



New dissertation:

Renewable Energy Development and the function of Law

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The thesis describes and analyses the function of law with reference to the implementation of renewable energy policy objectives, with focus on the development of wind power.

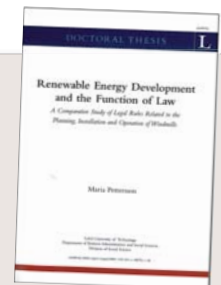
This involves legal rules related to planning, location and operation of windmills. The legal system is evaluated in respect of its capacity to facilitate or impede the development of wind power. The study includes a comparative analysis of the legal functions in Sweden, Denmark, Norway and England. The result of the analysis of Swedish law indicates that the legal system governing the implementation process encompasses barriers to the development of wind power.

The examination of the corresponding legal functions in Denmark, Norway and the United Kingdom presents important differences with respect to planning control and permit requirements, as well as regarding substantial provisions. Generally, it looks as if there is a correlation between the level of overarching control over the physical planning on the one hand, and the potential to successfully implement renewable energy policy objectives on the other. Time-limits for permit procedures, legal standards for emissions, explicit rules for the balancing of opposite interests and so forth, are other interesting features that may

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be employed in Sweden. A realization of the Swedish wind power planning goal will thus presumably require changes of the law. The most important issue is perhaps to reduce the implementation deficits by improving the legal framework governing the planning and installation processes. A few of the discussed factors emerge as crucial in this respect and that is roughly: to remove the general permit requirement, and thus leave the entire trial to the planning system; and to breach the municipal planning monopoly.

The dissertation “Renewable Energy Development and the function of Law” by **Maria Pettersson** is available at: <http://epubl.luth.se/1402-1544/2008/65/LTU-DT-0865-SE.pdf>



New licentiate thesis:

Wind Power in Thermal Power Systems

Lisa Göransson, Department of Energy and Environment, Chalmers University of Technology

This work investigates consequences of large-scale wind power integration in a thermal power system. Operation of wind power in a regional thermal power system have been investigated and quantified by modelling. The possibility to reduce the influence from wind power variations by means of introducing a variation moderator or demand side management has been evaluated.

Model simulations show that for 24% wind power grid penetration, variations in wind power generation results in start-up emissions corresponding to 5% of the total CO₂-emissions of the power generation system. It also shown that the inclusion of start-up and minimum load level aspects has an



impact on the dispatch of units in the system. By integration of a moderator in the wind-thermal system, emissions are reduced with 7.2% mainly due to a decrease in power plant cycling. At wind power grid penetration levels of around 20%, a daily balance moderator is sufficient, whereas more extensive storage capacity is required at higher wind power penetration levels such as for the 40% penetration level investigated in this work.

The Licentiate thesis “Wind Power in Thermal Power Systems” by **Lisa Göransson** is available at Energy Technology Division at Chalmers University Technology, Göteborg.