

Environmental impact assessment screening for the Autena Wind Farm in Vianen

This environmental impact assessment (EIA) screening uses the selection criteria set out in Annex III of the EU Directive on the assessment of the effects of certain public and private projects on the environment (EIA Directive). If, on the basis of an examination of the selection criteria, it cannot be ruled out that the activity that is the subject of the application could have significant adverse effects on the environment, an environmental impact assessment must be drawn up.

The screening is based on the information previously amassed to explain how the land-use plan satisfies the requirements of good spatial planning. It also takes account of the supplement to the strategic environmental assessment drawn up by the province of Utrecht in connection with the partial revision of the Provincial Spatial Planning Policy Strategy 2013-2028 of 10 March 2014.

Using the selection criteria in the abovementioned Annex of the EIA Directive, we assessed the following elements of the proposed project:

- A. characteristics of the project;
- B. location of the project;
- C. characteristics of the potential impact.

Re A: characteristics of the project

The characteristics of projects must be considered having regard, in particular, to:

- the size of the project;
- the cumulation with other projects;
- the use of natural resources;
- the production of waste;
- pollution and nuisances;
- the risk of accidents, having regard in particular to substances or technologies used.

These points are dealt with in more detail below.

The size of the project

The project consists of three wind turbines with a maximum collective output of less than 15MW (maximum of 4.5MW per wind turbine). Each turbine has a shaft height not exceeding 100 metres and a rotor diameter not exceeding 131 metres, resulting in a maximum tip height of 165.5 metres.

The cumulation with other projects

There are other projects in the immediate vicinity with which the impact of this project could cumulate: the wind turbines are located close to the A2 and A27 motorways, potentially causing cumulation of noise nuisance at the site of nearby homes. There are no other plans or projects with which this project could have cumulative effects.

Use of natural resources

The project makes no use of natural resources.

The production of waste

Apart from a small amount of waste oil from moving parts, the project generates no waste.

Pollution and nuisances

The project does not cause pollution. It could however potentially cause nuisance to the immediate surroundings in the form of noise and shadow flicker. The project therefore has a potential significant effect on the human environment.

Risk of accidents, having regard in particular to substances or technologies used

The wind turbines used in the Netherlands – including in this project – have safety certification, thus limiting the risk of accidents due to technological or mechanical failure. However, there is always a residual risk that needs to be taken into account. The turbines should therefore have a sufficient distance from objects that are vulnerable or moderately vulnerable. A potential significant effect on safety in the surroundings can therefore be said to exist.

Re A: Conclusion

Having regard to the characteristics of the project, it can be concluded that there are potential significant effects on the human environment in terms of noise, shadow flicker and safety. Other than that, there are no particular characteristics that would necessitate the drawing up of an EIA report at this stage.

Re B: Location of the project

The environmental sensitivity of areas likely to be affected by projects must be considered, having regard, in particular, to:

- the existing land use;
- the relative abundance, quality and regenerative capacity of natural resources in the area;
- the absorption capacity of the natural environment, paying particular attention to the following areas:
 1. wetlands
 2. coastal zones
 3. mountain and forest areas
 4. nature reserves and parks
 5. areas classified or protected under Member States' legislation; special protection areas designated by Member States pursuant to Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (1) and to Council Directive 92/43/EEC

of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (2)

6. areas in which the environmental quality standards laid down in Union legislation have already been exceeded
7. densely populated areas
8. landscapes of historical, cultural or archaeological significance.

These points will be dealt with individually below.

Existing land use

The proposed project site currently has an agricultural use. The area of agricultural land that will be lost is comparatively limited, since space is only required for the wind turbines' foundations, the crane pads and the access road. Farming can continue under the rotor swept area. There is no potential significant adverse effect with regard to existing land use.

Relative abundance, quality and regenerative capacity of natural resources in the area

The natural resources in the area are its flora and fauna, nearby nature areas that are part of the National Ecological Network (EHS) and Natura 2000 areas that are situated further away (Lingedijk & Diefdijk, Zouweboezem and the washlands along the River Lek). Other than that, there are no naturally occurring resources with economic benefits (in the broadest sense of the phrase), on which the project could have any impact. However, the location of the wind farm means that there could be an effect on protected flora and fauna, the EHS and the various Natura 2000 areas located at a somewhat greater distance from the site.

The absorption capacity of the natural environment, paying particular attention to the following areas:

1. *wetlands*
2. *coastal zones*
3. *mountain and forest areas*
4. *nature reserves and parks*
5. *areas classified or protected under Member States' legislation; special protection areas designated by Member States pursuant to Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (1) and to Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (2)*
6. *areas in which the environmental quality standards laid down in Union legislation have already been exceeded*
7. *densely populated areas*
8. *landscapes of historical, cultural or archaeological significance.*

There are no areas within the meaning of points 1, 2, 4, 6 or 7 in the vicinity of the project.

As indicated above, the project is located close to various Natura 2000 areas (category 5) and woodland areas (category 3) that are part of the EHS. This proximity means that there is a potential significant effect on the absorption capacity of the nearby Natura 2000 areas and the nearby woodland areas.

The area in which the proposed wind turbines are to be erected is designated as an agricultural landscape with nature and landscape value (*'agrarisch met waarden – natuur en landschap'*), so it could potentially fall under category 8, as a landscape of historical, cultural or archaeological significance. Archaeological conservation measures also apply in the area. Given the visual impact of the wind turbines and the risk of damaging archaeological assets when constructing their foundations, there is a potential significant effect on the landscape.

Re B: Conclusion

The conclusion with regard to the location of the project is that the project could have significant effects on 'nature' (flora and fauna in the area, EHS and Natura 2000 areas). There is also a potential significant effect relating to the existing land use. Other than that, no special circumstances exist with regard to the project that would make it necessary to draw up an EIA report at this stage.

Re C: Characteristics of the potential impact

When assessing the potential significant effects of the project, the criteria of points A and B above need to be considered specifically with regard to:

- the extent of the impact (geographical area and size of the affected population);
- the transfrontier nature of the impact;
- the probability of the impact;
- the duration, frequency and reversibility of the impact.

Careful consideration must be given to the 'potential significant effects' as set out above.

Given the size and location of the project, the following can be identified as potential significant effects:

1. effects on nature (flora and fauna, EHS and Natura 2000 areas)
2. effects on the landscape (visual impact and archaeology)
3. effects on the human environment (noise, shadow flicker, safety).

Other potential significant effects on the environment can be ruled out, due to the very limited scope of the effects, for instance on the soil, groundwater, water and air quality.

The potential significant effects are examined in more detail below for each of the points of focus, as required.

Re 1. Effects on nature (flora and fauna EHS and Natura 2000 areas)

The ecological research and consultancy firm Waardenburg Ecology carried out an ecological assessment of the project's potential ecological effects. It included a survey of the flora and fauna in the proposed project area, and assessments of the potential effects on nearby nature areas that are part of the EHS and on the Natura 2000 areas situated further away. The assessment showed that if certain mitigating measures are put in place, there will be no major adverse effects on protected flora and fauna in the area. The assessment also ruled out that the project would have an effect on the above-mentioned parts of the EHS and the Natura 2000 areas. It can therefore be concluded unequivocally that the projected wind farm will not have any significant effects on nature, either on its own or cumulatively with other projects.

Conclusion regarding effects on nature (flora and fauna, EHS and Natura 2000 areas)

On closer assessment and on the basis of the available data, the extent ('characteristic') of the potential significant effect on flora and fauna, the EHS and Natura 2000 areas is deemed to be non-existent.

There is no question of any significant effect (either from the project itself or in cumulation with others), and therefore no need to draw up an environmental impact assessment.

Re 2. Effects on the landscape (visual impact and archaeology)

Visual impact

Because of their size, wind turbines have an inherent effect on the existing landscape. The designated qualities of this particular landscape are: tranquillity and quiet, openness, diversity of landscape and peatland pasture.

Due to the proximity of the wind turbines to the town of Vianen (minor deterioration of landscape openness), the positioning of the wind turbines in relation to each other (identifiability of the array), the relationship with the A2 motorway (limited deterioration of tranquillity and quiet) and the placement of the wind turbines within the strip parcels on the ancient riverbank, there is no question of a significant effect on the landscape. The access road follows the layout of the parcels, so that, too, will have no significant effect.

Archaeology

This is an area in which assets of archaeological importance are protected, with a medium to high likelihood of assets of archaeological importance being found. The foundations of the wind turbines

consist of concrete slabs resting on piles. The use of piles could potentially have a significant effect on assets of archaeological importance in the area. On the basis of a desk study and exploratory boring, it was concluded that damage to any assets of archaeological importance is unlikely. Any significant effect on assets of archaeological importance can therefore be ruled out.

Conclusion regarding effects on landscape (visual impact and archaeology)

The proposed project will not have any significant effects, either on its own or cumulatively with others, or at least no major adverse effects on the landscape or on assets of archaeological importance in the area.

Ad 3. Effects on the human environment (noise, shadow flicker, safety)

The project could have significant effects on the human environment. The effects that are normative in this case are looked at individually below. The guidelines on business and environmental zoning regulations, published by the Association of Netherlands Municipalities, recommend setback distances of 300 metres for noise and 50 metres for safety for wind turbines with a rotor diameter of 50 metres or more. In this instance, the maximum rotor diameter is 131 metres, so the recommendation on setback distance is of little use.

Noise

Noise generated by a wind turbine in operation has a reach of roughly 400 metres. Beyond that distance, noise emissions are lower than the standards for maximum noise laid down in the current Environmental Management (General Rules for Establishments) Decree. These standards are deemed acceptable on the grounds of the exposure-response relationship and can thus be assessed in isolation from other noise sources.

These standards will be met for all dwellings in the area, including those of the participants in the project, without the need for noise reduction measures. Admittedly, this area is already exposed to noise from motorways and industrial activities, but even the cumulative noise will not constitute a significant effect on the environment. There will be some increase (1 to 3 dB) in the cumulative noise level.

Shadow flicker

The turning of the rotor blades will create shadows in the vicinity. The distance within which shadow flicker is theoretically possible is equal to 12 times the rotor diameter, so in this case up to 1,500 metres from each wind turbine. Within this distance there are several dozen dwellings that would potentially be affected. A study was carried out to establish the impact of shadow flicker.

The study showed that around three dwellings would be affected by shadow flicker exceeding the current standard. Shadow flicker can easily be limited by installing a system that automatically shuts down the turbine at certain times of day. Depending on the wind turbine type that is

ultimately erected, it is predicted that a shadow flicker protection system would lead to a yield loss of no more than approximately 5% and limit shadow flicker effects for nearby residents to approximately 5 hours and 40 minutes a year.

Safety

The Wind Turbines Risk Zoning Guidelines seek to promote safety in the vicinity of wind turbines by prescribing setback distances from 'sensitive objects'. The Guidelines can therefore be used to assess whether significant effects are to be expected with regard to safety.

The Environmental Management (General Rules for Establishments) Decree that came into force on 1 January 2011 converted the norms set out in the Guidelines into statutory standards for local risk. The local risk (LR) for vulnerable objects may not exceed 10^{-6} per year. The limit for objects that are moderately vulnerable is no more than 10^{-5} per year. In the case of wind turbines, the LR 10^{-6} contour equates to a circle with a radius roughly equivalent to the tip height of the wind turbine. Given that the maximum tip height of the wind turbines that are the subject of the application is 165.5 metres, the LR 10^{-6} contour lies at a distance of approximately 150 metres from each wind turbine. There are no vulnerable (or moderately vulnerable) objects within this contour at present, nor will there be any in future.

Given the proximity of the wind turbines to the A2 motorway, a road safety assessment was carried out. It showed that there will be no potential significant effects on road safety, not even if at some future stage the A2 were to be widened in the direction of the wind turbines.

Conclusions regarding effects on the human environment (noise, shadow flicker, safety)

On the basis of information amassed to explain how the land-use plan satisfies the requirements of good spatial planning, it has been concluded that the project will have no potential significant effects on the human environment, as the current standards for noise nuisance, shadow flicker and safety are all met. Nor will the location of the wind turbines near the A2 motorway have any significant effect on traffic safety. To the extent that any effects may arise, these will be limited, even when combined with the effects of other plans or projects in the vicinity.

Relationship between potential significant effects, possibly in combination with the surroundings

Each of the potential significant effects is so small that cumulatively they cannot be deemed to have significant adverse consequences for their surroundings. There are no other plans or projects in the vicinity that, in combination with this project, could cause a different or greater environmental impact than described above. The proposed project will cause very little nuisance and/or pollution, and there are no other projects with which it could have a cumulative effect, so there is no question of cumulation.

Re C: Conclusion

Assessment of the characteristics and location of the project, and of the available data, leads to the conclusion that there will be no potential significant effects. The environmental effects of the project, viewed in isolation and together and in combination with other projects, will be limited, or at any rate will not constitute any major adverse effects.

Conclusion of the environmental impact assessment screening

On the basis of the above, it is concluded that the Autena Wind Farm will have no major adverse effects on the environment. Consequently there is no reason or need to draw up an environmental impact assessment and/or to carry out an appropriate assessment.