

Jurbarkas wind farm

Non-Technical Summary

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Contents

- 1. Short description of the project**
- 2. Legal basis and background**
- 3. Site location and description**
- 4. Description of the planned activity**
- 5. Summary of the impacts and mitigation measures**
 - 5.1 Water / Wastewater
 - 5.2 Waste
 - 5.3 Hazardous substances
 - 5.4 Radioactive substances
 - 5.5 Physical pollution
 - 5.6 Fire and extreme events
 - 5.7 Air pollution
 - 5.8 Soil pollution and erosion
 - 5.9 Cultural heritage and protected areas
 - 5.10 Traffic and transport
 - 5.11 Labour market, demographics, living, social, recreational environments, human health
- 6. Glossary**
- 7. Contacts**

1. Short description of the project

The planned economic activity – construction of 25 MW wind turbines. The wind farm is planned in Jurbarkas district, Lithuania. The total area for wind turbines (WTG) is about 83 ha. The main project components include inner access roads, new building site, WTGs foundations, transformer substation, underground electricity cables connecting infrastructure within the proposed development area and reconstruction of the drainage systems (if needed).

2. Legal basis and background

An Environmental Impact Assessment (EIA) is a process which ensures that projects that are likely to have a significant effect on the environment are adequately assessed before they are allowed to proceed and facilitates the participation of the relevant authorities and the public in environmental decision making. Annexes (I and II) to the Law on Environmental Impact Assessment of Proposed Economic Activity of the Republic of Lithuania list the types of proposed economic activities that fall under the scope of EIA legislation. The types of proposed economic activities listed in [Annex II](#) do not necessarily have significant effects on the environment in every case, and thus are not automatically subjected to an environmental impact assessment. For these activities, the screening procedure is conducted by the competent authority, the Environmental Protection Agency (EPA), which determines on a case-by-case basis whether an EIA is required according to criteria, such as size, location, the potential impact of an activity, etc.

The development of a wind farm was listed in Annex II and the EIA screening procedures were done for wind farm in Jurbarkas district and in 2010 EPA submitted the final conclusion that EIA is not mandatory.

Lithuania has the ambitious goal that energy from renewable energy resources will become the main in all sectors (electricity, heat, cooling). The achievement of this goal can only be ensured by increasing renewable energy capacities throughout Lithuania by developing new projects. The wind farm contributes to the creation of a more sustainable and cleaner environment by producing green electricity.

The overall environmental impact of a wind farm is undoubtedly minimal as wind energy is a renewable energy source. Wind is a natural and inexhaustible source of energy. The operation of the wind farm ensures the reduction of fossil fuel consumption, contributes to a cleaner environment, reduction of climate change and the goal of Lithuania's energy independence.

3. Site location and description

The wind farm is planned in Jurbarkas district, Lithuania. The land for the wind farm development is located on land, which is not urbanised, it is surrounded by agricultural areas and without protected area status. The nearest household is about 0.3 km away from the planned activity and other residential areas are about 2.0 – 2.5 km away.

According to the municipality's master plan, the land for the wind farm development falls within the agricultural priority zone. The planned territory for WTGs does not fall within the territories of protected areas, cultural heritage sites, and does not border them, and no protected species of plants, fungi or animals have been detected in it. The nearest European Ecological Network Natura 2000 protected areas are: regional park of Panemunė, which is located approximately 5.0 km to the southeast of the planned activity, and protected areas consisting of territories important for the conservation of birds and habitats – Nemunas river coasts and islands between Kulautuva and Smalininkai, which is located approximately 2.1 km to the south of the planned activity. Based on the available information, no negative impacts on protected areas are expected.

4. Description of the planned activity

The wind farm, with a total capacity of up to 25 MW, is planned in Jurbarkas district, Lithuania. The total area for the wind farm development is about 83 ha, the planned height of the wind turbines is about 175 m. The WTGs will convert wind energy into electricity, which will be transformed and transmitted to the common electricity supply networks for consumers. The electricity transmission will be connected to 110 kV electricity

grid via a transformer substation to be built in conjunction with the WTGs, i.e., the WTGs will be connected to the transformer substation by laying underground electricity cables.

The planned installation of WTGs foundations and underground electricity cables has the potential to damage existing drainage systems, so procedures for the reconstruction of the drainage system will be foreseen as part of the construction works.

The wind farm is planned to start operating in 2010-2011, in a phased approach, with a lifetime of around 30 years.



5. Summary of the impacts and mitigation measures

5.1 Water / Wastewater

No water will be used in wind farm during operation, so this activity will not affect the generation of industrial wastewater. The surface wastewater will be generated from the formed surfaces in the area, wastewater volumes will be insignificant, sources of pollution are not expected during the operation of WTGs - surface water from roads will be discharged through surface water outlets to the reconstructed drainage collectors. The drainage system facilities are planned to be reconstructed or rebuilt if damaged during construction.

5.2 Waste

During the operation of the wind farm, the generation of waste is not expected. Permanent jobs will not be created, so domestic waste will not be generated.

5.3 Hazardous substances

Hazardous substances will not be used during the operation of the wind farm.

5.4 Radioactive substances

Radioactive substances will not be used during the operation of the wind farm.

5.5 Physical pollution

The main physical pollution caused by the wind farm is noise and shading. In residential area permitted noise level in nighttime is 55 or less dBA, the nearest household is about 0.3 km away from the wind farm. For the planned wind farm the sanitary protection zone will be calculated during the preparation of the public health impact assessment and the permitted noise levels in the residential environment near the wind farm will not be exceeded.

There will be no light, heat or ionizing radiation generating devices. Electromagnetic radiation sources (generators, transformers) are electrical equipment with an industrial frequency of 50 Hz that generate electricity. The electric and magnetic field strengths

generated by the electrical installations are below the maximum permissible numerical values (up to 1 kV/m) established for the residential area.

Mitigation measures

- To avoid the noise impact of the wind farm on the environment, the WTGs will be sited so that their noise emissions do not exceed the maximum permissible noise levels.
- Shading reduction mechanism will be installed.



5.6 Fire and extreme events

The wind farm is not dangerous from the point of view of fire risk. During preparation of a technical project fire-fighting measures and techniques to help prevent fires from starting will be foreseen.

Extreme event that may occur during the operation of wind farm is collapse of the WTG, but there are no buildings in the collapse zone.

During the operating phase, the WTGs will have automatic braking and starting system.

Mitigation measures

- Lightning protection and earthing systems will be installed.

5.7 Air pollution

During the operation of the wind farm, no air pollutants will be generated.

5.8 Soil pollution and erosion

During the operation of the wind farm, no soil pollution and erosion will be generated. Fertile topsoil will be spread around the built WTGs and grass sown.

5.9 Cultural heritage and protected areas

The planned wind farm territory is not covered by any registered cultural heritage values in the territory. The nearest cultural heritage is mound of Antakalniškiai, which is located approximately 3.4 km from planned wind farm.

The planned wind farm territory is not covered by any national or European protected areas (Natura 2000, etc.). The nearest Natura 2000 site is regional park of Panemunė, which is located approximately 5 km to the southeast, and the nearest Natura 2000 site important for protection of habitats and the protection of birds is Nemunas river coasts and islands between Kulautuva and Smalininkai, which is located approximately 2,1 km to the south from planned wind farm.

5.10 Traffic and transport

It is planned to use existing local roads for access to the wind farm.

5.11 Labour market, demographics, living, social, recreational environments, human health

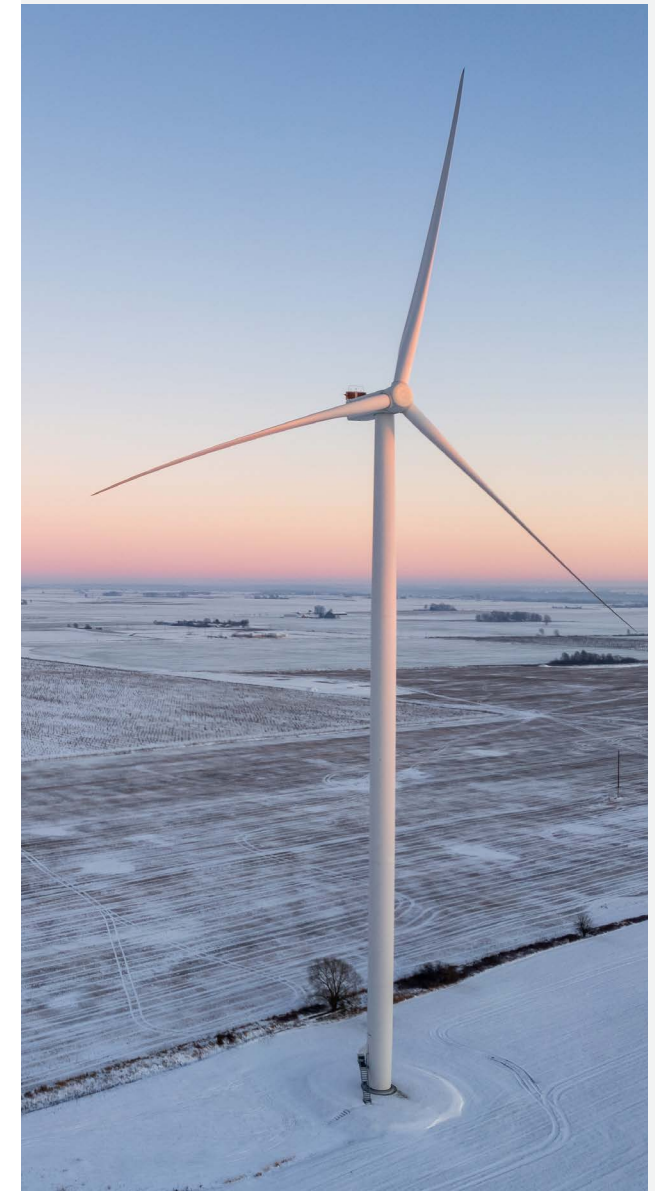
Planned activity will not affect the labour market, demographics in the area and will not impact living, social, recreational environments. Also, the planned activity will comply with the requirements of standards that are compatible with a healthy environment.

The main risk to human health is physical pollution - noise and shading - caused by the wind farm.

Mitigation measures

- The physical pollution impact will be examined during the preparation of the public health impact assessment and the formation of sanitary protection zones.

If it becomes clear during the performed activity that the impact on the environment is greater than was assessed during the EIA procedure, the operator will be obliged to immediately apply additional measures to reduce the environmental impact or reduce the scope of the activity/ terminate the activity.



6. Glossary

EIA	Environmental Impact Assessment.
EPA	Environmental Protection Agency under the Ministry of Environment of the Republic of Lithuania.
Genetic site	A protected area intended for the preservation of seed forest stands and natural genetic resources of other species.
Natura 2000	A coherent network of special areas of conservation of habitats which is composed of sites hosting the natural habitat types of community interest and habitats of the species of community interest, and which enables the natural habitat types and the species' habitats to be maintained and, where appropriate, restored to a favourable conservation status in their natural range. The Natura 2000 network includes special areas of conservation of birds.
Protected area	A land and/or water area which has clearly defined boundaries, an acknowledged scientific, ecological, cultural and other value and for which a special protection and use regime/procedure has been established by legal acts.
Reserve	A protected area established for the preservation of the natural and/or cultural sites valuable from a scientific or cultural point of view, the territorial complexes and objects/properties of natural and cultural heritage located therein, the landscape, biological diversity, and gene pool. Preservation of the properties located in these areas shall be ensured without terminating economic activities therein.
Restoration site	A protected area intended for the protection, restoration, enhancement and limited use of natural resources, formerly impoverished by human activities.
Sanctuary	A protected area set up in order to preserve and conduct research of the natural or cultural territorial complexes of particular scientific value, ensure the unaffected course of natural processes or maintenance of authenticity of cultural properties, and promote protection of the territorial complexes of natural and cultural heritage. The principal designation of land use shall be established as conservational in these areas, with termination of economic activities therein.
State (national and regional) park	A large protected area which is complex from the natural, cultural and recreational points of view and is particularly valuable, and whose protection and management is related to the designation of the area's functional and landscape management zones.
WTG	Wind turbine generator.

7. Contacts



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