

SEA is flexible: three examples of SEA for wind energy on Dutch land

Sjoerd Harkema

Can SEA adapt to the administrative and political context while at the same time presenting environmental concerns properly? This article shows it can. Three tailor-made examples of provincial SEA for wind energy on land provide the proof.





Flexible SEA

Politicians, administrators and the strategic environmental assessment (SEA) community share a wish to apply SEA flexibly. An accepted principle in the SEA community is that an SEA is effective only when it is tailor-made. But also, whatever form the SEA takes, the assignment is the same for everyone: to provide sufficient environmental information to enable environmental interests to be properly considered in decision-making. Is SEA sufficiently flexible for this? The answer is yes. This article describes three provincial SEAs for wind energy, all prepared for the same purpose but each with a very different political and administrative context and hence with a different content. The quality of all three was evaluated by the NCEA, at the request of the provinces concerned.

SEA for wind on land in the provinces

The increase in generation of wind energy is below target in the Netherlands, due to a lack of support from local authorities and the general public as well as competition for the use of space. A national debate in 2013 resulted in the decision to agree on the number of wind turbines each province must allow for. The provinces have to prepare spatial plans for this.

It is interesting to see that the provinces differ in the approach they opt for in these plans and in the accompanying SEAs. In some provinces, the areas are designated in a top-down manner, whereas in others the provincial authorities work together with municipalities and market players. The different strategies are also expressed in the elaboration of the SEAs. In the following paragraphs, an overview is given of the tailor-made approach chosen by politicians in the provinces of North Holland, South Holland and Gelderland and the environmental information the SEAs provided in order for environmental interests to be fully taken into account in decision-making.

North Holland

After the provincial elections in 2012, the North Holland province decided not to allow new wind turbines to be sited in the region. It was permitted to replace old wind turbines by new ones, but only under stringent conditions. The ban was imposed because in the region it was felt that large new turbines do not fit into the landscape and because of the provincial decision to go for other forms of sustainable energy, even though the open landscape and wind supply make this a very suitable region for wind energy.

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Following the national debate in 2013 mentioned above, the province nonetheless decided to allow new wind farms in order to fill in national ambitions. The province has opted for very tight central control so that the landscape is protected, the restructuring of existing turbines (replacing old by new) takes off, and to prevent more wind turbines being erected than agreed with the national government. The political wish is to site the turbines as far away as possible from dwellings. These were the starting points that guided the SEA.

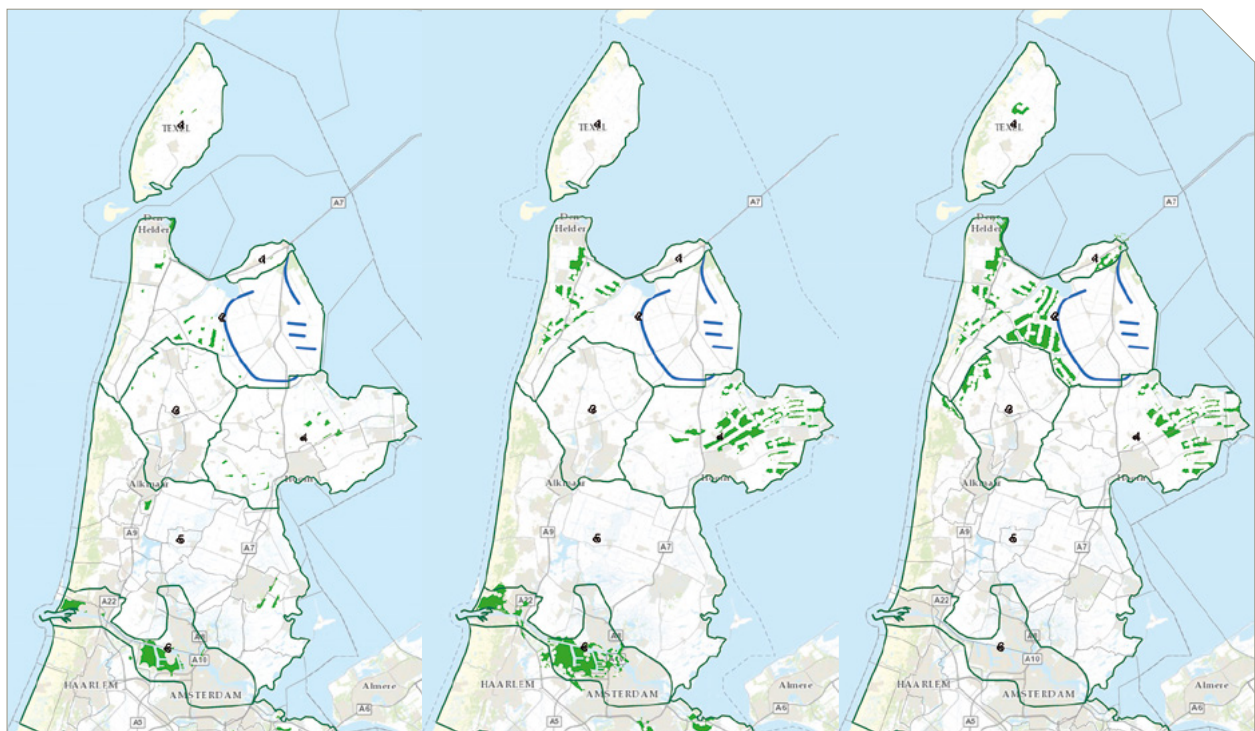
As a result, North Holland province opted for the following fixed stepwise plan in the SEA:

- Step 1: Areas that are valuable in terms of landscape and nature were discarded and account was taken of impediments (such as Schiphol international airport).

The North Holland case: Alternatives from step 2 of the SEA

The three options from left to right: living environment, landscape and maximal energy yield. Areas shaded green are the candidate areas for wind energy. The dark blue lines indicate the turbine arrays of Wieringermeer wind farm (a project started earlier under a national plan). In the living environment option it is striking that the candidate areas tend to be smaller areas scattered throughout the region. The landscape option leaves a large area in the centre of the region free: here there are old polders and the Stelling van Amsterdam (a historic 19th century defensive line around Amsterdam). As a result of reducing the permitted distance from dwellings, this option has many candidate areas in the harbour area of Amsterdam. Most of the candidate areas in the maximal energy yield option are in the north of the region, where wind supply is greater.

Source: AnteaGroep SEA report





- Step 2: Three alternatives were designed in the remaining areas (see maps on opposing page):
 - ‘Living environment’ option: the minimum distance from residential buildings is 600 metres (more than in the other alternatives).
 - ‘Landscape’ option: a design based on a preliminary landscape study. This option consists of a number of clusters of candidate areas. In this option, no wind farms are allowed in large parts of the region.
 - ‘Maximal energy yield’ option: this option comprises candidate areas in the windiest parts of the region and was designed with an eye to maximising the sustainable energy produced per wind farm.
- Step 3: The environmental impacts of the three alternatives were compared (e.g. number of dwellings affected by noise nuisance, number of bird casualties).
- Step 4: A preferred option was chosen, based on a combination of the areas from alternatives in step 2.

In the preferred option, North Holland allows plans from private bodies, but under conditions (e.g. the plan must contribute sufficiently to the desired restructuring of wind turbines) and, in order to remain in control, takes over the decision-making from the municipalities.

South Holland, Goeree-Overflakkee

In South Holland province there are various strategies for spatial planning. Therefore South Holland did not make a single plan for the entire province but instead made sub plans for some regions but not for others. Sometimes, policy is left to the municipalities, sometimes the province works together with municipalities and in other situation it overrules the municipalities so as to create space for wind energy from the top down.

One important location for wind energy in the province is the island of Goeree-Overflakkee. National government and the large energy companies had set their sights on this island as a location for wind farms. This caused disquiet among the islanders. After the national debate mentioned earlier, the province acquired the leeway to oversee the wind energy on the island. The open landscape and wind supply make this island very suitable for wind energy.

The province opted for a collaborative strategy on the island. The process began by the province, municipality and stakeholders uniting in the public-private Goeree-Overflakkee Wind Group Cooperative.

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The collaborative strategy returns in the SEA. To fulfil the assignment to supply a large amount of energy responsibly, the cooperative found it important to have a single vision on siting. Thus the SEA is based on this. As in the case of the North Holland SEA, the plan is stepwise:

- Step 1: A vision on siting was developed. For this, six different landscape visions on siting were designed, which take into account the location of villages and nature reserves.
- Step 2: The visions on siting were assessed. Their main thrusts were assessed in terms of living environment, ecology, landscape and energy yield. The vision chosen was one in which the wind turbines are sited around the edges of the island.
- Step 3: The rules of play for the siting were established. The starting points included minimum distance from dwellings (this distance is larger than minimum statutory boundary values).
- Step 4: Areas the areas were delineated in accordance with the first two steps.
- Step 5: Alternatives were devised in accordance with the vision on siting and the rules of play.
- Step 6: Environmental impacts of the alternatives were compared (e.g. number of dwellings affected by noise nuisance, number of bird casualties).

No preferred option was determined in the SEA. Instead, it was determined later by the provincial and local administrations, on the basis of the information in the SEA. The market players had no say in this: the choice was made by the people's elected representatives.

Gelderland

In Gelderland, politicians follow a strategy of collaboration known as co-creation, which entails inviting citizens and businesses to participate. In addition to the agreements made with central government that were mentioned above, the province has its own longer-term objective to become not dependent on fossil fuels (energy neutral). This goes further than the national government's aim. Large areas in Gelderland, such as national park the Veluwe and the Rhine and Meuse are unsuitable for wind energy because of their strict designation for nature conservation. This explains why the map on the opposing page shows no locations for wind farms in these areas (the centre of the region and along the rivers).

To start the SEA process, Gelderland organised meetings throughout the province at which experts, businesses and citizens could suggest locations for wind energy and could enter into debate with experts on this topic. Municipalities were asked to choose candidate areas on the basis of this, for a feasibility study. This resulted in 30 areas being proposed, which formed the basis for the SEA and from which two alternatives were formed and presented in the SEA:

- Option 1 - scattered: 25 small locations (shown in red on the map);
- Option 2 - concentrated: 5 large locations (shown in purple on the map).

After comparing the environmental impacts of these alternatives in the SEA and consulting with the municipalities, a preferred option was determined, with many of the small locations from option 1. An important selection criterion was local support. Finally, an extra option was described in the SEA, in which the the region elaborated a number of large locations for wind energy, on the basis of option 2. These locations could be used in the event of the locations in the preferred option falling short. In addition, these large locations are intended to be a reserve for the longer-term objective of achieving energy neutrality for the entire province.

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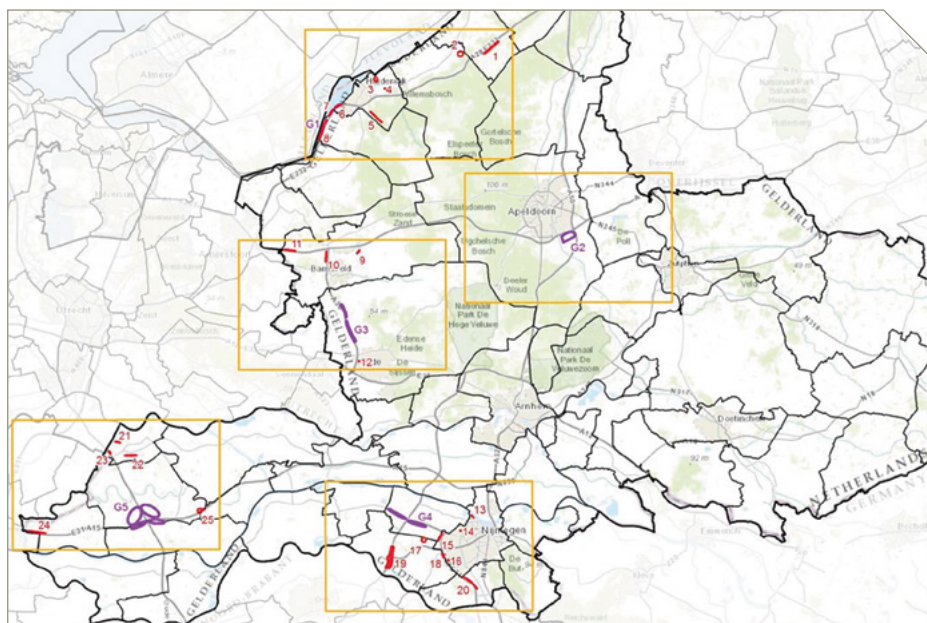
Wind vision alternatives for Gelderland

Yellow boxes indicate the areas within which main wind energy alternatives are located.

Red markers indicate alternative 1: scattered, small locations.

Purple markers indicate alternative 2: concentrated, large locations.

Source: Gelderland SEA report



In conclusion

The examples show that although the provinces have totally different contexts, with the help of the SEA they have successfully delivered tailor-made information in order to be able to properly weigh up environmental interests for spatial planning and to come closer to achieving sustainable energy objectives.

This article has shown that administrative decisions to guide from above, to collaborate or to opt for local support strongly influence the content of an SEA. By taking this context into account, an SEA can be very effective. The proof of this is the fact that in all three cases the SEA process played an important role in the creation of the final spatial plan.

This article does not answer the question of whether this has resulted in the most environmentally-friendly decisions. That depends greatly on what is desired. The SEAs show that optimal interpretations for living environment, landscape *and* nature are not always compatible and that choices must be made. So, each of the three SEAs had a different funnelling process, in which the same environmental themes (such as living environment, nature, landscape and energy yield) played a role in one or more steps. What is clear is that an SEA can help in various ways to make the choices and their repercussions very obvious, as a result of which, if desired, these can be taken into consideration to a greater or lesser degree.

At the request of the provinces, the NCEA assessed whether the process was soundly based and whether the SEAs paid adequate attention to alternatives that were more environmentally friendly. The NCEA found that this was the case and also that the tailor-made SEAs offered sufficient environmental information to enable the environmental interests to be properly weighed up during decision-making.

Can SEA adapt to very different contexts while at the same time properly set out the environmental interests prior to decision-making? Yes! SEA is flexible. Use this flexibility.

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