

Energy Legal Challenges in the Arctic: Implications of a Changing Climate

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Introduction and Purpose

Today's presentation deals with energy law in the context of climate change in the Arctic.

Climate change – or global warming – is strongly related to the use of energy in various forms, which implies that the energy sector is strongly affected by not only climate change itself, but also as a result of the policies and measures implemented to mitigate the adverse effects of climate change.

The Arctic holds an unusual position in relation to climate change; on the one hand it is considered particularly vulnerable to changes in the climate and on the other hand, the Arctic consists of only Annex I parties to the climate convention.¹ Hence, notwithstanding the Arctic's sort of "weak position" impact wise, most Arctic countries are bound by the substantive provisions of the conventions protocol² (except for the U.S. who has withdrawn its signature from the protocol, and Russia, who is an EIT).

The purpose of this presentation is to highlight some of the "energy legal challenges" that might confront the Arctic states with regards to climate change, e.g., both as a result of the climate regime and challenges that are due to the actual changes in the climate. In this context I will draw on some of the Swedish experiences, predominantly in the field of wind power implementation.

Climate Change Impacts

The Arctic is rich in energy resources: immense reserves of renewable as well as non-renewable energy resources are found all over the Arctic region and so far, further exploitation has mainly been hindered by both absolute and relative inaccessibility. Physical obstacles, such as weather conditions and topography etc. impose more

or less absolute barriers to exploitation whereas the often high costs involved in e.g., transport, infrastructural reinforcement etc. are more relative hindrances to development. However, a scenario of global warming may well profoundly change these preconditions: a decline in sea ice will increase accessibility to the sea and hence provide new opportunities for transport (shipping) across the Arctic Ocean. This will in turn lower the investment and operating costs for energy activities.³

Accordingly, changes in the climate imply changes in the physical preconditions for exploitation and therefore the relative costs for energy developments may decrease. At the same time a warmer climate implies constraints in terms of increased risks for damages on existing as well as future infrastructure. Thawing permafrost, melting ice and more extreme weather conditions etc. increase the risks for road and pipeline failures and hence accidents (such as oil and gas leakages etc.). More extreme weather conditions also impose maintenance difficulties on for instance windmill and hydropower installations.

Impacts of the Climate Regime

The overall objective of the climate regime (by which is intended the UNFCCC and the Kyoto protocol) is "to achieve (...) stabilisation of greenhouse gas concentrations at levels that would prevent dangerous anthropogenic interference with the climate system"⁴. In other words, the regime mainly calls for human induced GHG emissions to be reduced. The independent function of the protocol is in a sense to add force to the objective by means of the legally binding emission reduction targets. The parties are, however, in principle free to decide how these individual targets are to be reached which implies that the protocol does not force the parties to take any specific measures in for instance the energy sector.⁵ Nevertheless, the energy sector holds a

huge part of the emissions in most countries and measures to e.g., alter the energy mix are hence in most cases considered necessary.

The Arctic thus holds a somewhat special position both in terms of the actual impacts of climate change and in relation to the climate regime since it is NOT paid any specific attention by the climate regime. **With reference to energy**, a number of Arctic specific issues can be brought to the table, for instance in connection with heating (it's a very cold climate), transport (long distances), industrial structure (a lot of heavy, energy demanding, industry is located within the Arctic), and the fact that the region is rich in energy resources, not least natural gas, which is a fossil – and hence GHG-emitting, energy source.

Legal Challenges

Hence it follows that the process of global warming together with the implications of the climate regime are likely to challenge national – as well as regional – energy related laws. Not least in view of the principle of a sustainable development. The prospects of increased exploitation and transporting across the Arctic region raises questions relating to: (examples, not exhausting)

- **Land use legislation:** how can land be used and by whom? Initialises issues relating to physical planning and the like
- **Investments and trade:** how to treat foreign investments (outside the ECT) in infrastructure, energy installations (windmills, dams, pipelines etc.)
- **Cumulative environmental effects:** from what perspective do we assess/measure these effects: nationally, regionally or even globally???)
- **Procedural rules:** e.g., permit (concession systems) etc. How shall different (and difficult) concession systems be handled? Is there a need for harmonization? (We are currently involved in a study about inter-country differences in the permit systems for electricity installations in the Nordic countries with the intention to analyse the preconditions for increased harmonisation of the rules...)

To illustrate some of the legal challenges that may lay hidden in the institutional framework and that may prove a serious obstacle to addressing climate change, I will provide an example from the Swedish implementation of wind power.

Lessons from Sweden: *Legal Obstacles to Wind Power Development*

Sweden has – somewhat contrary to its energy resource base – decided not to further develop (large-scale) hydropower and to phase out nuclear power (together hydro and nuclear account for 100% of the electricity supply). At the same time, the country has decided to cut back on the emissions by 4% during the first Kyoto commitment period (without the use of the flexible mechanisms). It should also be mentioned that there is little room left for additional efficiency measures in for instance the energy intensive steel and pulp industry. Accordingly, a significant part of the future demand for primarily electricity is supposed to be met by renewables, preferably wind power.⁶ Said and done, in 2002 the Swedish government laid down a goal for a yearly wind power generation of 10 TWh by the year 2015. This goal is however only one of many wind power promoting measures. Renewables, and in particular wind power has been subject to a number of policy instruments over the last two decades. Production subsidies, R&D-programmes (environmental bonus) etc. has been in place for a long time in Sweden, none of them very efficient. In spite of the fact that the economics of wind power is relatively good (counting *new* installations *with* the policy support, wind power is actually the cheapest alternative available...), nothing much has happened.⁷

The economics, in terms of the investment decision, of wind power will however be affected by other factors, there among the public's attitude towards wind power and *the legal framework governing the planning, location and installation of windmills.*

The *legal* part of the analysis (i.e., the study of the legal system in relation to wind power the main question being whether the law promotes or counteracts wind power development) gives evidence of a sort of “conflict in objectives” due to some serious legal obstacles to further development of wind power in Sweden⁸

- *First of all*, the rules governing the overall use of land present a strong protection against activities with a negative impact on the landscape; the legal protection is biased in the sense that it does indeed protect natural and cultural environments (for instance the mountain areas, or areas protected for reindeer husbandry etc.) whereas it does not hold any corresponding protection for “sustainable use” of natural resources. Hence it follows that the landscape interests tend to “win” over exploitation interests (no matter how in keeping with other environmental objectives) in a weighing process. This is particularly evident when it comes to wind power since one of its main environmental impacts is the visual impact

of the turbines. Other than that, the substantial rules on land use are for the most part vague and the room for discretion hence considerable and conclusively the outcomes are unpredictable...

- In addition to the more general land-use rules, the environmental code holds yet another provision, called the location rule, which has proven to hinder windmill installations in several cases: roughly, the provision requires the chosen location to be "the best" (from an environmental point of view) of the alternatives (which have to be presented). The court then objectively assesses the different alternatives and decides which one is "the best". Subjective matters, such as which of the locations the investor has access to, are not taken into account. In several cases, the court has rejected applications on the basis of the location rule, stating that it cannot be shown that the proposed location is the best suited.

- *Secondly*, a full-blown jungle of permit requirements may face the windmill investor, which seriously increases the costs for the investment, especially since the outcome is utterly unpredictable due to the vagueness of the substantial rules. An offshore wind park may need up to five different permits, which only to a minor extent can be processed by the same authority (i.e., the environmental court decides upon the permit for environmentally hazardous activity and for water operations simultaneously).

- *Thirdly*, the much decentralised planning system – also known as "the municipal planning monopoly" – basically implies that – in the end, it is the municipalities who decide whether or not there is going to be any wind power at all. Some of the permits, i.e., building permits and detailed plans, are connected to the physical planning and hence conducted by the municipal authorities. This implies that the municipalities may possibly plan for wind power (in which case it will be installed), or not (in which case it will not be installed).

All in all, the analysis indicates a conflict of objectives in terms of *on the one hand* a long term sustainable development and *on the other hand* neighbour law and subjective environmental impacts. As for the policy implications, the result thus calls for:

- *Long-term stability in policy instruments.* Few things have more negative effects on investment decision as uncertainties. Therefore, instead of changing the policy instruments every other year because they are not "working", it might be useful to take a deeper look at the institutional framework in which the policies are to be implemented

- *Offshore installations.* Considering the difficulties involved in land-based wind power, it may be a better idea to put money in offshore establishments.

- *Designation of areas of national interest for wind power.* Have positive implications both for the assessment and the physical planning process (*has to be taken into consideration*)

- *Provide more precise/less vague guidelines for the overall use of land.* In view of the sustainability objective, land and water areas may be protected also for their usefulness...the rules on how to balance the interests must be adaptable to changing circumstances

- *Facilitate (and perhaps harmonise) the permit (concession) process.* This is crucial for investments to take place

- *Increase public participation possibilities.* Time-consuming, yes, but nevertheless important for further developments

Concluding remarks

In consideration of the Swedish wind power experiences; there are some issues that might be of interest for the other Arctic states. Firstly, the land-use aspects: It is not unlikely that conflicts of interests in relation to the use of land will increase as a result of increased accessibility to the Arctic areas, hence from an environmental perspective it is utterly important that there is in place a legal system that is capable of assessing the impacts (also the cumulative impacts). Secondly, the permit systems: Overlapping and time-consuming permit processes negatively affect competition and thus refrain from investments. Thirdly, public participation: the issue is delicate; on the one hand an excessive participation process tends to prolong the installation time, on the other hand, establishments that are not deeply rooted among the general public and the indigenous population is inclined to cause serious hassle later on in the form of e.g., appeals etc.

Notes

1 United Nations Framework Convention on Climate Change (UNFCCC)

2 The Kyoto Protocol to the UNFCCC

3 UNEP, Global Environmental Outlook, "GEO-2000" Chapter two: The state of the environment: The Arctic – Social and economic background. Available on the Internet: <http://www.grida.no/geo2000/english/0118.htm>

4 UNFCCC, Art. 2

5 The enforceable part of the regime builds heavily on the quantified emission reduction targets, which implies that the extent to which the system will have any profound effects on the energy sector comes down to the size of the cap. Thus, even though the climate regime indeed provides *possibilities* for far-reaching energy conservation, it does not really force the parties to take specific measures in this respect. The market-based model chosen to enforce the objectives of the climate regime does hence at best implicitly promote the diffusion of clean and renewable energy.

6 See for instance Swedish Government. Regeringens Proposition 1996/97:84 om en uthållig energiförsörjning, Stockholm 1997. (the 1997 Government Bill on a sustainable energy supply)

7 See Söderholm et.al. (2005) "Wind Power Development in Sweden: Global Policies and Local Obstacles", *Renewable and Sustainable Energy Reviews* 11 (2007) 365-400

8 For a more detailed analysis on the subject matter see Pettersson, M (2006) *Legal Preconditions for Wind Power Implementation in Sweden and Denmark*, Licentiate Thesis, Luleå University of Technology