TOWARDS INCREASED ENERGY EFFICIENCY IN SWEDISH INDUSTRY: BARRIERS, DRIVING FORCES, AND POLICIES

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Industrial energy efficiency is one of the most important means of reducing the threat of increased global warming. A higher use of electricity than their European competitors, and increased energy costs due to increasing energy prices in Swedish industry, have negative impacts on results and competitiveness. The aim of this thesis is to analyze industrial energy systems and more specifically study factors that promote or inhibits energy end-use efficiency in Swedish industrial companies.

Results from this thesis show that there exist a number of unexploited energy efficiency measures in the Swedish industry and that the implementation of these measures will reduce the threat of rising energy prices. With large variations among the studied Swedish industrial companies, the largest barriers to energy efficiency were found to be: technical risk such as risk of production disruptions; lack of time or other priorities; lack of access to capital; cost of production disruption/hassle/inconvenience; other priorities for capital investments; technology is regarded as inappropriate at the company; difficulty/cost of obtaining information about the energy use of purchased equipment; and lack of budget funding. The largest driving forces, apart from cost reductions resulting from lowered energy use, were found to be the existence of a long-term energy strategy and people with real ambition. Investment decision support such as optimization has shown to add more information for larger capital-intensive investments in energy-intensive industrial SMEs. The thesis also shows that energy audits are an effective means, in terms of public money spent per kWh saved, of providing the industry with information on potential energy efficiency measures. Based on the results, a discussion is held at the end of the thesis on potential energy policies aiming towards increased energy efficiency in Swedish industry.