

# Analyzing Energy Conservation Behavior among Swedish Households: The Role of Information

By Kristina Ek and Patrik Söderholm  
Luleå University of Technology  
Economics Unit

## Abstract

The overall purpose of this paper is to analyze the determinants of Swedish households' energy conservation behavior. More specifically, the aim is to identify factors that may enhance or hamper households from increasing their effort so save electricity. Results are based on a postal survey that was sent out to 1200 randomly selected Swedish households. The response rate was 47 percent. Since the questionnaire was sent out both to people living in their own houses and to people living in apartments there are large differences between households with respect to the potential benefit associated with increased effort so save electricity (i.e., reduced electricity costs). People living in houses with electric heating have, at least potentially, significant possibilities to save electricity while some of the households living in apartments are likely to have much smaller possibilities to reduce electricity consumption. The survey collected information about the respondents' willingness to increase effort in order to reduce their electricity consumption within four different areas (i.e., washing and drying, lighting, heating, and use of hot water). The questionnaire also collected information on, for instance, the attitudes towards the actors on the electricity market and the functioning of the market, attitudes towards the environment, the electricity conservation activities undertaken at present (if any) as well as on socio-economic characteristics of the respondents. We argue that the economic incentive to save electricity (i.e., the reduced cost) will be weighted against the costs associated with electricity saving activities (i.e., the time and the perceived inconvenience). For the specific household it is probably difficult to determine which the saving activities with highest economic potential are and information may thus be an important policy instrument so as to increase conservation effort among households. To facilitate an empirical test of the hypothesis that information affects the (self-reported) willingness to increase effort to save electricity the sample was divided into three separate parts; and the level of information provided (about the impact of different savings activities) varied between the three sub samples. Other factors that we believe are potentially important for electricity conservation behaviour are related to attitudes and norms. Social norms may affect perceptions both on what kind of electricity saving activities that are available as well as their relative profitability. Electricity saving activities are often motivated with environmental reasons and households that report a high degree of environmental awareness and concern should thus be expected to be more inclined to save electricity than the average household. Therefore, the questionnaire collected information individual differences with respect to the presence of social norms and environmental consciousness and these variables were also included in our model. The econometric analysis was carried out in an ordered probit framework. Results suggest (in three of the four areas) that information has a statistically significant impact on the stated willingness to increase action to save electricity. Households with a high degree of environmental awareness were also more inclined to increase savings effort while those who perceive costs (in terms of time and inconvenience) as high are less willing to do so. The implications for policy makers are thus that information – in particular in an environmental framework – seem to be important so as to promote electricity conservation.