

## Abstract

The thesis aims to contribute to the understanding of policy instruments designed to reduce environmental damage, with concentration on policies related to electricity consumption and production. It studies both preferences for and the functioning of such policies.

Energy is a complex area with many actors and multiple production possibilities with very different climate impacts. Policies implemented to influence energy production and consumption are designed to secure energy supply and value creation and to reduce climate and other environmental impacts of energy consumption. The political feasibility of various policy instruments affects which instruments are chosen, and how actors respond to the policies affects their effectiveness. Consequently, studies of how to affect energy production and consumption include a variety of issues, methods and disciplines.

This thesis aims to shed light on the feasibility of potential energy related policies and give a better understanding when assessing the effectiveness and efficiency of some policy instruments designed to influence energy consumption and production in a more environmentally friendly direction. The first two chapters are descriptive, focusing on energy policy formation and scope. They address questions related to political trade-offs in energy and environmental policy and the quantity of and developments in energy consumption for different end-use purposes in Norwegian households. Analyzes of interviews with key politicians find that considerations of cost-efficiency are central to policy-making in the field of climate and energy policy in principle, but that a desire to introduce policies that change for example sector composition, employment patterns and regional development as little as possible lead to other considerations than cost-efficiency being more important. When estimating Norwegian households' energy end-use I find that the proportion of energy used for heating is less than what other analyses, based on other methods, have shown.

The last two chapters of the thesis contain analyses of the effects of politically feasible policies in two very different, albeit both central, areas of electricity production and consumption. The first of these papers considers the potential for end-use effects of politically desirable "soft" policies targeting household investments in energy-efficient equipment. I find that environmental attitudes have no effect on energy efficiency measures, such as the purchase of energy efficient household appliances, in Norwegian and Swedish households. The last paper addresses social welfare implications of using policy instruments deviating from an optimal, cost-efficient policy for renewable energy production in the EU. We find a potential for large reductions in costs related to the introduction of requirements for renewable energy development in the EU by opening for trade in green certificates between European countries.