

## **Main conflicts in implementing wind power in Finland**

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In Finland wind power produces only 0,3 percent (200 MW) of the total electricity production. It is clear that the implementation of wind power is still in its infancy compared to some other EU countries. One of the objectives of the Climate and Energy Strategy in Finland is to increase the production of wind energy to 6-7 percent of the total electricity produced. Wind power is promoted through a premium feed-in-tariff, state subsidies and other policies related to the use of renewable energy resources. There are however some factors that seriously hinder the building of wind farms – some of these obstacles easier to handle than others.

Almost without exception, the use of natural resources brings up many sorts of conflicts. Different stakeholders have different needs and views about the costs and benefits of using a certain natural resource. Especially those living in the area of the resource can have strong opinions about the pros and cons of natural resource use. Conflicts related to renewable resources, and in this case to wind power, are often country-specific and vary depending on for example the national (and multinational) legislation, environmental factors and the level of implementation of renewable resources.

Wind power is a renewable energy resource that has reached a wide support among those who vote against the use of more traditional, non-renewable natural resources, such as oil and coal. Especially environmental groups, that persistently fight against the climate change and seek to reduce the greenhouse gas emissions, see wind power as a less damaging alternative. Wind power doesn't pollute the environment and the disadvantages are considered to be smaller than the benefits of using wind energy. On the other hand, the public opinion is that wind farms do affect the landscape in a negative way and can also cause severe danger to some species if for example built in the migration routes of birds. But is any natural resource use completely harmless to the environment?

The environmental consequences of significant wind power projects are assessed in the EIA (Environmental Impact Assessment) process. In EIA reports it is estimated that wind power projects might affect the scenery, endanger the habitats and migration routes of birds, cause disturbing noise and lights and also have underwater impacts. No doubt there is a reason for the protest against wind power production. However, compared to other forms of energy production, such as nuclear power, the risks in wind power are significantly smaller.

In addition to environmental conflicts, in Finland there have also occurred conflicts between wind power and other possible land use options. As I see it, in the media this has been even bigger problem for the implementation of wind power than the environmental factors. Wind farms require a certain environment to be able to produce power effectively. In Finland there is only a limited amount of places (mostly in the coastal areas) where building of wind farms is profitable enough. This makes the implementation even more complicated. Wind power plants are high and need an open and windy place to function – the ideal places to build these farms in Finland are also optimal places for airports. Building wind farms near airports is problematic and can lead to major expenses, because the flying routes might be lengthened as they must be designed in a way that the airplanes go around the wind farms and do not run into them. The siting issue has been acknowledged and the limitations of the height of wind power plants have already been moderated to ease the implementation of wind power.

In Finland there are also other wind power related siting conflicts. Conflicts between wind power and military aviation are somewhat similar to what is said about airports. Also the conflict between wind power and tourism is widely recognized: if the scenery is spoiled, the tourism industry in the area suffers. This can be considered as a conflict between local businesses and wind power production. Best possible solution would be one that takes different land use possibilities into consideration (if possible), so that one does not exclude the other entirely.

There is always the possibility for social conflicts when using natural resources. Building wind power plants might affect the local employment either in a positive or in a negative way. If the company is foreign or uses workforce outside the local people, then most of the benefits and money might go somewhere else leaving the area of the wind production empty-handed. The distribution of the costs and benefits is the main issue behind the social conflicts. Not in my backyard -phenomena is a typical form of local peoples' protest against projects that might affect their habitat. In principal the public opinion is very supporting, as long as wind power doesn't change the scenery or cause any noise. In a way this is understandable, but in a case where the alternatives are wind power and some non-renewable form of energy production – suddenly wind farms wouldn't seem like such a bad choice.

The siting conflicts can depend on diverging views on the priority of different public interest. Some of the problems occur because of the uncertainties in the planning and investment environment. The most suitable

areas for wind power production in Finland are offshore – the problem is that it is more expensive to establish wind turbines there than on land. To solve these conflicts, it is vital to invest in better communication between different actors. Local acceptance and efficient planning systems, together with economic incentives are important for implementing wind power.

Planning is in fact the key instrument in implementing wind power effectively. As already mentioned, placing wind power plants in optimal environments is important. To make this happen, these siting related issues must be taken into account in the legislation and planning processes. Planning is a way to bring together different views and arguments concerning wind power and other possibilities for land use. Planning processes must be conducted carefully but also effectively; the slow, bureaucratic and complicated permission procedures and Environmental Impact Assessment (EIA) processes do not make the implementation of wind power any easier. If these issues are taken into consideration, it would be possible for the wind power production in Finland to reach a satisfactory stage.

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