be achieved through the use of emissions trading or any other flexibility mechanism. By introducing a ceiling to the amount of trading, Germany and the EU wanted to secure that the flexibility mechanisms be only supplementary to domestically achieved emissions reductions. This issue was contested throughout the negotiations, and was only finally resolved at COP7 in Marrakech in 2001. The 50% ceiling was not included in the final text of the Kyoto protocol. In other words, Germany and the EU’s efforts to secure that emissions reductions should to the largest degree possible happen domestically, preferably through direct regulation, was a focal point in the negotiations for a long time, but the position was defeated in the end. Germany and the European Union’s wish to be the driving force in the negotiations, and to secure participation from the G77-countries, was an important reason for this position.

Germany also opposed the unlimited use of sinks as a way of reducing emissions. This idea collided with the German and EU position that industrialized countries must take on real amounts of reductions as a first step to show the developing countries that they are willing to take sacrifice to their economies to abate this environmental problem. Germany fully agreed with the G77 argument that it is unfair that the developing countries should contribute in the first commitment period since they have emitted far less amounts of

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historic greenhouse gas emissions. In Marrakech in 2001, EU and Germany had to accept far greater concessions in terms of allowing extensive use of sinks to the Umbrella group countries just to keep the Kyoto protocol alive.

Other ways that EU and Germany wanted to compromise with the developing countries were by supporting the JI and the CDM – flexibility mechanisms that will give developing countries more influence and project control than emission trading.

Balancing the degree to which Germany was receiving against degree of contributing new ideas in the international negotiations, we can see that the country to a lesser extent than in the agenda-setting phase contributed new ideas. However, the country was party to creating several focal points in the negotiations. But in several cases Germany had to witness that the negotiations ended by turning away from its own proposals. This was the case in the discussions about emission trading, JI, and CDM. Also the sinks issue was difficult, and an issue that Germany and the EU “lost.” The country was an ideas exporter in terms of creating focal points in the negotiations.

5.2.4.3 Score

Cultural conceptions about what policy solutions are available and sensible did not change much in Germany in the domestic bargaining phase. Legalistic-bureaucratic traditions were strong, and were interpreted to be important for policy being focused on direct regulations as the preferred climate policy instruments also in this phase. High resistance to change in both the public sector and in the private labor market was pointed out as important factors in the decision making process.

In the Kyoto protocol negotiations, Germany was able to create important focal points in collaboration with other actors, like the targets and timetables approach. Other focal points in the negotiations, like flexibility mechanisms and sinks, were not according to the positions that Germany wanted to promote. Ideas and proposals Germany found important and introduced were not included in the protocol text, for example the idea about a ceiling on the use of emissions trading. At the 2001 Marrakech meeting, the EU and Germany also had to compromise on the amounts of sinks allowed as an instrument of emission reduction since the wish for achieving a binding treaty meant more than winning through on these difficult negotiation points. On balance, Germany was more of
an ideas exporter than an importer in the domestic bargaining phase. Based on this analysis, the membership in the causal set is perceived as mostly but not fully in, and the score is set to .83.

5.2.5 The United States in the agenda-setting phase (1988 – 1996)

5.2.5.1 Policymaking process

Normative and cultural factors are vital for understanding the development of policy ideas in the United States. One distinct feature about the United States compared to European countries that may have been working as a restraint on climate policy action, is the perception of the right to freedom and independence of the individual that is strongly rooted in that country. The American culture commends individualism and the freedom to make your own fortune to a larger degree than many European countries. In general, Americans are much more negative to governmental regulation and policy than the average European citizen. “Small government” and “reduction of governmental programs” are issues that are part of election campaigns regularly. The normative idea about individual rights and small government makes it harder for U.S. politicians to argue for increased spending on governmental programs to implement international agreements, and that common action is necessary to achieve results on the global warming issue.

During Ronald Reagan’s presidency the U.S. government was reformed and shrunk substantially. The ideas of New Public Management dominated, where market oriented policies like privatization of public services aiming at economic efficiency were the means of the reform. Cutbacks in governmental programs allowed for a substantial tax relief for most Americans, and were therefore popular. Hence, market oriented policy solutions established as a feasible and preferred strategy within U.S. politics. When the climate change issue came on the policy agenda, therefore, these cultural and normative bindings served as road maps for policy choice.

Furthermore, the wave of environmental regulation that was enacted in the 1970s, and still represent the bulk of government action on the environment, did not move too close to restrain traditionally controversial areas like land-use and private transportation in the same way as a strong climate change policy may require. For instance, higher gasoline prices are a likely consequence of regulations of the oil industry. By moving the
discussion of policy into those controversial areas, the climate change issue is provoking reactions from people who feel that traditional American values are threatened. These factors are most likely also part of the reason why the United States has constantly worked for other solutions to emissions reductions than traditional command and control regulations that would touch upon the above mentioned areas.

In addressing the acid rain problem, the United States had developed the concept of domestic emissions trading of quotas to increase the cost effectiveness of abatement policies. The experiences and capacity that had been developed within this policy area came to use when climate change abatement policies were developed. The idea that flexibility in how and when emission reductions could be performed would increase cost effectiveness became central for the development of the United States’ policy positions.

In addition to the strong preference for market oriented policy instruments rather than direct regulation, another cultural trait served as a road map for the United States handling of the climate change issue. In general, large parts of both public and politicians in the United States are skeptical to international cooperation through binding treaties as the best solution to address global commons problems. International “interference” with the American freedom to choose its own policies is perceived to be dangerous by important and influential groups in the United States, like the conservative Christian republicans. This cultural trait seems to have been part of the considerations done by policymakers when deciding on what policy positions the United States could promote in the international negotiations.

5.2.5.2 Ideas exporter

From what we saw above U.S. presidents and politicians knew that the American public would react negatively towards increased taxes on gasoline, or other government regulations that restrict their freedom of choice regarding transportation or energy use. Hence, even in the early stages of handling the climate change issue, U.S. agencies were devoted to finding innovative solutions. For instance, in 1989-90 the comprehensive approach was developed by the Department of Justice and the Task Force on the
Comprehensive Approach to Climate Change, comprising a range of U.S. agencies. The elements of this new “idea” of a comprehensive approach fit well with the market oriented, cost-effective solution to emissions reductions that the U.S. government has promoted both domestically and internationally. Resources were used for bilateral meetings and seminars, where United States’ experts explained and promoted the benefits of the concept to other parties.

The comprehensive approach negotiation proposal came at the outset of the negotiations on a framework convention on climate change, in early 1991. It was a proposal that was contrary to what most of the other participants in the negotiations envisaged as the solution: a targeted reduction of CO₂ emissions from the energy intensive sectors of the economy. CO₂ emissions reductions were considered a manageable solution that could be agreed upon and implemented fairly quickly. Although the United States tried to work a coalition to support its proposal about a comprehensive approach, only a few countries – like Norway and Australia – supported it at this early stage. The comprehensive approach was discussed during the negotiations about the UNFCCC, and ultimately flexibility towards gases and emissions sources was included in the treaty text. Article 3, paragraph 3 says that “… such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.”

The last sentence of paragraph 3 indicates that joint efforts to reduce emissions had been under discussion in the treaty negotiations. However, more than a general acceptance of cooperation was difficult to achieve at that time. The main reason for this was that countries could not agree to binding targets and timetables – much due to sharp U.S. resistance. When the negotiations on a protocol started in 1995, the idea about emissions trading became increasingly central for a number of countries. The United States was a pivotal actor in developing and promoting the emissions trading concept.

384 The participants represented CEA, CEES, CEQ, DOC/NOAA, DOE, DOI, DOJ, DOT, EPA, NASA, NSF, WH/OPD, OSTP, State Department, USDA, USTR, Treasury Department and the White House Counsel.
385 See Article 3 of the UNFCCC.
Having useful experiences from its domestic SO2 trading regime, the United States could contribute substantially to the development of the emissions trading idea. From 1995 to 1997, this topic was among the most frequently debated at the international negotiations events, both among official delegations and among NGOs.

Two new aspects of emissions trading that the United States introduced in this phase were banking and borrowing. Banking of emission permits means that each country can reduce emissions more than the amount of permits it holds. Borrowing of permits means that a country is allowed to increase emissions in excess of the permits that it holds against future emission reductions. Allowing for this kind of flexibility, the United States argued that a country could increase its possibilities to adhere to commitments since it would mean a reduction in abatement costs. The Kyoto protocol opens for banking emission permits between subsequent commitment periods. Borrowing between periods is not allowed, although it would probably reduce total costs of abatement considerably. The United States hence managed to influence the treaty text on flexibility mechanisms like emission trading and joint implementation considerably.

Another issue that the United States was a creative participant in negotiating was the mechanisms of enforcement of both the UNFCCC and the Kyoto protocol. The United States persistently has been engaged in developing the rules for monitoring and reporting, and verification and review to be able to decide whether the parties to the treaty are in compliance according to their commitments, and the extent of potential non-compliance from specific parties. The sharing of information by governments in national communications is central to enforce the UNFCCC and the Kyoto protocol. It allows for transparency concerning how countries implement their commitments, and follows a standard where ten main issues are to be included. To further assess implementation and compliance, i.e. review and verification, in-depth reviews of the national communications are carried out by expert review teams within one year of being received by the UNFCCC secretariat in Bonn. The United States was a driving force in the agenda-setting phase in establishing these compliance mechanisms.

All in all, the United States was an ideas exporter in the agenda-setting phase. By strongly promoting market oriented, flexible solutions to achieving emissions reductions, the United States managed to influence the path of the negotiations substantially. From being among the few that spoke of flexibility in 1990-92, the country was joined by the majority of countries to discuss flexibility mechanisms in the negotiations about the Kyoto protocol in 1995-1997. However, the emissions trading approach was contrary to the focus of influential parties, especially the EU who wanted to focus on CO₂ reductions to be able to have a manageable approach to an effective reduction plan that countries could agree upon.

Both developing countries and many of the OECD countries criticized the emissions trading concept for being a way for industrialized countries to omit domestic reductions of greenhouse gas emissions, and rather being able to buy their way out of reducing emissions. The worries of the developing countries were that if they were to sell emission permits, they would trade away their ability to develop economic prosperity in the future. The opposing OECD countries were worried about the future of the cooperation with the developing countries, and whether the emission trading proposal would complicate the negotiations to the degree that they would become a stalemate. Several OECD countries eventually joined the United States in the Umbrella group in the climate change negotiations. Together these countries were able to win through in the negotiations.

5.2.5.3  Score

Cultural and normative understandings like small government, freedom to choose lifestyle, and preference for market oriented policy solutions were road maps that were influential in the decision making process in the United States. Clearly the country had stronger road maps based in own culture than imported ideas.

The United States was actively involved in introducing new ideas into the negotiations. It was the main promoter of the comprehensive approach, which was included in the UNFCCC treaty. From 1996, the United States promoted the emissions trading approach, with the ideas about maximum flexibility through mechanisms like banking and borrowing. Emissions trading opening for banking was included in the
Kyoto protocol, but borrowing was rejected. The United States was also a driving force in establishing stringent compliance mechanisms. The country was definitely an ideas exporter.

In the analysis I find an unambiguously high degree of ideas and concepts reflecting own cultural and normative understandings in the international negotiations and inclusion in the international agreements. I define the country as a clear ideas exporter. The membership in this set is fully in, and the score is set to 1.

5.2.6 The United States in the domestic bargaining phase (1997 – 2001)

5.2.6.1 Policymaking process

To a large degree the same road maps were dominant in the domestic bargaining phase as in the agenda-setting phase. Small government and economic efficiency were overarching goals functioning as road maps also in the second Clinton administration. Market orientated solutions remained the preferred policy instruments for the United States in handling the climate change issue.

One road map that became more visible in this phase was the conception that international governance through strong treaties would interfere with the United States’ freedom to choose its own policies. As Christian-conservative republicans gained more influence in the policymaking process through becoming a more important group within the Republican Party, this road map became more important for policy choice. As the Kyoto protocol became a more realistic alternative, the pressure from these influential groups in United States politics increased. This cultural trait seems to have been part of the considerations done by policymakers when deciding on what policy positions the United States could promote in the international negotiations.

5.2.6.2 Still ideas exporter

The United States has promoted the comprehensive approach throughout all of the negotiations, and many of the important factors of this proposal were included in the Kyoto protocol. In Article 3 of the protocol, parties in Annex I of the UNFCCC agreed to commitments with a view to reducing their overall emissions of six greenhouse gases by at least 5% below 1990 levels between 2008 and 2012. Articles 3 and 4 of the protocol
mention removal of emissions by sinks as a possibility. Sinks became a major issue when negotiations began after Kyoto on how to specify and monitor such reductions. The United States was among the most ardent supporters of allowing high levels of sequestration activities, and came up with a range of new ideas on how to organize and measure such reduction activities. For instance, at the COP6 in November 2000, the United States had a proposal for the phase-in of forest management under Article 3.4, stressing that it provided incentives to implement additional sequestration activities.389

The focal points of the negotiations after the Kyoto meeting continued to be cost effectiveness and flexibility mechanisms to achieve it. Although the mechanisms had been incorporated in the Kyoto protocol text, it was left for subsequent meetings to decide on most of the rules and operational details to determine how emission cuts are to be achieved and how countries’ efforts were to be measured and assessed. The emissions trading concept was included in the protocol’s Article 17. But the controversy over emissions trading was vigorous right up to the Marrakech Conference of the Parties in October 2001, where the EU finally agreed to no limitations on trading. The United States and the Umbrella group had introduced the concept wanting unlimited amounts of trading, and argued that this would secure the most cost effective outcome of the mechanism. The EU on the other hand insisted that the protocol text in Article 17 specifically has defined trading as supplementary to domestic policies, meaning that there should be a cap on trading allowing a maximum of 50% of emissions reductions to come from trading. The disagreements between parties as to how much of emissions reductions could be achieved through trading, and if there should be a cap was finally resolved at the COP7 in Marrakech. The idea of emissions trading was introduced and promoted with the United States as a major actor, and it was included in the Kyoto protocol as a result of this. However, not until the United States had repudiated the protocol did the parties come to an agreement on the specific rules of operation of the mechanism. The United States did therefore not have the final word on emission trading.

Concerning the other Kyoto mechanisms, negotiation was hard on both the JI and the CDM. While the United States was among the countries that wanted maximum flexibility, other countries were concerned that such projects would not incur enough

emission reductions. For instance, the United States in cooperation with Japan and Canada introduced the idea to allow sink projects in the CDM. This would secure increased flexibility, they argued.

The United States also promoted at least one idea that was not taken into the protocol text. While the anticipation of global warming as a threat to our environment gained support from all industrialized countries, the United States took a more cautious route for addressing the problem than others. As a result of the necessity of keeping the developing countries involved in the negotiations, it has been crucial for the industrialized countries to signalize will to take on “common but differentiated responsibilities.” As such, an international norm of solidarity with developing countries has developed over time. Joint effort by the industrialized nations has been perceived to be necessary first steps, even though this would mean sacrifice of welfare and economic surplus. The United States tried to change this focal point of the negotiations by questioning the fairness of only some countries addressing a global problem.

During the preparations for the Kyoto meeting, and in the years afterwards, there has been hefty resistance from powerful U.S. domestic actors to the protocol. One of the main allegations has been precisely that the protocol is unfair since major future emitters, like India and China, are exempted from reduction responsibilities. This position was a clear departure from what other industrialized countries promoted, and can thus be perceived as a new “idea” on the part of the United States. The Clinton administration was more or less pressured into this position by a Congressional majority, taking the duty of Article 2 of the U.S. Constitution that grants the Senate the right of advice and consent in treaty-making into account. Under the U.S. constitutional system treaty making is not a purely executive function, i.e. the president can not negotiate treaties unilaterally. Ideally, it is a consultative process, where the Senate not only passes judgment on the final product, but also ideally is a participant in the process that leads to the treaty itself. Clinton was accused of responding more to international ideas of cooperation and solidarity with developing countries expecting hard impacts from climate changes rather than taking into account serious objections by domestic actors. It seems like American

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390 Article 2, Section 2 of the U.S. Constitution reads: “He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur;”
ideas and norms about individual versus collective responsibility played a role in creating
the conception of the Kyoto protocol as unfair since not all countries must contribute to
address an environmental problem that is global. Why should hard-working Americans
be taking the load for countries that in a few years will pollute more than America do
now?

What we have here, hence, is a situation where the political majority in the United
States conveyed a different idea of fairness and responsibility for GHG emissions
reductions than most other industrialized countries. This idea did not gather support over
time, and was not included in the Kyoto protocol text. On the contrary, the protocol states
in Article 10 that “all parties, taking into account their common but differentiated
responsibilities and their specific national and regional development priorities, objectives
and circumstances, without introducing new commitments for Parties not included in
Annex 1, but reaffirming existing commitments under Article 4, paragraphs 3, 5 and 7 of
the Convention…” This is one of the reasons why the U.S. in 2001 rejected the Kyoto
protocol, on grounds that it was fatally flawed.

The United States has continued to be an ideas exporter in the domestic
bargaining phase. In the international negotiations the country has worked both within the
Umbrella group and through bilateral informal meetings to inform on and promote issues
that have been central for the U.S. position. The underlying objective have been to secure
market based, flexibility approaches to reducing emissions. To reach this objective, the
country contributed a range of concepts and proposal for solutions how to commit to and
achieve emission reductions. The balance between contribution and ideas input versus
acceptance of other countries proposals clearly show that the United States was an ideas
exporter. The most contested ideas were the no-limit emission trading idea and the
inclusion of sinks both as part of the comprehensive approach and in the CDM. Other
ideas were also highly controversial, but did not get acceptance in the final treaty. The
most prominent example here is the insistence on part of the United States that, while
there is a difference between industrialized and developing countries, it was unreasonable
to expect that nothing could be done between the Annex 1 and non-Annex 1

commitments. The United States wanted the developing countries to commit to emission reductions already in the first commitment period.

5.2.6.3 Score
Many of the same road maps were dominant in this phase also. Small government and economic efficiency were goals that worked as road maps, and market orientated solutions remained the preferred policy instruments for the United States in handling the climate change issue. One road map that became more visible in this phase was the conception that international governance through strong treaties would interfere with the United States’ freedom to choose its own policies.

Flexibility mechanisms such as emissions trading, CDM, and joint implementation were ideas that the United States took active part in developing and refining in the domestic bargaining phase. These became important focal points in the negotiations. The country also experienced to have ideas rejected from the text, like in the proposals that developing countries must take on commitments already in the first commitment period of the protocol. The United States clearly continued to be an ideas exporter also in this phase.

In the analysis I find an unambiguously high degree of acceptance for ideas and concepts reflecting own cultural and normative understandings in the international negotiations. I also define the United States in the domestic bargaining phase as an ideas exporter that was able to create important focal points in the climate negotiations. The membership in the causal set is fully in, and the score is set to 1.

5.2.7 Summary
From table 5.1 we can see that for all six cases the membership degree is more in than out. This indicates that the SLI model assumptions on ideas have some explanatory power for the development of the policymaking process and policy choices, i.e. choice of policy instruments in the three countries.
Table 5.1

<table>
<thead>
<tr>
<th>Cases</th>
<th>Policymaking process: score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.67</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.50</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.83</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
</tr>
</tbody>
</table>

In particular, the analysis above showed that cultural and normative understandings were important for the development of climate change policy in the two large countries – Germany and the United States. In both, I found clear support for the assumption that cultural traits produce specific road maps to guide policy choice. Hence, the U.S. policymaking process was marked by focus on small government and economic efficiency, and market orientated solutions remained the preferred policy instruments for handling the climate change issue.

Furthermore, the conception that international governance through strong treaties would interfere with the United States’ freedom to choose its own domestic policies became dominant. In Germany, the legalistic-bureaucratic traditions were found to be strong, and interpreted to be important for a focus on direct regulations as the preferred climate policy instruments. High resistance to change in both the public sector and in the private labor market was pointed out as important factors in the decision making process. Germany and the EU managed to put the issue of “targets and timetables” on the negotiation table, and keep it there. In Norway, the trend was different, in terms of a weakened presence of culturally rooted road maps in both phases. The country went from social democratic focus on taxes as the preferred policy instrument, to perceiving market oriented flexibility mechanisms as best on grounds that it would secure cost
effectiveness. As a small country in a globalizing world economy, this trend is not surprising. Norway was clearly influenced by imported cultural ideas and norms.

The analysis also points out that the extent to which a country has strong culturally rooted road maps makes it more able to have its own ideas and road maps become influential focal points in the international negotiations. This is of course also related to the relative power a state has internationally, but in this chapter I have focused on the role of ideas. The United States, for instance, was a dominant party in the negotiations and managed to influence the design of the UNFCCC and Kyoto protocol to a large degree. Germany and the EU were also able to dominate the negotiations with some of its road maps, in particular the constant focus on the “targets and timetables” approach throughout the Kyoto protocol negotiations. However, Germany was a weaker ideas exporter than the United States. Norway for the most part collaborated with other countries to put the focus on preferred issues, and did not manage to dominate the negotiations through culturally rooted road maps and focal points.

The analysis in this section support the claim that the particular way of understanding decision making process and policy choice that the SLI model represent is rewarding in terms of explaining and understanding differences between the selected countries in their climate change policymaking. It has become clear that the model assumptions lead to a focus on increased understanding of how culturally rooted norms and habits works as filters for the conception and handling of policy issues. However, it has become equally clear that these assumptions do not give a basis for claims or predictions about the level of proactiveness a country would choose.
5.3 Learning

To establish the degree of membership in this causal set I have to ask questions about the parameters of both new information and prior beliefs that affect the likelihood of governmental learning. All countries gather new information about policy issues over time, so what I am looking for is special efforts of knowledge building that have had an impact on the policymaking process and choice of policy instruments. I will assess whether the government’s description of domestic climate change policy options have changed as a result of new information and research, and whether there is a high degree of consensus within the scientific community in the country about the science of climate change and the options for climate change policy.

To be fully in (a score of 1) this causal set, a case must have an unambiguously high presence of both the elements: the government’s description of domestic climate change policy options did change as a result of new information and research, and there was a high degree of consensus within the scientific community in the country about the science of climate change and the options for climate change policy. To be mostly but not fully in (a score of .83), a case must have an unambiguously high presence of one of the elements, and a lower or less clear presence of the other. If both elements can be defined as present, but not unambiguously, the case will be defined as more or less in (a score of .67).

The crossover point (a score of .50) is defined as consistency in the government’s description of domestic climate change policy options despite new information and research, combined with a high degree of conflict within the scientific community in the country about the science of climate change and the options for climate change policy.

A case is more or less out (a score of .33) when consistency in description of national climate change policy options is identified in combination with evolvement towards a consensus within the scientific community in the country about the science of climate change and the options for climate change policy, signifying a low willingness to change the status quo despite new information. A case is mostly but not fully out (a score of .17) when there is a clear conflict between the description of domestic climate change policy options from the government, and a high degree of consensus within the scientific
community in the country about the science of climate change and alternative options for climate change policy. This will also be conceived of as the realistic minimum of the set, since a definition of fully out (a score of 0) require negation of scientific results and advice by a government indicating full rejection of scientific expertise, and probably also protests from the public opinion, that is not found empirical cases of in developed democratic countries.

5.3.1 Norway in the agenda-setting phase (1988 – 1993)

5.3.1.1 Policymaking process

In the agenda-setting phase the description of the policy options changed in Norway. From being ambitious and focused on unilateral policy alternatives in the years 1988-90, it became more focused on multilateral and cost-effectiveness policy alternatives since 1991. Did this change come about as a result of learning? The initial set of negotiation positions were based on the experiences that Norway had done in previous international negotiations on environmental issues, like acid rain and ozone depletion. The optimal solutions in those negotiations turned out to be flat target reduction approaches for all countries, implemented with almost exclusively domestic policy measures. In a learning-perspective frame, therefore, one could say that the early 1990s were important years for politicians gaining a deeper and fuller understanding of the economic consequences of climate change policy for Norway. It became abundantly clear that the country faced a set of special circumstances being a large petroleum producer and exporter, and furthermore having an electricity production based almost 100% on hydro. Both of these elements of Norwegian economy and society made abatement policy expensive, and contributed to a changed set of preferences for policy alternatives for policymakers. Other policy solutions were required than the ones employed in the acid rain and ozone depletion negotiations.

One important source of new and more thorough understanding of the climate change problem was the WCED and its report *Our Common Future*. The report was followed up with institutional changes, mainly by introducing a cross-sectoral focus on environmental issues for the ministries as described in section 4.2.2. The whole process lead to a considerable change in the sector-interest based way of handling environmental
issues in the government, where bureaucrats and policymakers involved in the process learned new ways of thinking. The chief advice to policymakers from the WCED was that to achieve sustainable development, all aspects of policy and economy had to take environmental considerations into account. The comprehensive influence of the WCED must also be understood on basis of the powerful actors that were promoting the knowledge. Prime Minister Brundtland was of course very influential. Other significant actors acknowledged the same thoughts, for instance Norwegian business and industry organizations, as well as the political parties. The broad acknowledgement of the report’s main approach became the starting point for formulating Norwegian climate policy.393

The work of the inter-ministerial climate group (IMCG) was another source of changing conceptions about climate policy options in Norway. The institutional changes incurred by the WCED resulted in a policy process where a broad range of societal and sector specific interests had to be balanced to incorporate environmental issues. Climate change policy was the first and obvious issue area where the sector-encompassing policymaking approach was explored in Norway. As a result of taking all aspects of climate policy into consideration, the people in the group went through a learning process despite some conflicts. They saw new options for what would be the best solutions for Norway’s approach to abatement of the climate change problem. The dynamics of group-identity and group-socialization were also part of the learning process of the group. When the bureaucrats representing widely different interests began meeting, they went through a process of adapting to the other group-members ways of thinking, and over time learned how the other group-members’ argumentation had to be incorporated into a more holistic approach to climate change policy. The policy advice that came from the IMCG’s work resulted directly in changed descriptions of policy options in Norway, where the focus on cost effectiveness and multilateral, flexibility solutions were central.

A third source of changes in policy description in Norway concerning the urgency of taking action to address global warming was the work of the IPCC. The First IPCC Assessment Report was presented in 1990 to the Second World Climate Conference.394 The report was used actively in Norwegian climate policy making to underscore how

important it was to take action, although the report represented better and more secure knowledge at its best. Used as evidence that uncertainty was decreasing concerning the science of climate change, the first IPCC report became an instrument that Norway used in the international arena to justify that the industrialized countries were responsible for historic emissions, and hence should take the first steps to reduce emissions.  

5.3.1.2 High degree of scientific consensus

There were some cases of disagreement about the natural science of climate change in Norway in the agenda-setting phase, although not as strong as in the United States. The uncertainty about the human imprint on climate change was considerably higher before than after the Second IPCC Assessment Report was released in 1995. Debates between researchers being either “climate skeptics” or “climate believers” took place in forums like Aftenposten, Dagens Næringsliv and Norsk Oljerevy. Particularly contested was the degree to which global circulation models (GCMs) were good enough instruments to foresee the range of expected temperature increase, and whether they have the capacity to take changing indicators into account, such as clouds, water vapor, and particles in the atmosphere. Thus, their results could not be perceived as reliable, according to the critics. However, the majority and “the establishment” among Norwegian academics were in agreement with the IPCC conclusions.

The political focus on the carbon tax as the best domestic policy alternative in this phase reflects what the economist research community considered to be the preferred policy instrument. Almost every report issued by the most renowned economic research institutes recommended taxes as the preferred policy measure. Research institutes were frequently used by the government for assessment studies and policy advice. Norwegian ministries habitually draw on research institutes to evaluate possible policy strategies, and to estimate costs and benefits. This give research institutes power and influence over the choices governments do.

As the international negotiations started to focus on flexibility and cost effectiveness, the Norwegian research community followed suit. The parallel work of the

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industry interest organizations in this phase to exchange and acquire knowledge substantially influenced and gave drive to the learning process about these new policy alternatives. The ENGOs were to a lesser extent participants in this process. Contributing to the change of focus from carbon taxes towards multilaterally oriented flexibility policies, influential research institutes like ECON, Statistics Norway, The Fridtjof Nansen Institute, and SAF all concluded in their reports that domestically based abatement policy would be costly for the country. This reified the tendency towards a change in policy, from the very ambitious Toronto statements about the responsibility for Norway to reduce emissions by 20% by 2005, to the more sober 1989 parliamentary decision to stabilize emission level at 1989 levels by 2000.

Research reports and stakeholder interest reports were taken into account when evaluations were done at the sector ministries (the Ministry of Finance, the Ministry of Trade, and the Ministry of Petroleum and Energy) and in the interministerial climate group. The assessment studies made by comparatively objective research institutes became part of the broad learning process where bureaucrats got to know unfamiliar arguments and new knowledge about how climate change and abatement policies would affect important economic sectors. Internal disagreements were defeated to a certain extent, as adjustments of positions and eventual agreement in the influential Interministerial Climate Group Report paved the way for a change in Norway’s climate policy.

5.3.1.3  Score
The Norwegian government did change its description of policy options during the agenda-setting phase. This had direct consequences for both national policy implementation as well as positions in the international negotiations about a climate treaty. Norway went from promoting ambitious domestic policies like carbon taxes, to supporting multilateral flexibility policies to achieve maximum global cost effectiveness.

Despite a certain amount of disagreement and debate in both the news media and in refereed journals about the natural science of climate change, the majority of the Norwegian scientific community was committed to the theory that human made emissions will cause climate change. Concerning policy advice, the science community
(mostly social science) was in consensus about what policy alternatives would be most economically sound for Norway.

In the analysis I find an unambiguously high presence of both the elements: the government’s description of domestic climate change policy options did change as a result of new information and research, and there was a high degree of consensus within the scientific community in the country about the science of climate change and the options for climate change policy. The membership in the set is fully in, and the score is set to 1.

5.3.2 Norway in the domestic bargaining phase (1994-2001)

5.3.2.1 Policymaking process

IPCC second assessment report was presented in 1995, and it represented a higher degree of confidence in impacts estimations, knowledge about the atmosphere and what changes it, and in the use of the GMCs. All in all, it represented more secure and nuanced knowledge about human induced climate change. Still, it did not represent a major change or leap in knowledge, and thus it is not correct to say that there have been substantial improvements in knowledge about the reasons for and consequences of climate change in the late 1990s. Policy description can therefore not be expected to have changed in Norway as a result of learning processes based on the natural science of climate change.

In social science research, progress has been made on how to understand the problem’s effect on society both economically, technically and politically. After 1994, economic research in Norway has been focused on cost effective implementation of the carbon tax, and the flexibility strategy of the government and how it will affect the national economy. A lot of effort has been put into estimating and modeling the effect of emission trading and joint implementation. However, there has not been agreement within the economic field of research to the same extent as it was prior to 1994.

Differences in opinion and research results have to a large degree centered on the effects of a system with tradable permits: how can permits be distributed among emitters in a cost effective way? Should the allocation of permits be performed as a support mechanism to export oriented industries? Would emissions trading mean a more cost
effective reduction policy than carbon taxes? The policy advice coming from economist research institutes has been coherent in recommending emission trading as a cost effective policy instrument. Carbon taxes have also been considered a cost effective alternative, but have been regarded as less fruitful given the agreement on the flexibility mechanisms under the Kyoto protocol.

New technology-related knowledge has had a visible impact on policy description in the domestic bargaining phase. First and foremost this applies to technological research focused on oil and gas related activities. The prospects of being able to produce natural gas for sale and power production in Norway with reduced or zero CO₂ emissions became actualized by research initiatives from technological research environments supported by large oil and gas producing companies, and the environmental NGO Bellona. Sequestration of CO₂ emissions in the sea bed developed to be a realistic possibility for the short to medium term. For a large petroleum producer like Norway, this kind of information has been vital. It opens for domestic use of natural gas in electricity production without heavy protests and opposition in the public. Politically, it had direct bearing on the Centre-government’s changed perception of possible policy choice. After 1997-98, the centre-left coalition of Norwegian political parties has approved of building gas-fired power plants on Norway’s west-coast contingent that new sequestration technology could be used.

The fact that major petroleum companies like Norsk Hydro and Statoil have signalized interest and directed research funds into sequestration technology, as well as other global warming related issues like phasing in of renewable energy into the Norwegian energy market, provided the government with new knowledge about these issues and opened for acceptance from major actors to incorporate them into adjusted policy programs. The same can be said about emissions trading. Industry associations have been part of providing new knowledge to the government, which has opened for political support for a national emissions trading system.

Despite revisions of Norway’s policy after 1994, the main strategy of a multilateral approach with maximum flexibility concerning implementation of emissions reductions remains the basis. As we have seen, technology solutions have become a new part of policy solutions during the phase, and for Norway as a major petroleum producer
and exporter this has been very important. The change from describing taxes as the preferred policy instrument to considering a national tradable permits system is the other major change in Norway’s policy descriptions in this phase. In 1996, the Green tax Commission presented its report on how green taxes could be used as measures to reduce GHG emissions. The parliamentary majority, instead of starting to implement green taxes, decided that a new commission should explore and assess the benefits of a domestic permit trading system to replace the carbon tax. The national system will be linked to an international emissions trading system when the first Kyoto period starts in 2008.

5.3.2.2 Science community: a few dissenters

In the Norwegian natural science community, there have been few dissenters from the mainstream, IPCC-based reasoned conviction that human activities are causing the climate to change. Alternative theories have been discussed in the domestic bargaining phase, without having become more than short term basis for newspaper debates. The most discussed theory was supported by Brekke and Engvold, and concerned the effect of solar radiation on temperature changes. They claimed that solar variations such as increased radiation and subsequent effects on weather patterns and sea currents must be considered as causes for global warming.\textsuperscript{397} In 1997 a group of Danish researchers presented a theory about how variations in cosmic radiation has affected the lower parts of the earth’s cloud cover. Increased solar activity influences the earth’s magnetic field allowing less cosmic radiation to penetrate the atmosphere, resulting in fewer low clouds on earth. Fewer clouds have lead to increased exposure to solar radiation and increased temperatures.\textsuperscript{398} The theory stirred a heated debate in Norway, with strong opinions and personal engagement, although the academic circle of climate change scientists is not very expansive in Norway. Some of the researchers that were skeptics in the early years have later expressed more convincement about the reality of the human imprint on global warming. After the second IPCC report in 1995, the academic debate in newspapers and refereed journals have continued, but with fewer skeptics.

\textsuperscript{397} Brekke, P. (2003), and Stalsberg, L. (2002).
\textsuperscript{398} Svensmark, H. and E. Friis-Christensen (1997).
In the social sciences, the differences have focused around clarifying the benefits of an effective allocation of costs in a tradable permit system, versus the costs when direct regulations or carbon taxes are applied as emission reductions instruments. Some economists have found that carbon taxes function to maximize cost effectiveness, but this is contingent on the government’s ability to tax all sectors of society. It is in each producer’s own interest to equate his marginal abatement cost to the emission tax. As long as all producers face the same emission tax, marginal abatement costs will be equalized across sources. However, cost effectiveness requires that emissions are verifiable and that the rate of taxation is socio-economically correct. Due to constraints on information, it is difficult to determine the optimal rate of taxation. Thus, goal attainment becomes uncertain. Prior to implementation it is difficult to establish to what extent emissions will be reduced at a given rate of taxation, i.e. uncertain control effectiveness. If a country is committed by an international agreement to reduce emissions by a certain percentage, this can be a disadvantage. In the search of the socially optimal level of taxation, the government will have to use a method of trial and error. During this process, business and industry will have fluctuating operating conditions from year to year, which they may view as a disadvantage. Much of the social science research effort in the late 1990s has focused on specifying how an emissions trading system will avoid many of the imperfections of a carbon tax. Furthermore, the politics of climate change have been studied, but without any large controversies within the research community.

5.3.2.3 Score
The Norwegian government did change its description of policy options also during the domestic bargaining phase. In the case of carbon sequestration technology it has had direct consequences for national policy implementation. New knowledge about the benefits of a national tradable permit system did not result in such a system being implemented during the period, although a tradable permit system definitely developed to become a policy option during the phase. However, the carbon tax remained the main

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policy instrument throughout the 1990s. Internationally, Norway continued to support multilateral flexibility policies to achieve maximum global cost effectiveness. Debates about alternative theories to explain global warming, particularly on solar radiation, continued in both the news media and in refereed journals. But the majority of the Norwegian climate change science community conformed to the IPCC main conclusion that the balance of evidence show a discernible human imprint on the earth’s changing climate. Social science based policy advice focused on outlining how a tradable permit system would be beneficial for the economy. Differences in opinion concerned which policy alternatives would be most economically sound for Norway.

In the analysis I find both the elements present, but not unambiguously: the government’s description of domestic climate change policy options did change as a result of new information and research, but no new policy was implemented. There was mainly consensus within the scientific community in the country about the science of climate change and the options for climate change policy. The degree of membership in the set for Norway was more or less in, and the score is set to .67.

5.3.3 Germany in the agenda-setting phase (1988-1995)

5.3.3.1 Establishing firm policy description

In Germany, perhaps even more active than in other European countries, a learning process was initiated at the end of the 1980s. The public opinion and the international attention to the climate change problem brought on the establishment of the parliamentary Enquete Commission (1987-1994). German politicians saw the need for thorough information about this complex problem that they were forced to address. Through the commission, knowledge was produced in the sense of actively interpreting the science and formulating political needs. All political parties participated actively in the national debate around the issue at the time, together with scientists, industry interests, trade unions, and other environmental interests in Germany. The work of this commission is considered to be extremely successful and to have shortened the phase of issue framing considerably. The special feature of the commission was that it resulted

\footnote{Beuermann, C. and J. Jäger (1996): p.194.}
in a process of joint learning and interpretation of knowledge for group-members that represented the lion’s share of influential policymakers. Hence, the basis of knowledge and the understanding of climate change became similar among the members of the group. Employing a broad range of research environments in Germany, it included the best of Germany’s human resources in this effort to hasten the learning process.

Another important element that made the Enquete Commission a success was the fact that its leadership was conducted in a very objective way. The leader team, from CDU and SPD, were able to lay aside traditional differences and work together in the Commission in a constructive way. This enabled the commission to become trusted as a learning ‘platform’ for all political parties and interest groups, and contributed to increasing the effect of the commission on German policy choice. It became a common knowledge base and a reference point for all participants in the parallel and subsequent national policy-making phases.

German policy description and implementation was also influenced by the work of the IPCC in the agenda-setting phase. The IPCC research has functioned as an important basis of legitimacy for German research results. For instance, during the work of the Enquete Commission, careful comparisons with IPCC’s results were made all the way. German research institutes have been among the leading in the world on climate change science, as for instance the Max Planck Institutes with researchers that have contributed to the IPCC assessment reports. Max Planck institutes specialize in engaging in “new, particularly innovative fields of research which have as yet not found a footing at universities or are at the forefront of a particular field of emerging research.” As the climate change research areas are often interdisciplinary in character, they have acquired special attention within the German research communities. The federal government underlined that intensified interdisciplinary and international cooperation was required to seek solutions on how and when to address the global warming problem. The government established a “Scientific Advisory Board on Global Environmental Change” in April 1992. The board prepares an annual report on the status of global environmental change and its consequences, and provides recommendations on how to eliminate and prevent

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401 Ibid., p. 195.
undesirable developments. With the use of such instruments, the government was able to keep an updated learning process going that was based on mainstream IPCC-conform conclusions about human made climate changes and their impacts. Policy description of alternative abatement policies were therefore informed by climate change science research results that were uniform in character.

The Potsdam Institute for Climate Impact Research (PIK) was founded in 1991 to become a center for research into the consequences of climate change. The goal was to utilize climate research findings to develop concrete political decisions and measures. Impacts research remained at an early stage in the agenda-setting phase, not producing any major findings or path-breaking results. Another special effort to build new knowledge was established through the IKARUS research program. The focus there was explicitly stated to be “to support the preparation of logical overall strategies for reducing emissions.” With the help of a range of instruments, consisting of computer models and databases, the technical options of various strategies for reducing energy-related emissions of GHGs were tested, compared, and contrasted. The IKARUS program, in feeding in to the Enquete Commission participated importantly to decide the terms and shape of the German climate policy program. The program, with its long list of direct regulations and measures, remained stable within this main concept during the agenda-setting phase.

Many German economists and political scientists performed research on the pros and cons of environmental taxes in the early to mid 1990s. Especially Ernst von Weizäcker (Wuppertal Institute) was a vocal and publicly visible driving force in this work. The focus was on describing the benefits of a transfer from taxation of labor to taxation of environmentally harmful activities such as driving cars, so-called green taxes. Studies were presented that showed how the German economy could benefit, particularly as a result of new employment opportunities in new branches like renewable energy and energy conservation. Public debate and political discussions did however not result in policy decisions to implement green taxes in the agenda-setting phase. The reason for this

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402 As stated at the Max Planck institutes website: [http://www.mpg.de/english/institut/was_ist.html](http://www.mpg.de/english/institut/was_ist.html), 04.07.02
404 Ibid, p. 329.
might lie in the fact that the convincement of the Christian-conservative government about which policy solutions would be possible to implement were deviant from what the green-tax research showed. Well established conceptions and issue frames are often difficult to change. Furthermore, structures of power and influence in German society, where the business and industry associations have very well-developed connections into the Christian-conservative party, spoke against introduction of green taxes from a Christian-conservative government.

The interministerial working group (IMA) that was established in June 1990 actively used a range of research reports during their work with developing the national climate policy program. The problem definition that developed as a result of the discussions in the group was partly a result of a learning process where the bureaucrats involved got to understand new sides of the climate change problem. Having the same focus – climate change – across a range of ministries representing different sectors of society brought out the complexity of the problem, and induced new knowledge to the group members. Perceived options for policy choice were established during the IMA-group’s work. However, the politics and balancing of sector interests between the many ministries involved was another major factor to explain the outcome of the process.

5.3.3.2 Science community in general agreement

Climate change skeptics’ alternative theories on why the global temperatures are rising have not gained a grip on the public opinion or the policymaking process in Germany. As in all countries, debates have flourished in the news media and in refereed science journals but without causing any visible changes in policy direction. Particularly around the time when IPCC presented its reports – in 1990, 1992 and 1995 – the debate intensified. Books and articles written by authors little known on the international scene and with no expert scientific review questioned the IPCC findings, claiming they did not take sufficient account of solar activity. The main message was that the observed warming was attributable to variations in solar irradiation and there had already been warm and cold periods in the past which overshadowed anything man might cause.406

Researchers from German universities, the Max Plank institutes, the Helmholtz Society, and others repudiated these critics, and said that even though individual results and working hypotheses must be continuously examined, these critics must not be allowed to create the impression that climate research and its findings as a whole should be questioned.\textsuperscript{407}

5.3.3.3 Score
The remarkable joint learning effort in the Enquete Commission lead to a shortened issue framing phase, and general agreement among political parties and others involved in the policymaking process about the available policy instruments. This laid the groundwork for a stable policy description in Germany in the agenda-setting phase, but with new measures being added to the list of the national climate protection program. Research programs and other efforts to gain new and more thorough knowledge about the climate change issue did not lead to major changes in policy description in this phase.

The scientific community in Germany experienced discussions about the significance of human activity for the observed temperature increases, as was the case in most other countries. However, the majority of scientists and researchers fell into the category of believers. The few that were climate skeptics did not manage to create serious cracks into the high level of consensus in the German science community. Skeptics did not gain any serious level of attention.

In the analysis I find both the elements present: the government’s description of domestic climate change policy options was stable, but new measures were added in the national climate protection program. There was mainly consensus within the scientific community in the country about the science of climate change and the options for climate change policy. The degree of membership in the set is mostly but not fully in, and the score is set to .83.

\textsuperscript{407} Ibid., p. 83.
5.3.4 Germany in the domestic bargaining phase (1995-2001)

5.3.4.1 Policymaking process

Following the developments in the international negotiations after COP1, German researchers worked with and discussed how market-based mechanisms like emissions trading would affect the economy of the country. At important research institutes like the Hamburg Institute of International Economics, the Rhine-Westphalia Institute for Economic Research (RWI), and the Fraunhofer-ISI, a range of reports and papers have been written about the use of flexibility instruments in the German economy.\(^{408}\) However, this research effort did not have any significant response in changing policy descriptions or options up until recently. The German national climate policy program remained focused on hundreds of detailed instruments that allow taking influential interest groups into account. Researchers have criticized the government for not being willing to consider a national emissions trading system, since economic research show that it will be a cost effective policy alternative for Germany.\(^{409}\) Not until late in 2000 did the Ministry of Environment establish an assessment group mandated to make recommendations for a national system of tradable permits.

Green taxation had been a big issue in German climate policy debate in the mid 1990s. After the change of government in 1998, new possibilities opened for green tax lobbyists. The Greens had been advocates for using taxes as an instrument to steer consumption towards environmentally friendly products and energy conservation. Hence, the prior understandings and problem conception of the new government was different from the Christian-conservative coalition. The ecological tax reform was initiated in 1999. However, this being part of a regime change in German politics, it is not possible to conclude that learning was a significant contributing factor to the change in policy description. This despite the fact that German researchers had over a long period of time provided a thorough knowledge basis on the subject.

Contributing to this knowledge build-up was also interest organizations like the BDI and Greenpeace. BDI has a research department that has actively worked to contribute information about the benefits of voluntary agreements and market oriented


\(^{409}\) Michaelowa, A. (2002): p. 4
policy instruments. The industry association was an opponent to the ecological tax reform, and also to the idea of introducing a domestic emission trading system. BDI has worked to preserve the policy description and perceived possible options for policy instruments stable after the change of government in Germany in 1998. Greenpeace has been a supporter of using taxes as policy instruments to adjust demand and consumption in a more environmentally sound direction. The organization has supported and funded studies into how taxes work for the German economy that have become influential documents in the political process.

Focused building of knowledge about climate change and alternative policies to address it has been a prioritized issue for both the Christian-conservative and the SPD/Greens governments. The two most important institutions providing funding and support for research in Germany are the Ministry of Education and Research (BMBF) and the German Research Foundation (DFG). Through high level of funding of environmental and climate change research in important programs like IKARUS and the National Climate Research Programme Germany has reached an advanced level of research in the fields of climate and atmosphere, and hydrosphere. The results have contributed to more nuanced and secure knowledge about the natural science, but have not resulted in knowledge that have forced the sitting governments to induce big changes in policy description or implementation of policy instruments. This reinforces the conclusion that learning was not a significant contributing factor to the limited amount of changes in policy description that took place in the domestic bargaining phase.

The collaboration between ministries continued in the domestic bargaining phase in the interministerial working group working with CO2 reductions. Consisting of the five most relevant ministries, it had the role of developing policy alternatives and additional measures for Germany to apply to achieve its CO2 reduction target. The exchange of information and knowledge between the ministries within the group is important, although the most intense exchange of new knowledge between sector-interests took place in the agenda-setting phase. Over time, the different group members have become

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adjusted to cross-sector considerations that have been necessary to consider in climate change policymaking.

5.3.4.2 Some climate skeptics

Some scientists have been vocal opponents to the mainstream conception of the climate change problem, like Gerd Weber and Helmut Metzner. Weber has argued that the climate change issue has been hyped up as an imminent catastrophe in the news media, whereas it should be perceived as a natural phenomenon. In 1995 in Leipzig, and again in 1996 in Tübingen, academic symposiums on the environment gathered a group of climate skeptics from Germany, Europe, and the United States to discuss the counter-arguments to the IPCC/mainstream conception of the anthropogenic greenhouse effect. Furthermore, the journal FUSION holds the standpoint that the “limits to growth” can be overcome with new qualitative science-technical developments. It specifically repudiates “politically motivated and false environmental arguments to justify a policy for ‘sustainable development.’”

The “establishment” and the majority of German scientists support and contribute to the IPCC conclusions about the human influence on global climate. Being part of the international networks of climate change research, like the IPCC, the WMO and IHDP, German scientists have been part of developing the international norm in the 1990s, where industrialized countries were learning more and more about the interconnectedness between the environment and human actions that could disrupt the ecosystems.

5.3.4.3 Score

The learning effort achieved in the Enquete Commission continued to ensure a stable policy description in Germany also in the domestic bargaining phase. Research programs and other efforts to gain new and more thorough knowledge about the climate change issue did not lead to changes in policy description in this phase. A serious evaluation of a

415 As stated on the FUSION website at: http://www.solidaritaet.com/fusion/index.htm, 04.07.02.
national quota system did only commence after the issue was decided on the EU level. The implementation of the ecological tax reform came about after a change of government, and it is therefore not possible to classify as a clear case of learning-induced change of policy.

In the domestic bargaining phase a more nuanced and secure level about both the natural science of climate change and social implications of abatement policy and impacts were achieved. There were some dissenters in the scientific community in Germany that were skeptic to the significance of human activity for the observed temperature increases, as was the case in most other countries. However, the majority of scientists and researchers fell into the category of “believers.”

In the analysis I find some changes in description of national climate change policy options in combination with some disagreement within the scientific community in the country, not so much about the natural science of climate change but more concerning alternative options for climate change policy. This is interpreted to signalize some willingness to change the status quo as a result of new information. The degree of membership in this causal set is more or less in, and the score is set to .67.

5.3.5 The United States in the agenda-setting phase (1988 – 1996)

5.3.5.1 Policymaking process

Learning involves both prior understanding and new information. The George H. W. Bush administration comprised a president that was generally uninterested in the subject,416 and aides that were skeptic about the seriousness of global warming and convinced that policy action would affect the economy in a negative way.417 The policy description of the issue was informed by these prior understandings of the problem. Acknowledging the need for more information and research into climate change, the Bush administration initiated the U.S. Global Change Research Program. During the agenda-setting phase, climate change science produced more nuanced knowledge, giving us a higher degree of certainty concerning the effect of human activity on global

417 Ibid., p. 105.
warming. However, there were no major, path-breaking discoveries that resulted in major shifts in policy description in the United States in the period.

In 1990 the Global Change Research Act was adopted, and it provides a mechanism for coordinating research and policy development interests of the government organizations involved.\(^{418}\) This mechanism for continuous information between government agencies has the potential to counteract the negative effect on learning within the government, stemming from the exchanges of staff, both within a presidential administration and when a new administration is formed. Under the U.S. system, the president appoints people to governmental positions to a much larger degree than in European countries. The exchange of staff will slow down the learning process for an issue like climate change, as new people will need some time to get up to date.

The main policy efforts initiated by the Bush administration were more research funding and a program for voluntary action by industry to achieve emissions reductions - a Department of Energy program that encourages companies to report their carbon emissions and voluntarily reduce their emissions levels. The program, created in 1992, until now has had loose reporting requirements and a mixed record of success. All in all, climate change policy description was stable under Bush.

Under the Clinton administration the situation for prior knowledge was that vice president Al Gore had substantial knowledge and interest for climate change, a fact that seem to have influenced the weight given to the issue in that administration. Both Clinton and Gore referred to climate change as a serious challenge to the United States regularly in public events, and the policy description of the issue was more proactive than in the Bush administration, for instance in the Climate Change Action Plan.\(^{419}\) The differences in prior understanding of the climate change problem can partly explain the different attitudes and approaches to address the problem in the two presidential administrations. Although the reports of the IPCC, in 1990 and 1995, produced more nuanced and precise knowledge, they did not represent big leaps in new knowledge. The reports had a varying degree of influence both on the international negotiation process, and on domestic policy under different presidents. The reports were authoritative for the Clinton administration’s

\(^{418}\) U.S. Department of State (1997): 170-171
acceptance of the impacts of global warming, and for introducing voluntary climate policy initiatives.

The United States has been heavily involved in climate change research for several decades. It is the country that invests most money in the world on this type of research; in fact it is responsible for over half of the world’s funding of climate change research. The U.S. Global Change Research Program is central in the research effort, as well as a host of government departments and agencies. A high knowledge level generally increases control with the shaping of policy alternatives. Other actors copy and support the policy initiatives carried out in countries possessing the highest level of relevant knowledge. The implications are that social learning will lead to diffusion of policy measures and ideas between countries. As we have seen earlier in this thesis, the United States was able to shape the direction of the negotiations, by being innovative in introducing policy design proposals that secured emphasis on the most important American preferences and interests. The comprehensive approach, the flexibility mechanisms, and the participation of developing countries have all been important elements in the U.S. effort to steer the focus of the negotiations in a certain direction.

As these policy approaches were introduced into the negotiations, the U.S. government agencies and negotiating team put a lot of effort into information to other countries. Seminars and bilateral talks were important instruments in the information strategy of the government in this phase. After the United States at COP2 in Geneva accepted a targets and timetables approach, the emissions trading concept was fully included in the country’s policy description and became a pivotal negotiation position. It did not, however, lead to changes in domestic policies.

The diffusion of knowledge also happened between domestic actors. Social science research combined with prior experience from the SO2 trading regime provided U.S. policymakers with policy options at an early stage that secured a market-oriented approach to reducing greenhouse gas emissions. However, no steps were made to actually implement for instance a system of tradable permits. This was consistent throughout the phase. Similarly, the inter-agency working group that worked together throughout the 1990s socialized and learned from each other’s expert areas. The climate change issue is so complex that people that work with it over several years gain an expertise that is
valuable to share with others through such a forum. The interagency group has in addition been instrumental for people working with climate change in the many sector departments/agencies to come to know each other well. Hence, new knowledge is shared and conceptions formed in a group setting, and this influence the policy shaping.

5.3.5.2  Disagreement about science

Public debate of the climate change issue in the United States has been marked by disagreement about the science of climate change. The debate was stronger in the agenda-setting phase than in most of the other Annex 1 countries, where the mainstream view was accepted to a higher degree. Whereas mainstream scientists were given the bulk of attention in European news media, in the United States a comparatively small group of “skeptics” gained substantial attention. Scientists like Patrick Michaels, Richard Lindzen and S. Fred Singer repeatedly pointed out that there is no correspondence between the increase in human-made carbon dioxide emissions and world temperature. Their claim is that scientists know too little about dynamics like the ocean-atmosphere exchanges, the role of clouds, and the mechanisms of the deep oceans’ transfer of heat from equatorial to other latitudes. Also they point out that general circulation models (GCMs) are technically unable to perform the large numbers of calculations needed to completely simulate climate systems.\(^{420}\) The fact that these scientists were so highly profiled in the news media influenced the information flow about climate change in the United States. The uncertainty that is inherent in the climate change issue makes it complicated to perceive for both laypersons and experts. Hence, disagreement among experts was easily conceived as a sign of confusion by both the public and politicians.

The economic costs that climate change abatement would induce was also highly debated in the United States, especially after 1996 when the country had agreed in the international negotiations to legally binding targets and timetables. There were widely different estimations, ranging from William Nordhaus’ pessimistic predictions about a loss of between 2 and 4 percent of GDP, to the CEA’s more optimistic analysis predicting only minor costs, as we saw in chapter 3.

The lack of scientific consensus is linked to the political system design in the United States. The U.S. political system is open, with access for all interest groups to try to influence decision-making. Often the policy positions of different interest groups are backed up by scientific reports, supporting the opposing views. The fact that all sides can claim that support for their view is found in science may have lead to a development of a more generally critical evaluation of scientific reports and studies used as policy background in the public opinion and probably also with policymakers. On the other hand, when a scientific consensus is reached within such a system there is a potential strength behind the argument, and it has leverage. In the case of climate change, the inherent uncertainty of the issue has been at the centre of the public debate.

Government agencies use external expertise to do research and assessment on climate change related subjects to increase their knowledge. The State Department does not do projects or analyses, but the DOE, EPA, and USDA do a substantial amount of research. A fair amount is performed internally, like for instance the Clinton administration’s economic analysis of the costs the Kyoto protocol was an inter-agency effort. The CEA was involved, as well as USDA, EPA, and a host of other agencies. However, a lot of this kind of work is contracted out. Big contracting firms do analysis, as do academic organizations, NGOs and other sets of expertise in that particular issue area. Some of it becomes publications, for instance an EPA paper, and some of it is funded and published without reference to governmental institutions.

5.3.5.3 Score

Policy description in the United States in the agenda-setting phase changed when a new president came into office. But within a presidential regime, the policy description stayed remarkably stable. An exception is the change in negotiation position at COP2 in Geneva, and the resulting focus on emissions trading as the best policy instrument. The interpretation here is that since there was no major shift in knowledge about the climate change problem, no major learning-induced shifts in policy description did take place. The disagreement within the climate change science community in the United States was high in this phase. There was also disagreement between economists presenting different estimates of the costs of climate policy.
In the analysis I find consistency in the government’s description of domestic climate change policy options despite new information and research, combined with a high degree of conflict within the scientific community in the country about the science of climate change and the options for climate change policy. Membership in this causal set was therefore neither in nor out, and the score is set to .50.

5.3.6 The United States in the domestic bargaining phase (1997 – 2001)

5.3.6.1 Policymaking process

After the second IPCC assessment report in 1995, there was still no major change or leap in knowledge level. Likewise, the U.S. Global Change Research Program’s assessment report in 2000 gave more thorough insights into the impacts that climate changes and temperature increases will probably have in different geographical regions and important sectors of the U.S. economy. But none of these reports resulted in marked shifts in climate policy as a result of learning. Concerning social science research results, no major news were produced that resulted in changed policy description.

The second Clinton administration more or less continued on the same policy track during the domestic bargaining phase as his first administration had paved out earlier in the 1990s. The focus was on market-based, flexibility approaches as the preferred choice of policy. In the international negotiations after 1997, the United States continued to be actively involved in shaping direction and alternatives for implementation of the Kyoto protocol. Emission trading was a central issue in this phase. Within the Clinton administration, learning continued in the interagency working group. Substantial changes came about when a large share of bureaucrats left the group after Kyoto, and again after COP6. This was a result of the change-over of staff often common in these interagency focus groups. However, the people that work on climate change related policy issues in the entire administration, in different agencies and departments, work on the subject all the time, and have regular contact.

Certain domestic actors changed their policy description markedly in this phase. Some industries started to realize that the climate change problem wouldn’t go away, and that they had to take it into account when assessing investment costs for the future. A
stable policy was preferred in such a situation. Hence, industry actors that had previously been in denial about the existence of the climate change problem changed their attitude after Kyoto. They saw the necessity of being prepared for new market conditions in the future, and for doing technology investments and innovations within a stable policy direction. Why this change in perception of global warming? The major factor here was most likely that the industrialized countries were able to reach an agreement on stringent reduction targets at the Kyoto conference. This created a whole new situation for American industries that are vulnerable to changes in the international markets. More information was sought in new fora for firms that expected to be affected by climate change policies in the future. Examples of such initiatives to bring together actors to inform each other and to learn from each other were developed under the Pew Center on Global Climate Change and in the International Climate Change Partnership.

The Pew Center’s Business Environmental Leadership Council, is a group of leading companies worldwide that are responding to the challenges posed by global climate change. The council works to explore how companies can contribute to solutions both nationally and internationally through their own products, practices, and technologies. Also, the Pew Center facilitates meetings between business and environmental NGOs as a bridge-building initiative and a way to make them talk to each other. Over time an increased knowledge level must be expected as a result of such work, where the members of the group will have preferences and interests shaped by the information in the group and what they learn there.

The International Climate Change Partnership (ICCP) is a global coalition of companies and trade associations from diverse industries committed to constructive and responsible participation in the international policy process concerning global climate change. ICCP members encourage policymakers to act to slow the rate of growth of greenhouse gas emissions. The ICCP has stated this process should identify a scientifically based, long-term, comprehensive goal; include a significant role for business and industry expertise and participation in the technical and economic assessment process; recognize the long lead times needed for technology innovation and dissemination; include commitments - possibly differentiated - for developing and developed countries and preserve maximum national flexibility in achieving these
commitments; avoid creating industry-specific rules; and provide monitoring and enforcement to ensure equitable participation of all nations.421

Partly as a result of changed perceptions in coalitions like these and in major industry companies like BP Amoco and DuPont, policy options including voluntary commitments by industries to reduce their GHG emissions became more realistic in American politics. Voluntary approaches and tax incentives were the main elements in all the climate change policy programs that Clinton initiated during his presidency. Even when George W. Bush decided to withdraw the U.S. signature to the Kyoto protocol on grounds that it would affect the American economy in a negative way, many industries – among them utilities and energy companies – criticized him for not taking the necessary policy steps, and that postponing mandatory reductions that eventually would come was only making their investment calculations more difficult.422

5.3.6.2 Higher degree of scientific consensus

In the domestic bargaining phase scientific disagreement became less dominating in the United States. In the Second Assessment Report of the IPCC more than 2000 of the world’s best climate researchers stated that “the balance of evidence suggests that there is discernable human influence on global climate.”423 A broad agreement like that is of course difficult to reject. The report had direct consequences for the direction of research in the USGCRP, which stated in its 1997 report to Congress that “Among the results of the IPCC assessment is the identification of limitations in scientific understanding and of areas where additional research would be particularly helpful in resolving remaining questions. In formulating the USGCRP research activities in this element of the program, the agencies focus on addressing the findings of the IPCC and the uncertainties identified by the National Academy of Sciences and the broader scientific community in their consideration of this issue.”424 Hence, the IPCC report had a strong influence on the research questions that were focused on in the United States – the country in the world that uses most money on climate research.

421 See the International Climate Change Partnership website at: www.iccp.net.
The scientific community, through the IPCC Second Assessment Report, projected that during the next century and beyond human influences will alter the climate to an extent almost as great as the changes associated with going from past glacial to interglacial period. It became more difficult for scientists with opposing views to convince others that their findings had a higher significance level than the IPCC research. In addition, revelations were made about substantial research funding to high profiled “skeptic” scientists like Patrick Michaels and Robert Balling, from the coal and oil industries.\textsuperscript{425} During the domestic bargaining phase, then, these scientists lost credibility and much ear in politics and industry decision making circles.

In spite of this, disagreement and uncertainties about the science of climate change are still debated in the United States as in other countries. For instance, the effect of soot and particles on radiation is a debated issue in connection with the reliability of the General Circulations Models employed at the Climate Simulation Laboratory at the National Center for Atmospheric Research (NCAR) - a super computing resource that is used by scientists funded by many different agencies to predict future climate changes in the long term. Serious objections have been made that GCMs are unable to perform taking abrupt and unexpected future events into account, and thus produce unreliable results based on input derived from incomplete information.

In a recent assessment report by the National Academy of Sciences, performed at the request of the George W. Bush administration in 2001, the uncertainties of climate change were underlined. The report said that the conclusion of the Intergovernmental Panel on Climate Change (IPCC) that the global warming that has occurred in the last 50 years is likely the result of increases in greenhouse gases accurately reflects the current thinking of the scientific community. However, it also cautioned that uncertainties about this conclusion remain because of the level of natural variability inherent in the climate on time scales from decades to centuries, the questionable ability of models to simulate natural variability on such long time scales, and the degree of confidence that can be placed on estimates of temperatures going back thousands of years based on evidence from tree rings or ice cores.\textsuperscript{426} This reflects the notion that in the large majority of U.S.

\textsuperscript{426} National Academy of Sciences (2001).
climate research communities, the convincement that global warming is happening is not doubted. The discussions are centered on the role of humans as responsible for climate changes.

5.3.6.3 Score
We see that in the domestic bargaining phase policy description stayed stable within the Clinton administration, which focused on achieving maximum flexibility through the Kyoto protocol. Knowledge improvements, as with the IPCC second assessment report and the USGCRP assessment report were conceived of as supporting the Clinton administration’s positions. The George W. Bush administration on the other hand has remained critical towards the protocol, and has repudiated it on grounds that it would be too economically harmful.

A range of industry actors moved towards accepting climate change as a problem that need to be addressed, and started to demand policy action to secure a stable investment environment. This process has halted to some degree as a result of Bush’s rejection of the Kyoto protocol.

The disagreement within the scientific community eased in the United States in this phase, and the skeptics got less media coverage than in the early to mid 1990s. In the analysis I find consistency in the government’s description of domestic climate change policy options despite new information and research, combined with a lower degree of conflict within the scientific community in the country about the science of climate change and the options for climate change policy. Membership in this causal set was therefore neither in nor out, and the score is set to .50.

5.3.7 Summary
I interpret the summarized scores in table 5.2 to indicate that the present analysis gives partial support for the assumptions of the SLI model on “learning” as defined here.
Table 5.2

<table>
<thead>
<tr>
<th>Cases</th>
<th>Policymaking process: score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>1</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.67</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>.50</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>.50</td>
</tr>
</tbody>
</table>

The assumptions that changes in government description of policy options as a result of new information and degree of scientific consensus can explain important features in the development of a country’s policymaking process and certain aspects of policy outcome are supported. As we saw in the analysis above, the lack of scientific consensus in the United States combined with few changes in policy description can be interpreted to be as the SLI model assumes: it affected both the policymaking process and the choice of policy instruments. Prior knowledge prevailed over new information, especially as the new information appeared to be incoherent or uncertain. The same was the case with Germany in the domestic bargaining phase, which had some conflicts in the scientific community – particularly within the social sciences concerning policy advice – and few changes in policy description. In Norway, on the other hand, there was little conflict within the scientific community, and substantial changes in terms of description of policy and options. This supports the model’s assumption that high scientific consensus have had an influence, allowing for new information to prevail over previous knowledge.

Looking now at the link between ideas and learning, it becomes clear that this allows an even more fruitful explanation of differences between the three countries. Lack of scientific consensus combined with unchanged conception of policy options would logically lead to strongly culturally bound road maps and the opportunity to create focal points in the negotiations. In other words, the policymaking process in the United States
and Germany in the domestic bargaining phase can be understood in the following way applying the assumptions of the SLI model. Lack of consensus within the scientific communities of the countries led to uncertainty regarding new information. There were no “smoking gun” findings, or broad agreement about policy options. This in turn led to prevalence of previous knowledge in terms of conceptions of policy options, which were strengthened by culturally rooted filters creating road maps for the policymaking process.

For Norway, the policymaking process can be understood by the seemingly high consensus in the scientific communities, and the resulting certainty regarding new information about policy options and advice. This led to overturning of existing knowledge, and was strengthened by the decreasing importance of culturally rooted filters and road maps.

Furthermore, the link between what happens in the international negotiations and in the domestic policymaking process becomes more understandable. When there are developments at the international level in terms of policy perception and options, this is transferred to the domestic policymaking process via cultural filters of conception. For instance, when Norway had a marked change in policy description and perception of options in 1990-91, this came as a result of developments in the international negotiations combined with a domestic policymaking process that opened for acceptance of new information about these subjects. This linkage can be flip-sided for the United States and Germany. These two countries were able to create focal points in the negotiations based on culturally rooted road maps, resulting from a policymaking process that did not allow for dominance of new information in terms of changing policy description and perception.

The conclusion I draw is that the SLI model gives us increased knowledge and understanding that is more detailed and nuanced than the URA and DP models are capable of when it comes to sources of climate change policymaking. Even though the SLI model can not contribute fruitfully in terms of predictions about the level of proactive climate change policy a country would choose, it can give us increased understanding about other important aspects of policy outcome, and the development of the policymaking process. As such, the SLI model can add an extra dimension to the URA and DP model analysis. For example, massive scientific consensus about policy
options or “smoking gun” findings can create both governmental supply and public pressure for new climate policy initiatives, as in a situation where climate changes can be proven to be the reason for recurring human disasters like flooding or land-slides. The public pressure and governmental policies that this consensus could lead to would have an effect on what level of proactivity a country would choose. Hence, when governmental supply and public demand and support are included into the analysis of the effect of a solid scientific consensus, a broader analytic conception of climate change policymaking becomes possible. The SLI model, in other words, adds a new dimension to the DP model analysis, and the two perspectives can provide a broader understanding in this kind of analysis.
PART THREE: COMPARATIVE ANALYSIS AND CONCLUSIONS
6 COMPARISON AND CONCLUSIONS

6.1 Introduction

The three explanatory models assume that certain elements are decisive in the policymaking process and for policy outcomes. Chapters 3, 4, and 5 reviewed whether the assumptions of the three models were in fact important in the selected countries. The scores were a signal of relevance in the policymaking process. Furthermore I discussed the match or mismatch between point predictions and actual policy outcome. Having elaborated on that theme, it is now possible to compare the countries more directly, to find out why they had a different development of the policymaking process and chose different levels of proactive climate change policy. Pointing out what factors were most important in each country in each phase will give a more comprehensive understanding of why a certain level of proactivity was decided upon, while comparing if the same set of factors were decisive in all cases. Patterns that might appear will be discussed.

Furthermore, an examination of the ranking of the cases and how rankings correlate on the independent and dependent variables can provide a fruitful analysis of how well each model predicts the direction of the correlation between independent and dependent variables. Measurement of bivariat correlations is performed by applying Spearman’s rho, to examine the relationship between the pairs of the ordinal variables in this study. The measure provides information on both the strength and direction of relationships.427 From these discussions it is possible to make some conclusions about each model’s explanatory power.

Still, it must be emphasized that the explanatory models represent three alternative ways of understanding both policymaking process and policy choice. They focus on different aspects of the problem,428 and as such the insights into the policymaking process and policy outcome that the models offer gives us a richer intake of the problem than applying only one model alone would have. Hence, the URA model enriches our understanding of the importance of underlying elements that concern the national welfare level, like cost and benefit assessments, and also allow increased

understanding of a country’s relation and interests towards the international community. The DP model points out how the distribution of costs and benefits between domestic actors and the aggregated public demand and support interplays with governmental supply. The SLI model provides an enhanced understanding of how culturally-rooted differences between countries and learning-induced changes in perceptions can be decisive for the development of the policymaking process, and choice of policy instruments.

The task in this chapter will be to consider model for model what commonalities have been identified among the cases concerning the model assumptions. In other words, I will explain which factors were found to have been important for process and outcome in the six cases and try to identify to what degree the same elements were decisive in all countries.

First, I establish which factors were most important for the countries in terms of development of the policymaking process and the level of proactiveness in climate policy. Second, I assess the ranking of the cases, and use rho-analysis to discuss the direction of the correlation between independent and dependent variables for each model. Finally, I discuss the explanatory power of each of the models and give an overall evaluation.

6.2 What did the URA model contribute in terms of explaining differences?

Recall from chapter 2 that the URA model builds upon three main, basic assumptions predicting that states’ policy behavior is based on welfare gains and costs, i.e. value maximizing. The actor selects the alternative that has the highest-ranking consequence in terms of goals and objectives. The assumptions also imply that explanation of decision making is sought in terms of the context in which countries operate, rather than in terms of internal, domestic policy processes or structures. International structures guide behavior and pose limitations on the number of options for action. What distinguishes the various forms of maximizing behavior is therefore dependent both on the nature of the environment that surrounds the national policymaking, and on the extent to which this
environment is known to policymakers. A central proposition is that rational actors seek to have the best possible information available when making policy decisions, about the preferences of other actors, the issue area, and the range of options available.

Furthermore, it is assumed that states have one set of specified goals, another set of perceived options, and a single estimate of the consequences that follow from each alternative. Actions are taken in response to the strategic problem the nation faces. The various courses of action relevant to a strategic problem provide the spectrum of options, and the enactment of each alternative course of action will produce a series of consequences. The relevant consequences constitute benefits and costs in terms of strategic goals and objectives. Applying these assumptions when accounting for a country’s policy assessments in the climate change context, the model predicts that the main incentive for a state to adopt policy measures is that the international regulations or agreements must be expected to reap net benefit. The state will therefore implement policy measures according to what it has promised to do internationally only as long as the costs of taking action do not exceed the costs it would incur by defecting.

6.2.1 Policymaking process

From these assumptions, I determined what elements should be found to be important elements in the policymaking process. In chapter 3, this was systematically assessed in relation to empirical data. Recapitulating the findings in chapter 3, we recall that for all six cases in this study cost and benefit assessments were found to be very important in the process. The analysis in chapter 3 also distinguished highly interdependent cases from not so interdependent cases, based on model assumptions. Norway in both phases was found to be strongly interdependent, while Germany was less interdependent and the United States had a low degree of interdependence. These results are summarized in table 6.1.

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431 Note that the score is based mainly on the interdependence factor, as explained in chapter 2, p. 55.
The question now is whether differences in the countries’ policymaking process can be explained with this model. First, let us consider whether cost and benefit assessments were used, and if that was a joint feature for all six cases. The high scores for the cases indicate support for the predictions that cost assessments were very actively applied in the policymaking process and that policy advice predicting expected marginal abatement and damage costs for the country was important.

For Norway, policy advice from early research reports indicated that stabilization of emissions was compatible with continued economic growth. Norway would incur few economic losses from establishing a stabilization target, and a carbon tax was recommended. However, research reports and government agency policy advice in 1990-91 began to take into account the necessity for Norway to focus on international approaches to abate climate changes. New policy advice underlined the need for international cost-effectiveness and harmonization of climate policy to avoid economic loss to the national economy. High abatement costs were predicted, because of the national economic dependency on the petroleum sector, the high degree of hydro-based electricity production, and far distances necessitating increasing transportation of goods and people. Recommendations were to use carbon taxes as a cost-effective domestic emissions reductions strategy along with a multilateral agreement to achieve cost-effectiveness and decrease the expected high abatement costs. These two elements became central in the policymaking process. Expectations about large economic consequences as a result of reduced income from the petroleum sector, as well as

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**Table 6.1: How URA causal sets mattered in policymaking process**

<table>
<thead>
<tr>
<th>Cases</th>
<th>“Costs and benefit assessments matter in the policy process” causal set: score</th>
<th>“Interdependence and information matter in the policy process” causal set: score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.83</td>
<td>1</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.83</td>
<td>.67</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.83</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
<td>.17</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
<td>.17</td>
</tr>
</tbody>
</table>

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expectations of high abatement costs if emission reductions were to be done
domestically, lead to a clear political strategy to push for a high degree of flexibility in
how the Kyoto commitments were to be reached, including emissions trading, joint
implementation and comprehensiveness in terms of number of gases to include. Policy
advice focused to a considerable extent on expected marginal abatement and damage
costs, and these considerations were important in policy decisions about strategy and
position choice in the Kyoto protocol negotiations.

For Germany, I found that central policy themes in the policymaking process were
pointed to by heeded studies encouraging energy conservation and a switch away from
fossil fuel generation towards renewables and nuclear energy sources. Both the Enquete
Commission process and the IMA process made use of a number of research reports from
central research institutes in Germany, which encouraged these policies if Germany was
to reduce emissions according to the ambitious national reduction target. In the national
climate protection program developed by the IMA and implemented by the government,
a substantial part of the measures focused on exactly these policy elements. Unification
made early emission reductions uncomplicated economically for Germany, but towards
the middle of the 1990s the costs and the range of restructuring that unification
incorporated became more recognized. The perception that energy conservation and
energy source switching would be sufficient was weakened, but still the chosen policy
program was upheld, including the ambitious national reduction target. Policy advice was
many-faceted, since some studies predicted severe losses in GDP while others predicted a
positive effect on the GDP. Scenarios that research institutes developed for important
elements of the climate change policy in the late 1990s, like energy consumption,
employment effects, and CO₂ emissions, were used as background information and
guidance for cabinet decisions about the German climate protection program. In domestic
climate change policy the focus was on additional measures to reach the reduction target.
When the studies showed that additional measures would result in higher expenses than
the first list of measures, policy implementation slowed down.

For the United States, I found that policy advice and recommendations based on
cost assessments were not clear, and differed in assessing the costs for the U.S. economy.
Several reports and studies had very different content, giving different cost assessments
of abatement policies and also impacts of climate changes. A NAS report predicted low costs of introducing command and control type abatement policies, while other economists suggested exactly the opposite. The CEA opened for a multilateral approach, since domestic emission reductions were considered too harmful for the economy. The Clinton administration followed the recommendations made by the CEA, and along with the Treasury Department the CEA became closely involved in making cost estimates for the implementation of the Kyoto Protocol. Policy advice was followed that opened for strictly no-regrets initiatives at the domestic arena – like the CCTI – and flexibility positions pursued in the international negotiations – like emissions trading and developing country participation. The George W. Bush administration followed policy advice that was negative both to domestic initiatives and international initiatives for climate change policy when repudiating the Kyoto Protocol and changing the course of U.S. climate policy on grounds that it would hurt the U.S. economy too much.

What we see, therefore, is that the URA assumptions about the importance of cost and benefit assessments in the policymaking process is well suited to discuss the role cost and benefit considerations had in these three countries. It was very important for all the countries in this study to get a good overview of what costs and benefits one could expect from climate changes and abatement policies. National economic welfare and cost assessments had a significant impact in the policymaking processes in all the cases, and resulted in a focus on cost-effectiveness and no-regrets policy options. However, these URA assumptions do not allow an analysis that is detailed enough to point out significant differences among the countries. Since cost and benefit assessments were unanimously important, it is not possible to identify major differences between the cases using these URA assumptions as a measurement for comparing policymaking processes.

The major difference that can be detected is that there was unequal weighting of the type of policy advice given. In the United States, for instance, advice that predicted negative economic consequences was much more heeded in the process than in Germany. Typically, in Germany policy advice that included ancillary benefits from introducing mitigation policies, like new jobs or energy conservation, had a much higher chance of being influential for the policymaking process than in the United States. For example, the benefits related to energy efficiency measures had a prominent place in the German
debate, while in the United States this was not the case. In the U.S., focus on negative economic effects rather disavowed introduction of mandatory mitigation policies. In Norway, on the other hand, the predictions were quite clearly that there would be costs involved in abating climate change, but still the focus of the policymaking process continued to be that Norway should address the problem. This difference in what kind of advice that was heeded in the process is interesting, because it points to a link to the URA assumptions about interdependence and information. The degree to which a country was capable of leading a unilateral policy influenced what kind of policy advice that was heeded in the process. Second, therefore, let us consider whether the country’s degree of interdependence and acquiring of information can explain differences in the development of the policymaking process.

For Norway, we saw that structural interdependence was found to be important in the policymaking process. Norway introduced negotiation proposals and was willing to compromise to move the negotiations forward in order to help secure a comprehensive and binding UNFCCC treaty in terms of participation. After 1990, the government focused its negotiation strategy on multilateral solutions and flexibility mechanisms where the objective was to secure the cost effectiveness in a climate change treaty, which was perceived to be the best way to secure national economic welfare. In general, Norway has a relatively small research capacity because of its size and limited human resources. Norway increased its funding for environmental research substantially. However, compared to other small countries, like Denmark and Finland, the growth in R&D expenses was smaller.

For Germany, the perceived need for an international treaty to regulate policy options across countries was not as strong, since it was not perceived to be decisive for national economic welfare to have a treaty that focused on flexibility mechanisms. The perception about the necessity for the country to have an international treaty to regulate policy options across countries was linked to competitiveness for industries in international markets and would enhance the economic welfare for the country. It would also establish Germany as a leader in an internationally important policy field. However, cooperation within the European Union was considered to be equally important, if not
more so. The research effort was high on the climate change issue, as funding was directed towards this topic via a range of disciplines.

For the United States, structural interdependence was found to be low compared to Norway and Germany. Domestic control over policy choice was as important as a comprehensive and binding treaty in terms of participation, since international cooperation would not secure that economic loss was avoided taken the relatively high marginal costs that the United States would have with domestic abatement instruments. The perceived need for an international treaty to co-regulate policy choice across nations was low, since domestic control was valued comparatively higher. The participation in multilateral cooperation by the United States was closely linked to the flexibility mechanisms. Without it becoming a part of the Kyoto Protocol, it would be more beneficial for national economic welfare to lead a unilateral policy. A lot of funding and effort was directed towards optimizing the information level, with increased funding to climate change research in a broad range of disciplines.

The differences between cases that this analysis pointed out are linked to the size of the country and its economy, which had a very decisive impact on both considerations and focus in the policymaking process. The United States is a large and open economy and had the opportunity to lead a unilateral policy to serve national economic circumstances and be an alternative to participation in the international climate treaty. On the other hand, Norway as a small and open economy became increasingly occupied with contributing to achieving a comprehensive international treaty. This tendency can be directly linked to the predictions that economic benefits from cooperation would be substantial. In other words, Norway was more interdependent than the United States, and this had an effect on the development of the policymaking process. For Germany, its interdependence was linked more to the EU, and cooperation within that organization was found to have been more important for the development of the policymaking process than to other Annex 1 countries.

Another difference in policymaking process linked to the questions of size and interdependence was the countries’ willingness to compromise on own negotiation positions to achieve a comprehensive treaty in terms of participation. Both the United States and Germany were much less willing to compromise than Norway. Germany and
the EU continuously pressured for environmentally efficient GHG emissions reductions. On the other hand, the United States sought to have maximum flexibility and preferably also a longer time-frame for emissions reductions. Neither of them showed great amounts of willingness to compromise so as to secure a treaty, since that would mean a treaty they would less prefer. Germany was however more willing to do so than the United States, and in the Marrakech accords in 2001 it accepted a treaty which was much less stringent than it had originally promoted.

The result of this comparison across cases is that the URA assumptions about cost and benefit assessments on their own can not provide much detail as to the factors that trigger differences in the three countries policymaking processes. Only when they are considered in conjunction with the county’s interdependence can the URA assumptions identify differences that contribute to a better understanding of the development of the policymaking processes. On that basis I conclude that the model brings us quite far in understanding the influence that cost and benefit assessments had on policymaking processes in the six cases, especially about how much the predicted costs and benefits matter for understanding the interdependence of a case. It is decisive for understanding if a country perceived an international climate treaty to be beneficial or not for national welfare. This would in turn be decisive for important policy choices and negotiation positions, like if the country promoted policy alternatives designed to include as many parties as possible in a treaty, and its will to compromise on own positions in the negotiations to make this happen.

However, it is clear after the above analysis that the URA model cannot fully explain what happened in the countries’ policymaking processes. Focusing on the nation as a whole, avoiding the discussion about what lies behind assessments about costs and benefits in terms of consequences for particular societal groups, institutions and the general public, brings us only this far in understanding the policymaking process.

### 6.2.2 Policy outcome: point predictions

My next questions now must concern whether the URA model can predict policy outcome based on its central assumptions, and whether the model explains the differences in policy outcome for the six cases. From the analysis in chapter 3, it is clear that in all
six cases the actual level of proactive climate change policy was higher than the URA model would predict. In the analysis, I established for each case the point prediction of the URA model on basis of what heeded cost assessments said about the cost-benefit balance for the country. Furthermore, I established point predictions on the basis of interdependence assumptions. Comparing these predictions with empirical data on actual policy outcome, I found that for all the cases the URA point prediction was too restrictive in suggesting what level of proactive climate change policy the countries would choose.

The results are summarized in table 6.2.

Table 6.2: URA – Degree of proactiveness

<table>
<thead>
<tr>
<th>Cases</th>
<th>Cost and benefit assessments: Predicted outcome</th>
<th>Interdependence: Predicted outcome</th>
<th>Actual outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.33</td>
<td>.50 or .33</td>
<td>.83</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.33</td>
<td>.50 or .33</td>
<td>.50</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.50</td>
<td>.50</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
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<td>.50</td>
<td>.67</td>
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<tr>
<td>The USA in agenda-setting phase</td>
<td>.17</td>
<td>.17</td>
<td>.33</td>
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<tr>
<td>The USA in domestic bargaining phase</td>
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</table>

What can be said as to why the model predicts a lower proactiveness than actual outcome? The general predictions for the model is that a high degree of proactive climate change policy can be decided on for a country if it will reap national economic welfare gains from engaging in abatement policies, or at least not lose. Furthermore, that the country has maximized its information according to costs, and managed to rank policy alternatives so that a high degree of proactive climate change policy is prioritized. Finally, high international structural interdependence is decisive for the decision to lead a proactive policy, since the international agreement secures national welfare gains or at least not economic losses.

A medium degree of proactive policy can be expected if a country has no economic gains from implementing abatement policies, but does not lose either.

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432 See chapter 3, table 3.1.
Furthermore, the country has gained a maximized level of information, so that a medium level of proactive climate change policy is prioritized. Finally, international structural interdependence is decisive for the decision of leading a medium level of proactive policy, since it is likely that an international agreement will minimize national welfare losses.

A low degree of proactive policy results for a country that experiences economic losses from implementing abatement policies, or if the country has gained a maximized level of information, so that a low level of proactive climate change policy is prioritized. Finally, low international structural interdependence is decisive for choosing low level of proactive policy, since it is relatively certain that an international agreement will not secure national welfare gains but incur economic loss.

For Norway, the URA model predicted a medium to low level of proactive climate change policy in the agenda-setting phase, while policy decisions were slightly stronger –at a medium to high degree of proactivity - because Norway introduced carbon taxes before other countries, increased its research capacity on environmental issues, and signaled the need to have a comprehensive and binding treaty in terms of participation since that was seen as the best way of securing national welfare. The confidence in estimates about what kind of policy options that would be most cost-effective was high. The perception that Norway needed a treaty indicates high structural interdependence. There was, in other words, a higher level of proactiveness than the model predicted. In the domestic bargaining phase, the URA model predicted a medium to low level of proactivity, because of expected high costs of domestic abatement policies and mere loss-avoidance from applying the flexibility mechanisms agreed on in Kyoto. The confidence and agreement politically on these cost estimates was high. Furthermore, the model predicted that the high degree of interdependence indicate that having a treaty was very important for Norway. The actual policy positions show that the chosen level of proactivity was medium. The point predictions were lower than real policy outcome, in other words.

For Germany, the URA prediction was a medium level of proactive policy in the agenda-setting phase, while the actual level was high. There was general agreement among German policymakers on having an ambitious reduction target in spite of gradual
realizing of costs. There was general political agreement and confidence in cost estimates showing that Germany would face relatively low costs from abatement policies. Germany showed low will to compromise in treaty negotiations despite of no expected profit from failing to reach an agreement. The country’s research effort was high. The predicted outcome was lower than actual policy outcome. In the domestic bargaining phase, the URA model predicted a medium to low level of proactive climate change policy, while an assessment of the actual policy decisions and positions show that Germany had a medium level of proactive policy. This analysis was based on the continuous decisions to add to the abatement policy program, introduction of an ecological tax, a voluntary agreement, and constant push for an environmentally efficient international agreement. All of these elements indicated that the German government continued to have confidence in the cost estimates showing that the sector-by-sector approach would be the best for Germany, while at the same time the degree of interdependence was not too high. Hence, the predicted outcome was lower than the actual policy outcome.

For the United States, the URA prediction was for a low level of proactiveness in both phases. Actual policy choices show that the level of proactive policy the United States had was medium to low. The George H. W. Bush administration introduced increased funding for climate change research, but no policies were proposed to achieve emission reductions. The Clinton administration also failed to take substantial domestic policy actions in its approach to address global warming. Research was prioritized, and the CCAP and CCTI programs were confined to introducing some tax incentives and energy conservation incentives. Since cost estimates for the United States were divergent, it was difficult to introduce firm policies. Keeping domestic control over policy options was more important for the United States than securing broad, comprehensive participation in a multilateral treaty. This because policy advice and recommendations based on cost assessments was divergent. Heeded advice pointed to high costs for the U.S. economy by taking on comprehensive emission reductions.

The perceived need for an international treaty to co-regulate policy choice across nations was low, since domestic control should be valued comparatively higher. Participation by the United States was closely linked to the flexibility mechanisms issue. Without it becoming a part of the Kyoto protocol, it would be more beneficial for
national economic welfare to lead a unilateral policy. The United States’ willingness to compromise on these issues was so low that the whole negotiation process derailed. In the end the United States chose not to be a party to the protocol. The low willingness to compromise indicate that the United States was willing and capable of leading unilateral policies, and that it found this strategy more beneficial for national economic welfare. Research funding continued to be high, indicated by increasing expenses for climate change research throughout the period. To summarize, the predicted outcome was lower than the actual policy outcome.

From the comparison, it can be seen that cost and benefit assessments were decisive for guiding policy decision towards a level that would secure maximum national economic welfare. The degree to which there was general political agreement and confidence in cost estimates was important. Widely divergent estimates seem to have contributed to more difficulty in agreeing on a proactive level of climate policy. Furthermore, the degree of interdependence seems to have pushed the level of proactivity upwards. In other words, if a country is facing net costs by implementing abatement policies, it is more likely that it will decide on a higher degree of proactive policy at the international level if it is interdependent than if it is not. A large, not so interdependent country like the United States will therefore be inclined to choose a low level of proactive policy in the international negotiations if it faces negative economic consequences. A small, strongly interdependent country like Norway will chose a more proactive policy in the international negotiations even if it is facing national welfare losses since its ability to develop a unilateral policy is not very high. Cost and benefit assessments and interdependence were in different ways directly linked to the predicted economic benefits or costs the country would incur by participating in a climate treaty. The economic effects would be different for a small country leading a unilateral policy than a large country, as discussed above. This in turn was found to have had a causal effect for the level of proactive climate change policy the three countries chose.

6.2.3 Directional predictions: Did the cost-benefit balance affect policy outcome?
Having established that the URA model’s point predictions in general predicted too low values for the outcome, an examination of the ranking of the cases and how rankings
correlate on the independent and dependent variables can engender a fruitful comparative analysis. Measurement of bivariat correlations is performed by applying Spearman’s rho, to examine the relationship between the pairs of ordinal variables in this study. The measure provides information on both the strength and direction of relationships, in other words the degree of correlation will tell us how well the model could predict the ranking on the actual policy outcome.

The directional prediction of the URA model about how cost and benefit assessments affect outcome is as follows: the more negative the county’s cost-benefit balance pertained to implementing climate change policy gets, the lower degree of proactiveness in policy outcome one must expect. More specifically, the assumption is that when there is a change in the independent variable (the cost and benefit balance), there will be a change in the dependent variable (the level of proactive climate policy). Empirically, this could for example mean that more certain knowledge about negative economic welfare effects for Norway pertained to implementing abatement policies would lead to less political will go ahead and implement such policy, and hence increased likelihood that abatement policies would not be implemented. Similarly, new and heeded cost assessments for the United States, showing that there would be national benefits involved in mitigating climate change would lead to a change towards a more proactive climate policy.

Furthermore, this assumption would imply that the model predicts a certain ranking of the cases. Germany (in both phases) gets the two highest ranks since heeded cost-benefit assessments showed that there were few costs, and in the agenda-setting phase even some benefits involved in leading a proactive policy. Furthermore, that there was economic possibility for domestic abatement policies, even though this option was more limited in the domestic bargaining phase.

Norway (in both phases) gets the two middle ranks, since heeded cost-benefit assessments showed rather high costs for Norway from leading a proactive policy, especially from 1990 onwards, and limited economic possibility for implementing domestic abatement policies.

The United States (in both phases) gets the lowest ranks, since heeded cost-benefit assessments showed very high costs for the United States from taking on climate policy measures, and little economic possibility for implementing domestic abatement policies.

The ranking on the dependent variable is based on the discussion in the introduction in chapter three, quantified in table 3.1. To avoid ties, i.e. several identical values on the variable, empirical data have been evaluated to separate cases and achieve six different ranks on the variables.

Hence, based on the detailed knowledge about the cases generated in the previous chapters, the cases have been ranked on the dependent and independent variables, which enables the use of Spearman’s rho:

Table 6.3: Calculating rho for the correlation between cost-benefit balance and level of proactive climate change policy – ranks.

<table>
<thead>
<tr>
<th>Cases</th>
<th>Cost and benefit balance– rank</th>
<th>Level of proactive climate policy – rank</th>
<th>d</th>
<th>d²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>2</td>
<td>3</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>USA in agenda-setting phase</td>
<td>5</td>
<td>6</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>USA in domestic bargaining phase</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td>d = 0</td>
<td>Σd² = 4</td>
</tr>
</tbody>
</table>

\[ Rho = 1 - \frac{6 \sum d^2}{N^3 - N} = 1 - \frac{6 \times 4}{216 - 6} = 1 - \frac{24}{210} = 1 - 0.11 = 0.89 \]
An output of 0.89 indicates a strong positive correlation between cost and benefit assessments and the policy outcome. More specifically, I interpret the result to mean that there is a strong tendency for positive cost-benefit balances to produce high levels of proactive climate policy, and vice versa. The directional prediction of the URA model is supported, since a change in the independent variable (cost-benefit balance) seems to lead to changes in the dependent variable (level of proactive climate policy).

In chapter three we saw that Norway’s climate policy changed during the agenda-setting phase, as policymakers realized from new assessments that the cost-benefit balance by implementing domestic climate policies would be worse than previously anticipated. Because of a number of exemptions given to high-emitting industries, the carbon tax can be interpreted to have been more or less a smoke-screen, used as a crutch for Norway’s pusher and bridge-builder role in the international negotiations. Only minor domestic abatement policies were implemented since the carbon tax. The actual implementation of the tax can not be explained well applying the assumptions of the URA model, however.

Similar to Norway, in Germany there was a distinct change in policy outcome from the agenda setting phase to the domestic bargaining phase, which can be interpreted to be a result of a more negative cost-benefit balance in the last phase. After the first years of unification between East and West Germany, when emissions were reduced as a result of restructuring in the East, it became increasingly clear that further emissions reductions would be more costly. This led to a lower level of proactiveness in the country’s climate change policy.

The United States had a more negative cost-benefit balance than both the other countries, and has also led a distinctly less proactive climate policy. A host of cost (and benefit) assessments were an important part of the U.S. policymaking process throughout the 1990s, and heeded studies quite consistently warned about high costs from implementing mandatory abatement policies.

Based on this analysis, the conclusion here is that the URA model actually does quite well in explaining the direction of correlation between cost-benefit balances and level of proactive climate change policy.

434 The coefficient can vary between -1 and 1.
6.2.4 Directional predictions: did the degree of interdependence affect policy outcome?

The directional prediction of the URA model about how degree of interdependence affect outcome is as follows: the more interdependent a country is, implying that it has a lack of potential to take unilateral action, the more medium its level of proactive climate policy must be expected to be. This will also be observed by a high willingness to compromise in negotiations to achieve broad participation. The assumption is that when there is a change in the degree of interdependence, there will be a change in the level of proactive climate policy. For example, if a country realized the economic benefits of a climate treaty, combined with realization of its small capability for taking unilateral action, the level of proactiveness would be adjusted to a more medium level so as to secure broad participation. Similarly, the assumption would be that a country that increasingly perceived itself as highly capable of taking unilateral action, and that such action would be better for national welfare than participation in a climate treaty, would adjust to a lower level of proactive climate policy.

This assumption implies that the URA model predicts a certain ranking of the cases. Norway (in both phases) gets the two highest ranks, since the country was highly interdependent. This would lead to a medium to low level of proactiveness. The national welfare gains would be high from a comprehensive climate treaty, and the will to compromise high.

Germany (in both phases) gets the two middle ranks, since the degree of interdependence in the country was medium. The national welfare gains from having a climate treaty with comprehensive participation was not perceived to be much higher than taking unilateral action. This would lead to a higher level of proactiveness than the two other countries in the agenda-setting phase and the domestic bargaining phase, respectively.

The United States (in both phases) gets the lowest ranks, since the country’s low interdependence and high capability of choosing not to take unilateral action, combined with estimates of costs added by participating in a climate treaty, would lead to a low level of proactiveness.
The ranking on the dependent variable is based on the discussion in the introduction in chapter three, quantified in table 3.1. To avoid ties, i.e. several identical values on the variable, empirical data have been evaluated to separate cases and achieve six different ranks on the variables.

The cases are ranked as follows on the dependent and independent variables, which enables the use of Spearman’s rho:

**Table 6.4: Calculating rho for the correlation between degree of interdependence and level of proactive climate change policy – ranks.**

<table>
<thead>
<tr>
<th>Cases</th>
<th>Degree of interdependence – rank</th>
<th>Level of proactive climate policy – rank</th>
<th>d</th>
<th>d^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>1</td>
<td>4</td>
<td>-3</td>
<td>9</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>USA in agenda-setting phase</td>
<td>5</td>
<td>6</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>USA in domestic bargaining phase</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td></td>
<td></td>
<td>d = 0</td>
<td>Σd^2 = 20</td>
</tr>
</tbody>
</table>

d = difference between ranks

\[
Rho = 1 - \frac{6 \sum d^2}{N^3 - N} = 1 - \frac{6 \times 20}{216 - 6} = 1 - \frac{120}{210} = 1 - 0.57 = 0.43
\]

An output of 0.43 indicates a medium, but positive correlation between degree of interdependence and the policy outcome. The correlation is not as strong as between the cost-benefit balance and the policy outcome. I interpret the result to mean that there is a certain tendency for high degree of interdependence to produce medium levels of proactive climate policy, and low perceived need for a climate treaty to produce high or
low levels of proactivity, depending on the countries capability and economic costs by taking unilateral action. The directional prediction of the URA model gets some support, since a change in the degree of interdependence seems in less than half of the cases to lead to changes in the level of proactive climate policy.

Let us now see if this relationship can explain differences in policy outcome between the three countries. Norway was much more willing to compromise in the negotiations than both Germany and the United States, especially after new policy assessments had pointed out how dependent Norway was on an international agreement to dampen high abatement costs. The level of proactiveness was adjusted downwards. The implementation of the carbon tax can be understood as an attempt to “jump-start” international negotiations by showing other countries what the effects of a tax would be, but it is not explainable within the frame of the URA model assumptions since it made Norway look as it wanted ambitious targets – a result that could potentially lead to lower participation. The interpretation I make is that we need to look into factors like public pressure and personal leadership to understand why Norway introduced the tax.

Germany was much less willing to compromise, since it was not so interdependent. Germany wanted a treaty, but it wanted an environmentally efficient treaty and had the opportunity to take unilateral action as a means to push others to do the same. However, its policy changed in the domestic bargaining phase when it realized that the flexibility mechanisms under the Kyoto protocol could make climate change mitigation less costly, and its willingness to compromise increased.

The United States was less interdependent than both of the other countries. It showed very little willingness to compromise in the climate negotiations, and clearly saw it as better for national welfare to have domestic control over what regulations should be implemented. The United States led a less proactive climate policy than both Norway and Germany.

The analysis shows that the URA model can not predict the difference in policy outcome between the United States and Germany very well. Both countries had the capability to take unilateral action, and both showed little willingness to compromise, but they still chose different levels of proactiveness. The difference can only be explained when we analyse the interdependence factors in connection with the cost-benefit balance.
This supports the conclusion drawn in section 6.2.2, that the assumptions about cost-benefit assessments and degree of interdependence must be understood in conjunction to increase our understanding of policy outcome.

Based on this analysis, the conclusion here is that the URA model has only limited capability to predict directional relationship between the degree of interdependence and the level of proactive climate change policy.

6.2.5 Explanatory power of the model

Factors that were decisive for policy choice across cases presumably have a strong explanatory power. In that respect, considerations about securing national welfare and avoid losses were present in all six cases. However, this was influenced by the country’s degree of interdependence, as pointed out above, indicating that the particular way of understanding the decision making process that the URA model represent is an important contribution to understanding and explaining policy outcome. It is, however, not enough in all cases where other explanatory factors – that the model does not identify – evidently have played along to decide the level of proactive climate change policy that was decided on.

In other words, the results in table 6.2 indicate that there must have been other factors than expected costs and benefits, and degree of interdependence that contributed to policy choice being more proactive than the URA model point predictions anticipated. It also indicates that although the URA assumptions can tell us much about the basis for policy choice, it is not enough to understand and explain policy outcome, or why it was so different for the three countries.

By applying rank-correlation analysis, we can analyze the directional correlation between factors assumed by the URA model to be important for policy outcome, and the actual level of proactivity in the countries. Rho-analysis gave an output of 0.89 for the correlation between the cost-benefit balance and level of proactive climate policy, and an output of 0.43 for the correlation between the degree of interdependence and level of proactive climate policy. The model actually does quite well in predicting how changes in these independent variables affect changes in the policy outcome, although the bivariat correlation was much lower between the degree of interdependence and policy outcome.
than it was between the cost-benefit balance and policy outcome. My interpretation of this result is that the assumptions about cost-benefit assessments and degree of interdependence must be applied in combination to increase our understanding of policy outcome.

6.3 What did the DP model contribute in terms of explaining differences?

The DP model focuses on the political system, the role of domestic actors and their interests, and their relationships to the institutions that comprise domestic politics. The presumption is that in the process of deciding on national policy and negotiation positions, policymakers have to take into account the considerations of domestic political actors. The domestic political debate among actors and groups both inside and outside the government influences climate change policy, especially since the issue has domestic consequences and concern significant political interests. At the national level, domestic groups pursue their interests by pushing the government to adopt favorable policies, and politicians seek power by constructing coalitions among those groups. At the international level, national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments. The assumption is that understanding domestic politics – the distribution of power and influence among domestic actors – is critical for understanding climate change policymaking.

This focus implies that the model perceives the government not as a single decision-maker, but as a complex organization where domestic actors pursue multiple objectives that are sometimes in conflict. Second, that the domestic actors are not primarily concerned with the national welfare or “interests” as such, but rather evaluate options with the aim of fulfilling a more subjective set of goals. The actors’ perspectives and interests are to some extent shaped by role and position. This may be amplified because political systems tend to distribute power and influence unequally, and therefore produce outputs that deviate systematically and predictably from those that would

maximize national welfare as it is conceived in the unitary rational actor model. Third, the model assumes that states are not in full control of “their” societies, but that the state has only partial control and is influenced and constrained by society. The DP model portrays the national climate change policy process from a particular angle, and to a certain degree also predicts the realm of possibility for the positions taken by countries in the international negotiation process.

6.3.1 Policymaking process
Applying these assumptions in chapter 4, I deducted what elements we must expect to find to have been important in the policymaking process. Recapitulating the findings, recall that for all six cases in this study both the assumptions concerning public demand and support, and governmental supply were found to be more in than out in terms of membership degree. The analysis pointed out that while public demand and support was not as strong a factor in the policymaking processes in Norway and Germany as in the United States, governmental supply as defined in the measures in chapter 4 was very important in all three countries. These results are summarized in table 6.5.

<table>
<thead>
<tr>
<th>Cases</th>
<th>“Public demand and support matter in the policy process” causal set: score</th>
<th>“Governmental supply matter in the policy process” causal set: score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.67</td>
<td>1</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.67</td>
<td>1</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.67</td>
<td>.83</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
<td>.83</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The question is whether differences in the countries’ policymaking process can be explained with this model. First, focusing on the DP assumptions about public demand and support - were they important elements in the policymaking processes? We can see that all six cases are more in than out. This gives support to the model. In all the cases the

distribution of power and influence among social interest groups had a significant impact on the development of the policymaking process. The result was increased focus on the economic consequences of abatement policies for economically vital sectors. Powerful and well organized interest groups, like the industry lobbies of the countries, were influential participants. The analysis in chapter 4 pointed out that they had more impact than less powerful or less well organized interest groups like ENGOs or the general public, although both in the United States and in Norway the ENGOs had a stronger role as issue framers in the agenda-setting phase than in the domestic bargaining phase. In none of the cases did I find empirical support for the opposite, i.e. that ENGOs or public opinion had more clout in the policymaking process than economically important stakeholder groups.

In Norway, stakeholder interest groups had been active since the climate change issue came on the agenda, and had real influence on central issues. For instance, industry and stakeholder groups lobbied strongly for having exemptions to the carbon tax, referring to their disadvantaged competitive situation if a tax was introduced before other countries decided to do the same. This paved the way for exempting export industries from the carbon tax. Industry stakeholder groups managed to keep a united front in lobbying efforts towards having more market-oriented policy instruments in order to secure cost-effectiveness and flexibility. These positions became part of Norway's strategy in the international negotiations after 1990-91, as an alternative to an international carbon tax. Hence, they were not entirely negative towards implementing abatement policies.

Norwegians in general were concerned with environmental issues in the years prior to the 1992 Rio Conference. After 1992, public concern about global warming followed media attention to the climate change issue. During important international events, like COP 1 in 1995 and COP 3 in 1997, the news media and public attention was high, but otherwise public attention declined. Furthermore, despite having drawn attention to the climate change issue in the news media, the Norwegian ENGOs did not have much actual influence on policy decisions. An exception I pointed out was that ENGO campaigning to hinder shoring of natural gas for domestic use from the Heidrun oil platform was successful. It contributed to a long-term hindrance of wide-ranging
domestic gas use. However, it was also pointed out that ENGO activity kept the public attention high on the climate change issue, particularly before and during the Rio conference. There was all in all a weak public pressure not to employ abatement policies. In other words, there was no strong public demand for a high level of proactivity, and this was combined with high degree of special interest lobbying resulting in actual influence on government policy positions, most notably in the continuing exemptions to the carbon tax for process industries and in the change of policy instrument from carbon taxes to a national tradable quota system. Export industries managed to keep on to their exemptions from the CO2-tax.

In Germany, public pressure to address the issue of global warming was very strong. One survey showed that 39% of Germans in 1993 were convinced that a rise in the world temperature would pose extreme danger to the environment. ENGOs did not, however, perform a coherent pressure on the government in the early phases of policy development in Germany, because they had traditionally been occupied with more local and regional environmental issues. They became more involved in preparations for the 1992 Rio conference. The German government responded to this public pressure with an early and strong engagement in addressing climate change. A very ambitious emission reduction target was agreed on in the parliament in 1990-91, and a national climate protection program came under way from 1991.

Stakeholder lobbyists have had considerable influence over the German policy choices in the period, both as a result of the degree to which the national economy depend on industrial production, and of the importance of the organizational-corporatist channel in German politics. This secured that the industry sector was involved from early in the process, as partner to finding an acceptable approach to implementing abatement policies. The pressure against a proactive policy was therefore low. This contributed to allowing the government to choose a high level of proactive climate policy in this phase.

Public demand for a proactive climate policy was weaker in the domestic bargaining phase, and this was combined with stronger stakeholder lobbying against a high level of proactive climate change policy, since negative economic consequences was predicted by some economic assessments to be a likely result of abatement policies. The voluntary agreement between industries and the government was a direct result of this
intensified lobbying effort, admitting the industry sector to regulate amongst itself where emission cuts should take place. Furthermore, the German industry’s negative attitude toward a national emissions trading system helped postpone political consideration of such a system up until late in 2001. The German industry wanted to keep their voluntary agreement and the focused measures approach to emission reduction that is incorporated in the national climate protection program, and succeeded. The climate protection program and the voluntary agreement are still the major climate policy instruments in Germany today.

In the United States, people in general were concerned with environmental issues, but less with climate change than other more immediate and local issues. This low pressure for policy action to abate global warming was qualified somewhat by the high and coordinated level of engagement by the ENGOs, who gained some influence because of increased expertise on central policy issues and their ability to create alliances with parts of the U.S. business community. However, as long as the ENGOs did not manage to engage large parts of the public in public demand for policy action, it did not result in policies that directly faced the challenge of reducing emissions. This trend was strengthened by the comparatively stronger pressure not to employ abatement policies, characterized by high degree of stakeholder lobbying. Through the influential Global Climate Coalition, industry groups presented a united front lobbying against abatement policies on grounds that it would hurt the American economy. Traditional tight connections between stakeholder groups and politicians, combined with the design of the American political system where politicians rely on campaign funding from supporters, made these stakeholder groups very influential. This had visible effects both on the kinds of positions the United States chose in the international negotiations process, like promoting emissions trading and joint implementation, and the domestic abatement policies that were chosen, which focused mostly on voluntary action and energy conservation.

This comparison points out certain elements that were common among all six cases. The direction of public pressure was important for the development of the policymaking process in all three countries. This means that the kind of public demand that was dominant mattered, particularly the stance of influential and economically
important interest groups. Even when predictions about economic consequences of mitigation policies were very different between countries, this holds true. For example, in the agenda-setting phase in Germany, predictions of no serious negative from the abatement policy were made by the Enquete Commission. Even so, German industry associations were very influential in shaping the specific policy proposals from the Enquete Commission, which incorporated sector-by-sector reduction measures focused mostly on energy conservation and fuel switching, since large industries stood to lose economically from other types of regulations. In contrast, in the United States the prediction was that there would be serious negative economic effects resulting from abatement policies in both phases. The U.S. industry lobby, particularly large energy, oil, and coal companies, had substantially more impact in the policymaking process than ENGOs. This resulted in more or less symbolic domestic policy regulations which resulted in minimal actual emissions reductions.

Another element that distinguishes the United States from the other two countries is the difference in what channels of influence are available. The pluralist political system allows channels of influence that are not as formalized as in Norway and Germany. The findings here therefore indicate that in a pluralist system, lobbying efforts by economically powerful interest groups have even more impact than in an organizational-corporatist political system like in Norway or Germany. The scores in table 6.5 also indicate that at least for Germany and Norway there must be other factors than the ones discussed in this section that mattered for the development of the policymaking process. It is plausible to look for additional explanatory factors that are related to the differences in political systems mentioned above.

Second, I focus on whether the DP assumptions about governmental supply were important elements in the policymaking processes. We can see from table 6.5 that all cases have a high membership degree, indicating that the assumptions indeed point out elements that were important. The constitutional division of powers between the executive and the legislative branches effectively shapes and moulds the direction and development of the policymaking process. In all three countries the domination of the legislative over the executive or vice versa was an important determinant for the way climate change was handled as a policy issue. Furthermore, the degree of centralization
of authority within the state bureaucracy matters, as does the political platform and leadership of the head of government.

In Norway, the legislative dominated the executive as a result of the minority cabinets that were in office, which had to construct parliamentary majority from case to case and didn’t always succeed. The political system design gave the parliamentary majority potential leverage over the minority cabinets’ decisions in the agenda-setting phase. But the parliamentary majority was in agreement with the Labor cabinet’s policy program, i.e. major climate change policy proposals, and thus gave the cabinet support. Furthermore, environmental policy management was restructured to a cross-sector approach as part of national implementation of the WCED report. Norwegian ministries were unaccustomed to this new form of tight cooperation. The interministerial climate group experienced conflict throughout its 1.5 year period of work, as ministries were promoting their traditional sector interests into the new cooperation system. However, the group managed to produce a very influential report that was used as decisive policy advice when the policy focus turned towards multilateral strategies for cost-effectiveness and flexibility.

The design of the political system allowed for legislative dominance over the minority cabinets’ decisions also in the domestic bargaining phase. However, a case-to-case cooperation persisted throughout the period between the Labor party, the Conservative party, and the Progress party. Constituting the parliamentary majority enforcing their policy preferences in this policy area, the parties have been the main providers of Norway’s climate policy in the 1990s. The parliamentary majority supported a continued emphasis on a multilateral policy strategy, with flexibility and cost effectiveness. In most contentious issues in the period, cooperation between the Labor, Conservative, and Progress party secured victory in decisive votes. This was the case when the Centre cabinet was defied in 1998 when it tried to levy carbon taxes on the process industries. It was also the case when the Centre cabinet stepped down because of a vote in parliament deciding that natural gas power plants could be built.

Also, cross-sector cooperation between ministries involved in the climate policymaking process was still marked by protection of sector interests, but not by direct conflict. This was more decisive for the outcome in terms of policy advice than a cross-
sector approach. It was established early that a cost effective approach should be at the base of climate policy. Ministries disagreed more about what policy instruments were right to achieve cost effectiveness. Exemptions to the carbon tax and a national tradable quota system were recommended by this influential actor-group, at the same time as sector-interest rivalry resulted in instability to the level of cooperation.

In Germany, the executive was dominant as a result of the majority-based coalitions that ruled the Federal Republic in the time-period under study here. The German political system design allows for executive dominance over the legislative. The executive dominated over the legislative during the whole period. Factors like majority-based cabinets and the system with personal policy initiatives from the chancellor enforced this dominance. Also, Helmut Kohl personally engaged in climate change issues, and prioritized the issue on the cabinet agenda. Hence, the policy preference in favor of addressing climate change was present. To further support this coherent governmental supply of policy, the general agreement on policy approach to address climate change was high between the political parties. In the most decisive issues in the period, the CDU/FDP coalition won all major parliamentary votes.

Cross-sector cooperation between ministries involved in the climate policymaking process was difficult because of the fragmented responsibility hierarchy in the German bureaucracy. The IMA group experienced disputes between the interest of protecting the environment and sector specific interests fearing economic losses. The “solution” was that sector specific interests were accommodated in the national climate protection program, hence securing support from industry groups and allowing for a high level of proactive policy.

Political system design continued to give the executive a dominant position over the legislative in the domestic bargaining phase. System design allowed for the majority coalition cabinets to win all major parliamentary votes. The coherency in governmental supply of policy was relatively high, although not as high as in the agenda-setting phase. For example, there was executive domination over the legislative also in the domestic bargaining phase. This was however qualified by cracks in the cooperation within the red-green coalition cabinet leading to, for instance, rather low levels of ecological taxes in the 1998 reform. The Green Party clearly wanted higher levels. The SPD/Greens
coalition dominated the CDU minority in the parliament when the ecological tax was introduced. However, there was a general agreement between political parties on policy direction, particularly regarding positions in the Kyoto protocol negotiations.

The IMA group continued to have conflicts between the interest of protecting the environment and sector specific interests. The fragmented responsibility in the bureaucratic system in Germany with sections that specialize on particular issues result in policy advice based on previous experiences. Ministry sections have a lot of influence in formulating policy. In addition, the general agreement between the political parties on policy approach and preference in favor of addressing climate change continued, with some exceptions. The ministries had become accustomed to working together in the interministerial working group, and knew each others’ positions and sector interests. Still, it was difficult to agree to policy measures that would additionally affect important sectors of the economy so as to reach the national emissions reductions target. The distribution of power and influence between the ministries, based on budget size, staff, etc., did not change much from the case in the agenda-setting phase, but neither did the fragmented way that issues are treated in section of the ministries. This contributed to the slow-down in implementation of domestic abatement policies and to a medium level of proactive climate change policy in this phase.

In the United States, the executive and the legislative checks and balances slowed the process down considerably compared to parliamentary systems. The political system design in the United States demands that the legislative and the executive cooperate, pass, and implement policies together. There were incidents of both cooperation and stalemate between the two branches in the agenda-setting phase, and when it comes to governmental supply of policy, it was not always coherent. While the George H. W. Bush administration cooperated with the Democratic Congress to pass the Clean Air Act Amendments, an important piece of legislation to halt local air pollution, President Clinton used his right to initiate new policy to dominate the agenda. He introduced both a GHG stabilization target and policy programs like the CCAP, but the Congress used its right not to support these policies and did not provide sufficient funding. After 1995, the legislative branch dominated the executive on climate change issues when the republican dominated Congress reduced the size of government, and environmental policy programs
came under attack. Supported by some Democrats, a stable policy preference evolved in Congress in this phase to do as little as possible about the climate change issue.

There was extensive interagency cooperation to shape climate policy, and some conflicts between agencies that represented different interests – particularly early in the period. Through presidential initiative and appointments of staff, the president could control the policy direction. Appointments of staff supportive of the president’s political platform far down in the bureaucratic hierarchy also eased cooperation between agencies.

The legislative branch dominated over the executive branch in U.S. climate change policy in the domestic bargaining phase, with a republican majority when Clinton was president and a democratic majority when Bush became president. In chapter 4, several incidents pointed out how this had consequences for policy. For example, Congress actively limited the Clinton administration’s attempt to implement climate policies that could be taken as a backdoor implementation of the Kyoto protocol, hence limiting the level of proactive policy that was possible to realize. Similarly, after Bush repudiated the Kyoto protocol in 2001, the democratic majority in the senate has proposed several bills to enhance efforts to reduce emissions.

A general case of partisanship in Congress was enforced after the impeachment case of Clinton, which reduced his political authority. In the case of climate change politics partisanship was countered by a general impression by Senators from both parties that they had been deprived of their right to give advice and consent to the administration in the Kyoto protocol negotiations. This aggravated the legislative dominance over the executive, and contributed to the direction the policymaking process took.

As we can see from this cross-comparison of cases, some distinct elements stand out in all three countries. First, the executive’s right to initiate policy was found to be important. This is because executive initiatives are determined by the political ideology or political program by which the head of government governs, but just as important the degree to which he/she had the authority and personal engagement to place climate change high on the political agenda. A head of government with personal engagement and the ability to create enough political will and cooperation between the political parties in the parliament/congress was found to have been decisive for the policy process in two of the cases under study here. In the case of Norway in the agenda-setting phase,
the role of prime minister Gro Harlem Brundtland was pointed to as decisive, and in the

case of Germany in the agenda-setting phase, the role of Chancellor Helmut Kohl was

heed. In the United States in both phases, Bill Clinton showed personal engagement for

putting climate change high on the agenda, but he did not have the authority or the ability
to create enough political support to do it. In the other two cases, the lack of personal

engagement and authority of the head of government was pointed out as important for the

policymaking process and for the level of proactiveness.

A second commonly important element in the policymaking processes was the
degree of centralization of authority in the state bureaucracy. The distribution of

influence and power among the agencies/ministries were found to be important,
particularly in Germany and Norway. Both of these countries have centralized authority
in their bureaucracies, and the ministries have substantial influence over policy
development. Power and interest conflicts between the ministries were influential for the
direction the policymaking process took in both phases, and also influential for choice of
policy instruments. In the United States, the president has the right to appoint bureaucrats
to work on his policy program in the agencies to a much higher degree, and can therefore
control the focus of the agencies’ work. This dampens the power-conflict between the

agencies in the United States compared to Norway and Germany.

The above elaborations tells us that the model can point to certain elements that
are decisive for the development of the policymaking process in all three countries, and
that can point to important differences between the countries. The most important feature
about the DP model is, however, that it can give us a better understanding of the
relationship between public demand and governmental supply. In this respect, the DP
model explains very much of the policymaking process, and how it was different in the
three countries. There is a close relationship between public demand and governmental
supply in democratic countries like the three under study here. This is related to the
design and distribution of power within the political system itself. Earlier I pointed out
that public demand has a stronger effect in the United States than in Germany and
Norway precisely because of this. In all three countries, however, the distribution of
power and influence between the institutions of the political system was found to have
been more decisive. The way the governing system with its many institutions handled the
climate change issue was found to be key to understanding and explaining both process and outcome. My interpretation in the case of the United States is therefore that it is the design of the system itself that opens for more influence from public opinion on the policy process. Specifically, I focused on the independent position each politician in Congress has in terms of shaping their own political platform not bound so closely by party politics as in Norway and Germany. This gives public demand, particularly from strong and resourceful interest groups, clout in the U.S. governing system.

The DP model has substantial explanatory power for what factors were important in the policymaking process in all three countries. The result of this comparing across cases therefore seem to be that the DP assumptions about public demand and support on their own can give us substantial understanding as to the factors that triggers differences in the three countries policymaking processes. However, when they are considered in conjunction with the counties’ governmental supply the DP assumptions identify differences that contribute to a high degree of understanding of the development of the policymaking processes. In other words, by concentrating on the link between public demand and governmental supply we can get increased knowledge about why domestic politics matter.

6.3.2 Policy outcome: point predictions
I now move on to ask wether the DP model can point predict policy outcome based on its central assumptions, and if the model explains the differences in policy outcome for the six cases. From the analysis in chapter 4 we recall that in terms of the assumptions about public demand and support, for two cases the predicted outcome matches the actual outcome. These are the United States in both phases. For the other four cases the actual outcome was a more proactive policy than predicted by the DP model. The assumptions of the DP model concerning governmental supply found substantial support in the data material used in this study. Comparing the predicted versus the actual outcomes for the six cases, we see that there is a perfect match. This indicates that the DP model assumptions about how governmental supply influences policy outcome can explain the cases’ level of proactiveness fairly well. The results are summarized in table 6.6.
Table 6.6: DP – Point predictions about degree of proactiveness

| Cases                        | Public demand and support: Predicted outcome | Governmental supply: Predicted outcome | Actual outcome
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.33</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.33</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.50</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.33</td>
<td>.67</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>.33</td>
<td>.33</td>
<td>.33</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>.33</td>
<td>.33</td>
<td>.33</td>
</tr>
</tbody>
</table>

What can be said as to the DP model’s point predictions about proactiveness compared to actual outcome? The issue of most interest here is the relationship between public demand and governmental supply. The scores in table 6.6 show that there are no dramatic differences between the countries in terms of public demand. This indicates that to fully understand the differences between the three countries when it comes to the level of proactivity they chose, governmental supply is more important.

For all three countries, we saw that public pressure from economically powerful interest groups against proactive climate policies would dominate over general public opinion and NGO pressure in favor of such policy. This would lead to a medium to low level of proactiveness. However, for all three countries, the degree to which this kind of public demand was allowed to dominate policy outcome was linked to the design of the governing systems of the three countries.

For Norway, the organizational-corporate channel of influence played an important role for cementing who had clout. Furthermore, the system allowed legislative dominance over the executive in terms of majority in the parliament. This was checked in the agenda-setting phase by a strong and personally engaged head of government that had the authority to place climate change high on the political agenda. There was also a continuous cooperation between political parties in the parliament that secured a continuous majority that effectively regulated the level of proactiveness that was possible in Norway.

For Germany, the legalistic-bureaucratic culture with fragmented responsibility hierarchy in the German bureaucracy checked the effect of public demand. The disputes

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437 See chapter 3, table 3.1.
between the interest of protecting the environment and sector specific interests fearing economic losses caused the “solution” that sector specific interests were accommodated in the national climate protection program, hence securing support from industry groups and allowing for a high level of proactive policy. Furthermore, executive dominance over the legislative was enforced by factors like majority-based cabinets and a system with personal policy initiatives from the chancellor. Also, Helmut Kohl personally engaged in climate change issues, and prioritized the issue on the cabinet agenda. To further support this coherent governmental supply of policy, the general agreement on policy approach to address climate change was high between the political parties.

For the United States, one unique element in terms of the effect of public demand and supply on outcome was that predictions about economic effects of abatement policies were much more focused on negative consequences both for important industries and for the general citizen. Push from the industry lobby was therefore stronger, more coordinated, and focused than in Norway and Germany, resulting in more impact on the outcome. Enforcing this influence was the policymakers’ dependency on campaign contributions from these very same groups. Furthermore, the relatively independent position U.S. politicians have in terms of political platform plays a role for the checks and balances between the Congress and the administration, and the role that plays for policy outcome. In the climate change issue the U.S. Congress has been able to check presidential initiatives to incur a more proactive climate change policy during the Clinton administration, and vice versa during the George W. Bush administration.

From the above comparison across cases, we see that the governmental supply of policy contribute more to explaining the differences in policy outcome for the three countries than public demand and support. The relationship between public demand and governmental supply seems to be very important to explain differences, and is here perceived to be mutually reinforcing for influencing policy outcome. In particular, the extent to which public pressure was in favor of implementing proactive climate policies, combined with the extent to which stakeholder lobbying was against it was decisive for the level of proactivity. Hence, in Germany the public demand for proactive policy was strong while stakeholder lobbying against such policies was low, and this made it politically feasible to choose a high level of proactive climate change policy for the
country in the agenda-setting phase. The opposite directions of public pressure were the case in the United States in both phases, making it possible to decide on a low level of proactive policy.

Furthermore, the degree to which there was consistency in governmental supply of policy was found to have been important for policy choice. If the country experienced a low consistency of governmental policy supply, it would be less likely to decide on a high degree of proactive climate change policy. This finding has to be understood together with the finding about the direction of public pressure, since in a country where the legislative is dominating over the executive, it is more likely that public demand is accommodated. For example, in Norway in the agenda-setting phase, public pressure to implement strong climate policies was higher than in the domestic bargaining phase. At the same time, the consistency in governmental supply remained unchanged between the phases. From the actual level of proactive policy that was chosen in this country, we see that it decreased in correspondence with public pressure. In the United States, an equal degree of inconsistency was found as in Norway, but since public pressure went in the opposite direction – against implementing abatement policies – the level of proactive policy remained low in both phases.

6.3.3 Directional predictions: Did public demand and support affect policy outcome?

Having established that the DP model’s point predictions about public demand and support in general predicted too low values, an examination of the ranking of the cases and how rankings correlate on the independent and dependent variables can generate a fruitful comparative analysis.

The directional prediction of the DP model about how public demand and support affect outcome is as follows: the stronger public pressure is in favour of a proactive climate policy, supported by high public concern and ENGO activism, the higher level of proactive climate policy a country will lead. More specifically, the assumption is that when there is a change in the independent variable (public demand and support), there will be a change in the dependent variable (the level of proactive climate policy). For example, if public demand for a more proactive policy became more relaxed, at the same
time as ENGOs did not influence policymakers to the same extent as stakeholder groups representing economically vital sectors, the level of proactivity would decrease.

This assumption would also imply that the model predicts a certain ranking of the cases. Germany in the agenda-setting phase is ranked highest, closely followed by Norway in the agenda-setting phase, since both experienced a high level of public concern for climate changes, and also a lower pressure against abatement policies from stakeholder groups than the other cases. This would lead to the highest levels of proactivity.

Germany and Norway in the domestic bargaining phase get the two middle ranks, since in both countries in this phase the public concern had decreased, at the same time as ENGOs had less clout and stakeholder groups had more influence over policy outcome. This would lead to medium levels of proactivity.

The United States (in both phases) gets the lowest ranks, since public concern was lower, and especially since the influence of economically important stakeholder groups was much stronger than the influence of ENGOs. This would lead to the lowest levels of proactivity.

The ranking on the dependent variable is based on the discussion in the introduction in chapter three, quantified in table 3.1. To avoid ties, i.e. several identical values on the variable, empirical data have been evaluated to separate cases and achieve six different ranks on the variables.

Hence, the cases have been ranked on the dependent and independent variables, which enables the use of Spearman’s rho:
Table 6.7: Calculating rho for the correlation between public demand and support and level of proactive climate change policy – ranks.

<table>
<thead>
<tr>
<th>Cases</th>
<th>Public demand and support – rank</th>
<th>Level of proactive climate policy – rank</th>
<th>d</th>
<th>(d^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>3</td>
<td>4</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>USA in agenda-setting phase</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>USA in domestic bargaining phase</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td>(d = 0)</td>
<td>(\sum d^2 = 2)</td>
</tr>
</tbody>
</table>

\(d = \text{difference between ranks}\)

\[
Rho = 1 - \frac{6 \sum d^2}{N^3 - N} = 1 - \frac{6 \times 2}{216 - 6} = 1 - \frac{12}{210} = 1 - 0.06 = 0.94
\]

An output of 0.94 indicates a very strong positive correlation between public demand and support and the policy outcome. I interpret the result to mean that there is a strong tendency for public demand in favour of a proactive climate change policy to produce high levels of proactiveness climate policy, and vice versa in case of public demand against it. The directional prediction of the DP model is supported, since a change in the independent variable (public demand and support) seems to lead to changes in the dependent variable (level of proactive climate policy).

In chapter four we saw that the countries with the strongest public pressure in favour of proactive climate change policies in fact had the most proactive policies. Germany and Norway had higher levels of proactiveness in the agenda setting phase than in the domestic bargaining phase, and this correlates with a decreasing public concern and increasing influence of economically powerful stakeholder groups. Furthermore, they
had higher levels of proactivity than the United States in both phases. The public concern was lower, and the influence of economically strong stakeholder groups was higher than in Norway and in Germany. However, the U.S. in the domestic bargaining phase experienced a higher level of public concern than in the previous phase, and more influence for ENGOs, which can be interpreted to have resulted in more domestic initiatives to address climate change than in the agenda-setting phase, for example the CCTI and other voluntary abatement programs.

Based on this analysis, the conclusion here is that the DP model does very well in explaining the direction of correlation between public demand and support and the level of proactive climate change policy.

6.3.4 Directional predictions: Did governmental supply affect policy outcome?

Even though the DP model’s point predictions about governmental supply predicted values that corresponded well with actual policy outcome, an examination of the rank of the cases and how ranks correlate on the independent and dependent variables can generate a fruitful comparative analysis.

The directional prediction of the DP model about how governmental supply affect outcome is as follows: the more consistency there was in governmental supply of policy in terms of policy perspectives marked by positions and roles inhabited in the government, combined with clear policy preferences in favour of a proactive climate policy, the more proactive policy a country would lead. More specifically, the assumption is that when there is a change in the independent variable (governmental supply), there will be a change in the dependent variable (the level of proactive climate policy). For example, the level of proactive policy would become higher if a country has either clear executive or legislative domination, combined with high centralization of authority within the state bureaucracy with a weighty influence from sector specific agencies/ministries with ample resources representing economically important societal interests positive to a proactive policy. Furthermore, if the head of government has authority and enforces unity in the administration, and secure stable cooperation/coalitions with the political opposition. The political ideology and
preferences of the cabinet must have been in favor of a proactive climate policy. The level of proactivity would decrease if these factors changed.

This assumption implies that the model predicts a particular ranking of the cases. Norway in the agenda-setting phase is ranked highest, closely followed by Germany in the agenda-setting phase, since both of these experienced consistent governmental supply of policies, and particularly strong leadership from the head of government (Brundtland and Kohl). This would lead to the highest levels of proactivity.

Germany and Norway in the domestic bargaining phase gets the two middle ranks, since in both countries in this phase the consistency in governmental supply was lower, at the same time as personal leadership by the head of governments was much weaker, and the political preferences in favour of leading a proactive policy had decreased. This would lead to medium levels of proactivity.

The United States (in both phases) gets the lowest ranks, since the consistency of governmental supply was lower because of the checks and balances between Congress and the administration, and especially since there were markedly different political preferences between the two political parties. Also, there was lack of personal leadership by the head of government that was able to gather political majority. This would lead to the lowest levels of proactivity.

The ranking on the dependent variable is based on the discussion in the introduction in chapter three, quantified in table 3.1. To avoid ties, i.e. several identical values on the variable, empirical data have been evaluated to separate cases and achieve six different ranks on the variables.

Hence, the cases have been ranked on the dependent and independent variables, which enables the use of Spearman’s rho:
Table 6.8: Calculating rho for the correlation between governmental supply and level of proactive climate change policy – ranks.

<table>
<thead>
<tr>
<th>Cases</th>
<th>Governmental supply – rank</th>
<th>Level of proactive climate policy – rank</th>
<th>d</th>
<th>d²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>1</td>
<td>2</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>USA in agenda-setting phase</td>
<td>5</td>
<td>6</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>USA in domestic bargaining phase</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td>d = 0</td>
<td>Σd² = 4</td>
</tr>
</tbody>
</table>

\[
d = \text{difference between ranks}
\]

\[
Rho = 1 - \frac{6 \sum d^2}{N^3 - N} = 1 - \frac{6 \times 4}{216 - 6} = 1 - \frac{24}{210} = 1 - 0.11 = 0.89
\]

An output of 0.89 indicates a strong positive correlation between governmental supply and the policy outcome. I interpret the result to mean that there is a strong tendency for consistency in governmental supply to produce high levels of proactiveness in climate policy, and vice versa in case of inconsistent governmental supply. The directional prediction of the DP model is supported, since a change in consistency of governmental supply seems to lead to changes in the level of proactive climate policy.

The analysis in chapter four showed that the countries with the most consistent governmental supply of policies, combined with strong personal leadership from the head of government and a political platform in favour of a proactive policy in fact had the most proactive policies. Germany and Norway had higher levels of proactiveness in the agenda setting phase than in the domestic bargaining phase, and this correlates with decreasing strength in personal leadership and less clear political preferences in favour of
proactiveness. Furthermore, both Germany and Norway had higher levels of proactivity than the United States even in the domestic bargaining phase. In the United States, the consistency in governmental supply was lower, as a result of checks and balances between executive initiatives and the legislative’s right to appropriate funds to implement policy programs.

Based on this analysis, the conclusion here is that the DP model does very well in explaining the directional correlation between governmental supply and the level of proactive climate change policy.

6.3.5 Explanatory power of the model

Factors that were decisive for policy choice across cases are presumed to have a strong explanatory power. In that respect, the direction of public pressure (for or against a proactive policy) in the three countries stands out as particularly important in all six cases. However, the role of public pressure was influenced by the country’s political system design and dominating policy preferences, as pointed out in sections 6.3.2 and 6.3.3. This indicates that the particular way of understanding the decision making process that the DP model represent is an important contribution to understanding and explaining the policymaking process. And with its high degree of match between predictions and actual policy choices, it has a strong explanatory power for this study.

Furthermore, by applying rank-correlation analysis, we get a more comprehensive understanding of the relationship between factors assumed by the DP model to be important for policy outcome, and the actual level of proactivity in the countries. Rho-analysis gave an output of 0.94 for the correlation between public demand and support and level of proactive climate policy, and an output of 0.89 for the correlation between governmental supply and level of proactive climate policy. The model does well in predicting how changes in these independent variables affect changes in the policy outcome.
6.4 What did the SLI model contribute in terms of explaining differences?

Recall that the SLI model allows for a different understanding of the climate change policymaking process and certain aspects of policy outcome than the URA and DP models. The SLI-model focuses on the origins and dynamics of rational actors’ understanding of the world. The essential assumption is that both rationality and social norms are among the determinants of actions. Policy action depends on policymakers’ perception of the particular problem in question, which is partially produced by their causal and normative beliefs. These beliefs, in turn, are considered independent of actors’ material environment – e.g. the distribution of power and wealth. In other words, elements like culture, knowledge level, and norms influence the way policymakers find appropriate to handle a policy issue. It shapes their conceptual understanding and ideas about solutions and policy instrument choice.

The SLI model sees actors as rational utility-maximizers, but focuses on the perception that utility depends on knowledge and that knowledge is not reducible to material structures, and thus possesses the status of an autonomous causal factor. Behavior can be motivated by norms and values. Before policy choices can be made, circumstances must be assessed and interests identified - same as is assumed in the URA and DP models. Interpretation of the issue and alternative policy options, in turn, is here assumed to depend on the body of knowledge actors hold at a given time and place. This body of knowledge shapes the perception of reality and informs decision makers about linkages between causes and effects and thus, between means and ends. The knowledge actors incorporate and enact in international cooperation/negotiations significantly shapes their behavior, ideas, and expectations.

Another SLI assumption is the growing demand by decision makers for scientific information and other supposedly reliable knowledge. Complex interdependence and the increasingly technical nature of international issues make decision makers experience enduring uncertainties about their interests and how to realize them. In order to make

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440 Ibid., p. 137.
intelligent choices in unfamiliar, uncertain situations decision makers need – and often demand – high quality information and expert advice. Those who are in a position to supply such knowledge can exert considerable influence on the choices made by policymakers.\footnote{Hasenclever, A. et al. (1997): p. 140.} Uncertainty can make politicians unable to assess the likely consequences of their decisions or non-decisions. Scientists and other experts are often in a position to reduce, but also to create or intensify, this kind of uncertainty. Reduction of uncertainty due to scientific consensus can lead to higher levels of cooperation.

### 6.4.1 Policymaking process

In chapter 5, applying these assumptions, I deducted what elements we must expect to find to have been important in the policymaking process and for choice of policy instruments. This was systematically assessed in relation to empirical data. Recapitulating the findings in chapter 5, we recall that for five of the six cases the membership degree concerning ideas was more in than out. The analysis in chapter 5 gave only partial support for the assumptions of the SLI model on “learning” as defined here. This indicates that the SLI model assumptions have some explanatory power for the development of the policymaking process and certain aspects of policy outcome in the three countries. These results are summarized in table 6.9.

<table>
<thead>
<tr>
<th>Cases</th>
<th>“Ideas matter in the policy process” causal set: score</th>
<th>“Learning matter in the policy process” causal set: score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.67</td>
<td>1</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.50</td>
<td>.67</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.83</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
<td>.50</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
<td>.50</td>
</tr>
</tbody>
</table>
The question is whether differences in the countries’ policymaking process can be explained with this model. First, focusing on the SLI assumptions about ideas, we can see that five out of six cases were more in than out.

In Norway, policy positions and decisions reflected cultural and normative understandings as road maps for Norway’s policy choices more in the agenda setting than in the domestic bargaining phase of the policymaking process. The elements of the multilateral approach that became the dominant policy positions - joint implementation, emissions trading, and a comprehensive approach – are not ideas that can be traced to Norwegian cultural and normative understandings. Norway’s ideas and proposals were often shared by other industrialized countries, like the United States on the issue of a comprehensive approach, or developing countries, like on the issue about financial and technological support for developing countries to implement emissions reductions. Other issues, like the proposal about an international carbon tax, were rejected. In other words, Norway was an ideas exporter, but often as part of a group.

In Germany, the choice of a sector-by-sector approach as policy strategy was colored by the legalistic-bureaucratic political culture of the country. Furthermore, EU membership played a significant role in shaping road maps for policy choice. The idea about targeted emissions reductions could be traced back to what Germany had experiences with from other environmental issues like acid rain and ozone depletion. In domestic policy as well as in positions in the international negotiations, Germany promoted policy solutions that were culturally and normatively rooted. There was high resistance to change in both the public sector and in the private labor market, which were pointed out as important factors in the decision making process. Germany cooperated with other countries to create important focal points in the negotiations, like the targets and timetables approach, and the principle about “common but differentiated responsibilities.”

In the United States, cultural and normative understandings like small government, freedom to choose lifestyle, and preference for market oriented policy solutions were road maps that were influential in the decision making process in the United States. Clearly the country had stronger road maps based in own culture than

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imported ideas. One road map that became more visible in the domestic bargaining phase was the conception that international governance through strong treaties would interfere with the United States’ freedom to choose its own policies. The United States was actively involved in introducing new ideas into the negotiations. For instance, it was the main promoter of the comprehensive approach, which was included in the UNFCCC treaty. Flexibility mechanisms such as emissions trading, CDM, and joint implementation were ideas that the United States took active part in developing and refining in the domestic bargaining phase. These became important focal points in the negotiations, and dominated the negotiation agenda.

This comparison points out the importance of cultural and normative understandings for the development of the policymaking process and choice of policy instruments, and how they vary from one country to another. The United States and Germany have the clearest empirical evidence that cultural peculiarities produce specific road maps to guide climate change policymaking. The U.S. process was marked by focus on small government and economic efficiency, and market orientated solutions remained the preferred policy instruments for handling the climate change issue. Furthermore, the conception that international governance through strong treaties would interfere with the United States’ freedom to choose its own policies was dominant. In Germany, the legalistic-bureaucratic traditions were found to be strong, and interpreted to be important for a focus on direct regulations as the preferred climate policy instruments. High resistance to change in both the public sector and in the private labor market was pointed out as important factors. In Norway, the trend was different, in terms of a weakened presence of culturally rooted road maps in the domestic bargaining phase. As a small country in a globalizing world economy, this trend is not surprising. The main point here is, however, that the focus on culturally rooted road maps that the SLI model open for was useful to explain differences between the three countries.

Hence, the extent to which a country has strong culturally-rooted road maps makes it more able to have its own ideas and road maps become influential focal points in the international negotiations. The United States, for instance, was a dominant party and managed to influence the design of the UNFCCC and Kyoto Protocol to a large degree. Germany and the EU were also able to dominate the negotiations with some of its road
maps, in particular the constant focus on the “targets and timetables” approach throughout the Kyoto Protocol negotiations. However, Germany was a much weaker ideas exporter than the United States. Norway for the most part collaborated with other countries to put the focus on preferred issues, and did not manage to dominate the negotiations through culturally rooted road maps and focal points.

When we link this interpretation of the role of ideas in climate change policymaking to the assumptions of the SLI model about learning, the relationship between what happens in the international negotiations and domestically becomes even more understandable. Developments at the international level in terms of policy perception and options are transferred to the domestic policymaking process via cultural filters of conception. For instance, Norway’s distinct change in policy description and perception of options in 1990-91 came as a result of developments in the international negotiations. At that point, there was increasing focus internationally by important actors on flexibility and international cost effectiveness. This was combined with domestic climate policy that took into account new information about these subjects, since there was substantial scientific consensus in Norway. This linkage can be turned around for the United States and Germany. They were both able to create focal points in the negotiations based on culturally rooted road maps, resulting from a policymaking process that did not allow for dominance of new information in terms of changing policy description and outcome. Therefore, the degree of learning should be considered as an element that can explain certain differences between the countries’ climate change policymaking processes and outcomes.

In Norway, despite of disagreement and debate both in the news media and in refereed journals about the natural science of climate change, the majority of the scientific community were convinced at the time that human made emissions will cause climate change. Concerning policy advice, the science community was to a high degree in consensus about what policy alternatives would be most economically efficient for Norway. However, debates about alternative theories to explain global warming, particularly on solar radiation, evolved in both the news media and in refereed journals. The Norwegian government changed its description of policy options during the agenda-
setting phase. This had direct consequences for both national policy implementation as well as positions in the international negotiations about a climate treaty, as we have seen.

In Germany, the joint learning effect that resulted from the Enquete Commission led to a shortened issue framing phase, and general agreement among political parties and others involved in the policymaking process about the available and preferred policy instruments. The scientific community in Germany experienced discussions about the significance of human activity for the observed temperature increases, as was the case in most other countries. Within the social sciences, there was disagreement about which policy instrument should be used to secure economic efficiency for Germany. A serious evaluation of a national quota system did only commence after it was decided on the EU level to implement an EU trading system. The implementation of the ecological tax reform came about after a change of government, and it is therefore not possible to classify as a clear case of learning-induced change of policy.

In the United States, policy description changed when a new president came into office, both in the agenda-setting phase and in the domestic bargaining phase. But within each presidential regime, the policy description stayed remarkably stable. There was a high degree of conflict within the scientific community in the country about the science of climate change and also about the options for climate change policy. Knowledge improvements, as with the IPCC second assessment report (1995) and the USGCRP assessment report (2000) were partly the background for a lower disagreement level within the scientific community in the second phase. There was also higher degree of agreement about the options for climate change policy.

The elements that are recurrent across cases here and that seem to have some explanatory power for differences in the development of the policymaking processes are, first, that the degree of scientific consensus can influence whether the country allows new information to play a distinct role. Second, changes in policy description can be related to that degree of consensus. For example, in the case of Norway in the agenda-setting phase there was a clear development in policy approach as a result of learning. It had direct consequences for both national policy implementation as well as positions in the international negotiations about a climate treaty. Norway went from promoting ambitious domestic policies like carbon taxes, to supporting multilateral flexibility policies to
achieve maximum global cost effectiveness. However, in Germany in the agenda-setting phase a strong learning process took place in the Enquete commission that did not seem to incur a similar change of policy approach as in Norway. On the contrary, Germany continued the approach it had experiences with from earlier environmental problems.

The assumptions that changes in policy positions and degree of scientific consensus can explain something important about the development of a country's policymaking process finds support empirically. The lack of scientific consensus in the United States combined with few changes in policy description can be interpreted to be as the SLI model assumes. Prior knowledge prevails over new and uncertain information, especially if it appears to be incoherent or uncertain. The same is the case with Germany, which had some conflicts in the scientific community - particularly within the social sciences concerning policy advice- and few changes in policy description. In Norway, on the other hand, there was little conflict within the scientific community, and substantial changes in terms of description of policy and options. This speaks in favor of high consensus having had an influence allowing for new information to prevail over previous knowledge.

Looking at the link between ideas and learning allows an even more fruitful interpretation of the SLI models explanatory power. Lack of scientific consensus combined with unchanged conception of policy options would logically lead to strongly culturally bound road maps and the opportunity to create focal points in the negotiations. In other words, the policymaking process the United States and Germany can be understood in the following way applying the assumptions of the SLI model. Lack of consensus within the scientific communities of the countries led to uncertainty regarding new information. There was no "smoking gun" or broad agreement about policy options. This in turn led to prevalence of previous knowledge in terms of conceptions of policy options, which were strengthened by culturally rooted filters creating road maps for the policymaking process. For Norway, the policymaking process can be understood by the seemingly high consensus in the scientific communities, and the resulting certainty regarding new information about policy options and advice. This led to overturning of existing knowledge, and was strengthened by the decreasing strength of culturally rooted filters and road maps.
6.4.2 Explanatory power of the model

Factors that were decisive for policy choice across cases are presumed to have a strong explanatory power. The SLI model gives us increased knowledge and understanding that is more detailed and nuanced than the URA and DP models are capable of when it comes to sources of climate change policymaking. Even though the SLI model can not contribute fruitfully in terms of predictions about the level of proactive climate change policy a country would choose, it can give us increased understanding about other important aspects of policy outcome, and the development of the policymaking process. As such, the SLI model can add an extra dimension to the URA and DP model analysis. For example, massive scientific consensus about policy options or “smoking gun” findings can create both governmental supply and public pressure for new climate policy initiatives, as in a situation where climate changes can be proven to be the reason for recurring human disasters like flooding or land-slides. The public pressure and governmental policies that this consensus could lead to would have an effect on what level of proactivity a country would choose. Hence, when governmental supply and public demand and support are included into the analysis of the effect of a solid scientific consensus, a broader analytic conception of climate change policymaking becomes possible. The SLI model, in other words, adds a new dimension to the DP model analysis, and the two perspectives can provide a broader understanding in this kind of analysis.

6.5 Patterns across cases

With the knowledge about the cases from the previous sections of this study, it is now possible to establish which causal factors were most important for the countries concerning development of the policymaking process. By explicitly applying the membership scores (see table 6.10) to evaluate which factors were most important, the possibility to clearly establish differences between cases also emerges. Furthermore, this information can be applied to determine if these differences caused distinct policy outcomes.
### Table 6.10: Causal sets that mattered in the policymaking process

<table>
<thead>
<tr>
<th>Cases</th>
<th>Costs and benefit assessments: score</th>
<th>Interdependence and information: score</th>
<th>Public demand and support: score</th>
<th>Governmental supply: score</th>
<th>Ideas: score</th>
<th>Learning: score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway in agenda-setting phase</td>
<td>.83</td>
<td>.83</td>
<td>.67</td>
<td>1</td>
<td>.67</td>
<td>1</td>
</tr>
<tr>
<td>Norway in domestic bargaining phase</td>
<td>.83</td>
<td>1</td>
<td>.83</td>
<td>.83</td>
<td>.50</td>
<td>.67</td>
</tr>
<tr>
<td>Germany in agenda-setting phase</td>
<td>.83</td>
<td>.67</td>
<td>.67</td>
<td>1</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Germany in domestic bargaining phase</td>
<td>.83</td>
<td>.67</td>
<td>.83</td>
<td>.83</td>
<td>1</td>
<td>.67</td>
</tr>
<tr>
<td>The USA in agenda-setting phase</td>
<td>1</td>
<td>.17</td>
<td>1</td>
<td>.83</td>
<td>1</td>
<td>.50</td>
</tr>
<tr>
<td>The USA in domestic bargaining phase</td>
<td>1</td>
<td>.17</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>.50</td>
</tr>
</tbody>
</table>

### 6.5.1 Differences in the policymaking process

In Norway, three causal sets stand out as very important to explain the development of the policymaking process (see table 6.10). Cost and benefit assessments were pivotal for establishing Norway’s set of special circumstances related to climate change policy and impacts. Particularly as a result of the country’s strong degree of interdependence, the cost and benefit assessments underlined the vital role of multilateral cooperation to address the problem for the Norwegian economy. The same arguments were used by the political majority in the parliament and promoted by the Labor party when in office. Hence, governmental supply also played a pivotal role for the development of the process in Norway. In the agenda-setting phase learning played a decisive role, particularly as the multilateral, flexibility approach was put on the agenda. This effect was substantially weakened in the domestic bargaining phase. The role of public demand and support was medium to high, showing that powerful and economically important interest groups played an increasingly important role in the process. The causal set that seems to have played the least important role in Norway is the ideas set.
In the German policymaking process, the most important set of causal factors seems to have been governmental supply, indicating that the German political system design and distribution of power between institutions was pivotal. The legalistic-bureaucratic traditions with a strong hierarchy, combined with constant executive domination mattered for the development of the process. At the same time, cost and benefit assessments were important since they opened for relatively large leeway for the cabinet to design the kind of policy that was appropriate in terms of national economic welfare. Germany was less interdependent than Norway, and hence this causal set played a less important role in the German policymaking process. Germany’s interdependence was mostly related to what happened within the European Union. Public demand and support was found to have been relatively important and closely linked to the important role of the organization-corporate channel of influence in the German policymaking process. Ideas as a causal set was found to have had some influence in the policymaking process, particularly in terms of trusting on road maps for policy handling that had been applied in previous environmental regimes. Learning was found to have played the least important role, with membership degree being more or less out in the domestic bargaining phase.

Two of the causal sets stand out as particularly important for both Norway and Germany, i.e. cost and benefit assessments and governmental supply. The most distinct differences lie in the effect of interdependence and learning, where Norway was found to have been much more influenced than Germany.

In the United States, cost and benefit assessments were very important in the policymaking process, particularly in combination with public pressure from economically important and powerful domestic actors that pointed out how the predicted negative effects of abatement policies would hurt them. The effect of public pressure was much higher than in Norway and Germany, since the design of the political governing system opens for more direct influence for pressure groups in the United States. In particular, the rather independent political platform of central politicians allows more leeway, and has resulted in continuous opposition in Congress towards abatement policies. In the checks and balances system of the United States, the administration can not do more than Congress allows for. The scores in table 6.10 clearly point out these
three causal sets as important. Furthermore, the ideas set gets high scores, and more so than in Norway and Germany. This is related to the U.S. role as superpower in the world, and the degree to which it as a large country has been able to dominate the international negotiations with policy approaches that are strongly rooted in cultural traits.

Country size and economic strength and ability to lead unilateral policy are reflected in the low importance of interdependence that was detected, and contribute to pinpointing differences in the development of the policymaking process between the three countries. The membership degree in the causal set of learning was difficult to specify as either in or out for the United States, indicating that the lack of scientific consensus played into the policymaking process in terms of restricting the learning effect that was detected in Norway, and in Germany in the domestic bargaining phase.

As we can see from this analysis, there was substantial overlap among the countries in terms of importance found for two causal sets; cost and benefit assessments and governmental supply. In other words, all the three countries closely assessed the costs and benefits related to mitigation of the climate change problem, and together with the degree of consistency in the government’s supply of policies, this was important for the development of the policymaking process. Also found to be of great importance was the way these causal factors related to the public demand and interdependence sets. By studying these relationships, the differences between the developments of the three countries’ policymaking processes could be identified. Furthermore, the variance in terms of importance of the ideas and learning causal sets could be related to this discussion, and provide a more detailed understanding of the differences between the countries.

6.5.2 Differences in policy outcome

Norway had a distinct change in level of proactiveness between the agenda-setting phase and the domestic bargaining phase. Discussing that change in lieu of the membership scores in table 6.10, and hence checking if differences in policymaking process caused differences in policy outcome, the most likely explanation for the decrease is that public pressure from powerful, well organized, and economically important domestic actor groups gained more leverage in the second phase. Furthermore, heeded cost and benefit assessments predicted that multilateral, flexibility approaches were the most viable way
for Norway to go to minimize the economic effect of abatement policies. This was closely related to the establishment of an international regime. The political majority enforced this policy approach, as the legislative branch dominated over the executive, and was supported by policy assessments from the powerful and centralized bureaucracy in the ministries. Norway’s decreasing proactiveness can therefore be explained in terms of changes in the influence of central causal factors.

Contrasting what explains Norway’s policy outcome with Germany’s, several elements can be pointed out. The cost and benefit assessments in Germany were much more positive in terms of opening for a more proactive policy than in Norway. The negative economic effects were predicted to be minimal in the studies that were heeded in the policymaking process. The effect of this on policy outcome can also be linked to the degree of interdependence of the country. Germany was less interdependent than Norway, as a result of greater economic leeway to allow proactive policy. Also, the country was equally, possibly more, dependent on what the EU chose to do to abate climate change than what happened in the international negotiations. In addition to interdependence, the most visible difference between the two countries is the less important role of the learning causal set. Development towards consensus in the scientific communities did not to the same extent as in Norway lead to detectable changes in policy description. Hence German proactiveness did not decrease as much as it did in Norway.

This point is interesting to relate to the sets of causal factors that were identified as being approximately equally important in both countries, namely public demand and support, and governmental supply. While the role of the central bureaucracy in combination with political majority was pointed out as important in both countries, the role of public pressure from powerful and economically important interest groups via the organizational-corporative channel seem to be key. Germany succeeded to a larger extent than Norway to include these important groups into the process on the proactive side, hence not creating the same amount of public pressure against a proactive policy as was the case in Norway. By governmental supply of policy measures that were accepted and preferred by the industry sector – the sector by sector approach and voluntary agreement – the kind of discontent and resistance that Norway’s industry has represented in relation
to the carbon tax was avoided. Hence, the relationship between public demand and governmental supply is very important for explaining differences.

The United States was distinct from the other two countries in several ways that might explain why it had a different policy outcome. The most important were identified as the public demand and governmental supply causal sets. In terms of the effect on outcome, the checks and balances system in the United States hinders the executive branch from performing more proactively than the legislative branch allows for, to a higher degree than in Norway and Germany. Less stringent party platforms and closer dependence on constituency financing of election campaigns are key issues to explain this difference. Hence, when cost and benefit assessments were negative for the United States, politicians with close ties to powerful and economically important interest groups within their respective constituencies had the opportunity to block policy initiatives in favor of proactiveness. The difference from Germany and Norway is hence directly linked to the governing systems of the three countries. The way that the system opens for distribution of power and influence between domestic institutions and actors is therefore here identified as the most central element for explaining why the three countries chose different levels of proactiveness in their climate change policy.

6.6 **Discussing explanatory power of the three models: overall evaluation**

For all the detailed information and analysis that the measurement of model assumptions has produced in this thesis, it is worthwhile to conclude the discussion by considering whether all models say something valid and interesting about both process and outcome. Which model explains the differences in *policymaking processes* best? Which model explains differences in *policy outcome* best?

As a conclusion to the focused, structured comparison performed here it seems useful to discuss the explanatory power of the three models in relation to each other. In chapter 1, I argued that the three models represent different ways to explain the differences of the policymaking process, and can provide different degrees of detail. In retrospect, can I say that this was the case? In terms of explaining and understanding the
development of the policymaking processes, the answer is yes. All three models provide valid and interesting assumptions about which factors are decisive, and can be applied to explain differences between the three countries. Particularly valid in terms of explaining variance was the linkage between the two sets of assumptions that were derived for each of the models. For the URA model, we saw that the kind of policy advice concerning national welfare that was heeded in the policymaking process was linked to the ability and willingness of a country to lead a unilateral policy. The degree of interdependence therefore clearly was influential for identifying differences between the countries. For the DP model, we saw that the relationship between public demand and governmental supply mattered for understanding why domestic politics matter to explain differences in the policymaking process. The direction of public pressure was important, and linked to the degree to which the design of the political governing system of the country allowed for this kind of pressure to matter. For the SLI model, we saw that the link between scientific consensus and established, culturally rooted road maps for policy instrument choice had distinct power to explain the differences between the countries. The agreement and certainty with which research results were presented mattered.

In terms of comparing the models and their explanatory power, all seem to fare well. The level of detailed information they allow makes it easy to claim that differences can best be pointed out by applying the SLI model. However, in terms of focusing on issues that really matter in terms of protecting the national welfare, and the economic well-being of important and influential domestic actors, the URA and DP models perform much better.

The explanatory power of the models in terms of predicting outcome can be assessed much easier. First of all, the SLI model does best in providing a set of assumptions that allows for a detailed analysis of the role that cultural and normative bindings play in molding the policymaking process and for choice of policy instruments. In other words, the SLI model has only limited capacity to explain policy outcome, and only in a much more narrow sense than the other two models.

Second, the URA model has the advantage of representing a limited scope of the world – avoiding the inclusion of complicating factors at the domestic level. This allows for clear predictions that are easily understandable in a national welfare context. The
point prediction scores in table 6.2 indicated that the model can not accurately predict actual policy outcome in the real-world context that has been applied in this study. The general pattern is that the model predicts a lower level of proactiveness than was actually the case for all six cases. However, the model did much better in predicting direction of change in outcome. Rank-correlation analysis showed that changes in cost-benefit balance and interdependence in most cases led to changes in level of proactivity.

Third, the DP model seems to be best suited to predict policy outcome in the real world context applied here. The point predictions based on the “governmental supply” assumptions fitted well with the actual outcome, and could to a large extent also be used to explain differences between the countries – particularly if linked to the assumptions about the role of public demand and support for influencing outcome. Furthermore, rank-correlation analysis showed that the DP model make directional predictions that fit the actual tendencies for change in policy outcome.

Each of the three explanatory models has its own strengths and weaknesses depending on the phases, circumstances, institutions, and actors in question. Hence, using several models give us different angles and levels of detail by which we can understand the shaping of policy and the policymaking processes. The empirical data have been interpreted thoroughly, and these three models allow us to understand the data from three different, but complementary angles.

In addition to that interpretation of the value added by these three explanatory models, I conclude from the analysis in this study that there is also a certain degree of interplay between the models that is beneficial for increased understanding. In other words, the models can be coupled together to a certain degree. In particular, there are traits of the DP model that are expansions of the assumptions of the URA model. Hence, analysis based on the DP model in fact enforces conclusions from the URA model analysis: First, one conclusion from the DP model analysis was that the distribution of costs and benefits, interests, and influence between domestic actors matters for policy outcome. This is in reality a broader, more complex understanding of what maximizing national welfare means. In other words, the findings in this study indicate that the reason why economically vital and well-organized interest groups have more clout in the political process is because their welfare-maximization adds up to what is best for the net
national gain. Furthermore, the conclusion in the DP model analysis that governmental supply, i.e. the design and distribution of roles in the governing system, is decisive for the extent to which these interest groups influence policy outcome, reify the same basic URA assumption – that states act to maximize the net national welfare. In other words, the government’s handling of the policy issue, and hence degree of consistency in supply of policies, to some extent reinforces the conclusions from the URA model analysis about the importance for policy outcome of a positive cost-benefit balance.

In other words, by starting the analysis with the most parsimonious assumptions about what factors influence policymaking (i.e. the URA model), and then expand the analysis to include more complex factors (i.e. the DP model), increased understanding can be achieved. The mutual assumption of the models that actors maximize their own welfare is the link to applying the DP model as a more complex version of the URA model.
Appendix: Interviews

Norway
Audun Rosland, Statens Forurensingstilsyn (Governmental Pollution Control Authority), 15.05.2001.
Ronald Fagernes and Eirik Haugen, Prosessindustriens Landsforening (The Federation of Norwegian Process Industries), 23.05.2001.
Geir Høibye, Næringslivets Hovedorganisasjon (Confederation of Norwegian Business and Industry), 14.05.2001.
Hilde Frafjord Johnsen, Krf (Christian Democratic Party), Member of the Norwegian Parliament 20.06.2001.
Håvard Thoresen, Miljøverndepartementet (Ministry of the Environment), 23.05.2001.
Harald Dovland, Miljøverndepartementet (Ministry of the Environment), 06.02.2003.
Kalle Hesstvedt, SV (Socialist Left Party), and Greenpeace Norway, 15.05.2001.
Tone Skogen, Olje og energidepartementet (Ministry of Petroleum and Energy), 14.05.2001.
Silje Schei Tveitdal, Natur og Ungdom (Nature and Youth)/NoBio, 05.06.2001.
Jan Tore Sanner, Høyre (The Conservative Party) Member of the Norwegian Parliament, 28.05.2001.
Kjell Øren, Norsk Hydro, 21.05.2001.

Germany
Dr. Alfred Richmann, Deutscher Industrie- und Handelstag (The Association of German Chambers of Industry and Commerce), 17.09.1997
Georg Werkmeister, IG Metall, 01.06.1999.
Gerd D. Lochner, Vereinigung Deutscher Elektrizitätswerke (VDEW/ The Association of German Electricity Supply Companies), 01.06.1999.
Helmut Goекke, Bundeskanzleramt (Chancellor’s Office), 02.06.1999.
Jürgen Engelhard, Rheinbraun AG, 03.11.1999.
Jürgen Maier, Forum Umwelt und Entwicklung (Forum for Environment and Development), 03.11.1999.
Klaus Deiters, Bundesministerium für Finanzen (The Ministry of Finances),19.09.1997
Manfred Treber, Germanwatch, 03.06.1999.
Michael Müller (SPD), Member of the German Bundestag, 31.05.1999.

The United States

Clare Breidenich, U.S. State Department, 24.05.2000.
David Garman, Chief of Staff for Senator Frank Murkowski (R-AK), Chair of the Senate Committee on Energy and Natural Resources, 12.09.2000.
Eric Holdsworth, Global Climate Coalition, 26.10.2000
John Novak, Edison Electric Institute, 23.05.2000
Jonathan Wiener, Duke University Law School, 02.03.2000
Lisa McNeilly, Pew Center on Global Climate Change, 22.05.2000.
Mark Lagon, Chief of Staff for Senator Jesse Helms and the Senate Committee on Foreign Relations, 27.10.2000.
Shirley Neff, Staff Economist for the Democrats, Senate Committee on Energy and Natural Resources, 25.10.2000.
Tom Jacobs, DuPont, 30.05.2000
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International Institute on Sustainable Development website: www.iisd.ca/linkages/, 11.06.2003

Max Planck Institutes website: http://www.mpg.de/english/institut/was_ist.html, 04.07.2002

Pew Center website: www.pewclimate.org, 09.06.2002.


Statistics Norway website: http://www.ssb.no/emner/00/01/10/stortingsvalg/valg97/addendum.shtml, 16.05.2002.
