

# Kuślin Wind Farms Project Non-Technical Summary



Prepared in cooperation with:

**Multiconsult**

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## 1 Introduction

Sevion Windpark 2 Sp. z o.o. is owned by WKN GmbH, which is a member of the PNE Group. PNE Group is a German wind power pioneer operating on an international level and it is one of the most experienced project developers of onshore and offshore wind farms. Based on this success, the Group has developed to become a “clean energy solutions provider”.

Sevion Windpark 2 Sp. z o.o. is realizing the wind farm project called Kuślin windfarm in the Commune of Kuślin, in the Nowy Tomyśl District, called further “project Kuślin”. The project has been prepared for many years and now, after passing all environmental procedures, receiving all necessary permits is entering the realization phase. The Project won the 2019 auction for wind energy production above 1MW organized by the Polish Energy Regulatory Office (Polish: URE).

The whole construction process will be managed by Sevion Sp. z o.o., which is also a member of the PNE Group and has been active in Poland since 2000. The most recent windfarms constructed under the Construction Management of Sevion Sp. z o.o. include windfarm Barwice (42 MW installed power, 14 WTGs, use permit received July 2020) and windfarm Jasna (132 MW installed power, 39 WTGs, under construction since July 2019).

The Project Kuślin will be co-financed by various financial institutions with European Bank for Reconstruction and Development (EBRD) as a leading lender. Prior to commitment for financing, EBRD has classified the Project as a “Category B” (in line with EBRD’s Environmental and Social Policy, 2019) as the farm is below 50MW and is located in low sensitivity area. Moreover, the Project was subject to review by the independent consultants (Multiconsult Polska Sp. z o.o.) who assessed the Project against the national and EU environmental law and EBRD Performance Requirements. Results of the assessment have been summarized in a report and actions needed to achieve full compliance with the good industry practice and EBRD PRs have been summarized in the Environmental and Social Action Plan (ESAP) and Stakeholder Engagement Plan (SEP). As part of the assessment Multiconsult assessed the Project for compliance with the Health and Safety Guidelines for Wind farms and the Project was found to be developed in line with the requirements of this reference document. Moreover, a cumulative impact assessment have been included in the potential environmental and social impacts of the Project.

EBRD requires, that the projects are subject to meaningful public consultations and stakeholders engagement process is properly conducted. In order to meet this requirement a set of documents which comprise:

- Environmental and Social Action Plan;
- Stakeholders Engagement Plan, and
- this Non-technical Summary,

has been prepared in English as the Project Disclosure Package.

All necessary permits for the Project are in place, including construction permit containing all requirements specified in preceding environmental permits, and an interconnection agreement.

## 2 Where the Project will be located?

The wind farm Kuslin is located about 14 km south east of the town Pniewy in the southern Greater Poland. The area is predominantly agricultural with small farm plots of various crops accompanied by some small groups of trees. The windfarm consists of 12 planned turbines with type of Vestas V126-3.3 MW at a hub height of 137 m.

The building permit enables the installation of 12 wind turbines Vestas V 126 3,3 MW 137, with auxiliary infrastructure including: foundations, cable line 30 kV, fibre-optic cable, earthing, permanent access roads, temporary (for construction period) roads, public roads exits located.

Wind turbines sites marked with following symbols on a map: WKA 5, WKA 6, WKA 16, WKA 22, WKA 23, WKA 25, WKA 31, WKA 41, WKA 44, WKA 47, WKA 48, WKA 51.

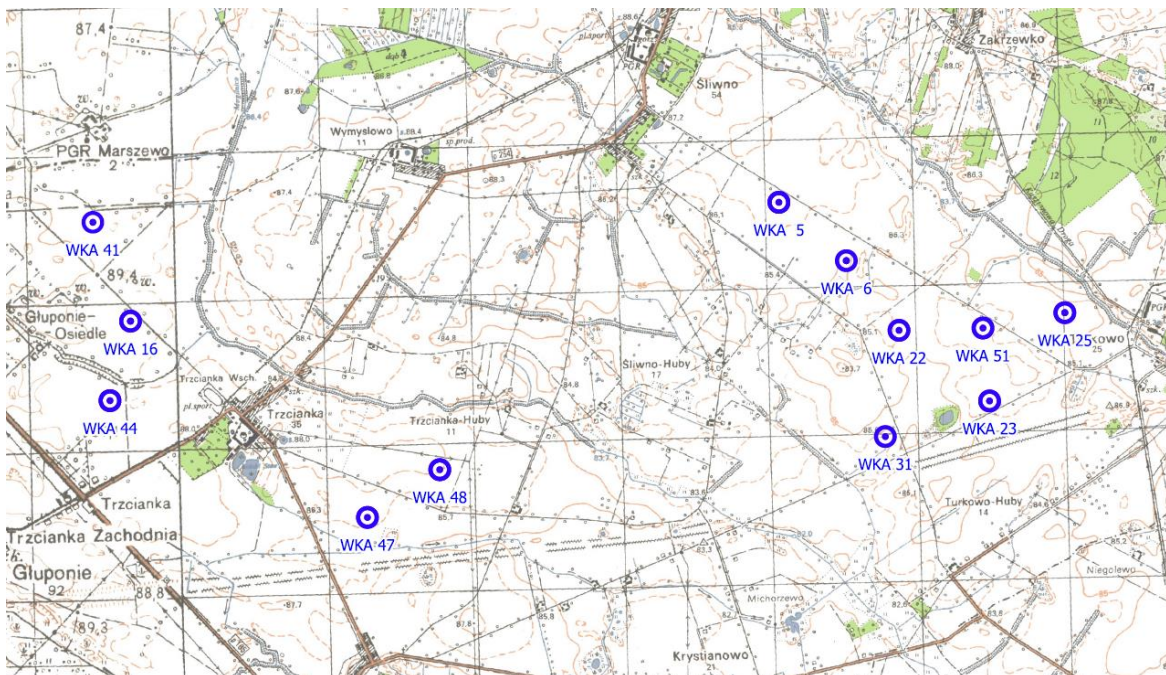


Figure 1. Location of the wind farms (numbers correspond to the list above)

The area of the wind farm is generally flat and dominated by agricultural use. Smaller group of trees and settlements are present.

Flat farm land which ranges between 85 and 99 m above sea level. The area consists of small farm plots of varying crop and vegetation types dominated in the regional perimeters by small groups of trees. The project area and vicinity also include many groups of trees, sporadically interrupted by openings and farm plots. There are small villages, a couple of small cities, and the larger city of Poznan in the region.

During the environmental impact assessment, the areas have not been found important for birds or bats.

Detailed location of turbines and connection points is presented in the topographic map below

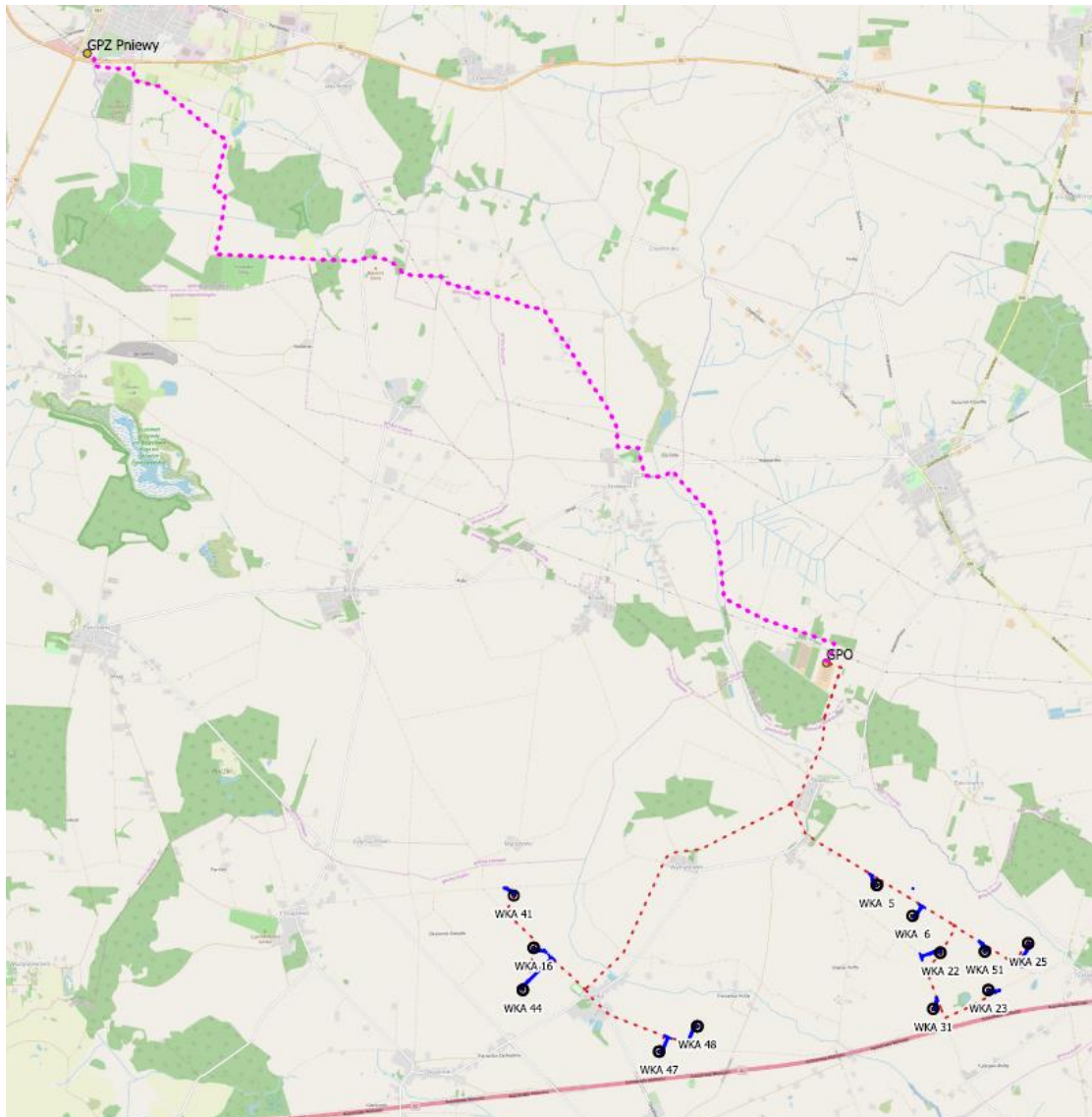


Figure 2. Location of turbines at Kuślin farm and connection points.

#### Connection points:

The Wind Farm Kuslin (WFK) is able to generate its energy from wind turbines and feed it to the MV 30 kV internal park grid. At the on-site substation (GPO Kuślin), the voltage will be stepped up to 110 kV HV and fed via 15 km underground cable line to the Pniewy Substation (GPZ Pniewy).

All turbines include access roads, assembly/service yards, underground medium transmission and fibre optic lines for data acquisition and control.

### 3 What is a wind turbine?

A typical wind turbine consists of a tower and a nacelle comprising a rotor and measurement apparatus. The rotor is composed of the blades and an axle, attached to each other by a bearing. The blades are moved by the wind and transmit this force to the bearing, which is connected to a multiplier that increases the axle speed. Mechanical energy is transferred from the multiplier to an electricity generator, which transforms it

into electricity for subsequent injection into the grid.

All turbines will be similar to the model shown in the figures below.

The turbines will be new with the same geometry, power, height and the same painting.



Source: <https://www.wind-turbine-models.com>



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## 4 What is the rationale of the Project?

In line with the European Climate Change Program, many European countries, including Poland, have adopted national programs aimed at reduction of greenhouse gases emissions. These cover various policies, adopted at the European level as well as national levels, includes among others:

- Planned increase in use of renewable energy (wind, solar, biomass)
- Improvements in energy efficiency in e.g. buildings, industry, household appliances;

The main regulations of EU countries to reduce emissions is the cost-effectively Emission Trading Scheme of carbon dioxide and legislation tackling with emissions of fluorinated greenhouse gases.

In March 2007, the EU approved an ambitious climate change and energy plan to limit greenhouse gas emissions by at least 20 % by 2020 (comparing to 1990 levels) and achieve, by 2020 a target of 20 % of total EU primary energy use through renewable energy and 32% in 2030.

Poland, currently is finalizing formal approval of its energy policy until 2040 'Polityka energetyczna Polski do 2040 roku'. Based on this draft document Poland plans to achieve the renewable energy in total energy consumption of at least 15 % by 2020 with its further growth. According to the Policy, Poland declared achievement of 21 % renewable energy use in total energy consumption by 2030.

The development of wind energy is one of the measures to achieve the limitations of air emissions and increase of energy production from renewable sources. The main benefit is that wind turbines convert the wind's kinetic energy to electricity, while generating no emissions to the air. Conventional energy sources, mainly based on various types of coal incineration, when producing energy generate emissions of greenhouse gases, SO<sub>2</sub>, dust and others.

The project will allow for limiting the air emission from conventional energy sources (in Poland these are mainly coal fired power plants). Given the average electricity production of all the developments of in the region of 140 GWh per year, the cumulative emission reduction will amount to:

- Sulphur dioxide (SO<sub>2</sub>) – 800 tonnes per year,
- Nitrogen oxides (NO<sub>x</sub>) – 600 tonnes per year,
- Dust – 7 000 tonnes per year,
- Carbon dioxide (CO<sub>2</sub>) – 100 000 tonnes per year.

As calculated above, the Project will allow for significant air emission reduction. Moreover, wind farms allow to advance local communities, providing financing to communal budgets and increased employment.

## **5 What is the legislative context of the project and were there any public consultations?**

According to environmental regulations on disclosure on environmental information, public participation in environment protection and on environmental impact assessments, an Environmental Impact Assessment (EIA) procedure must be performed for projects which can always significantly impact the environment (group I projects) or may be conducted upon discretion of the authorities in charge for particular ones which can potentially impact the environment (group II projects), or may impact area of 'Natura 2000' protected land. EIA's are carried out to obtain a decision on Environmental Conditions (environmental decision) for group I and group II projects. The planned wind farms are, according to the regulations, classed to group II.

Initial plans for the area covered 34 wind turbines. In June 2008 the mayor of Kuślin issued environmental consent decision for construction and operation of 34 wind towers, but the Project was discontinued by the operator.

In March 2015, Company "DOMI" P.H.U. from Kiekrz prepared the EIA report for 18 wind turbines 3,0 – 3,3 MW each in Śliwno, Turkowo and Trzcianka (and transformer station in Duszniki). As initially assumed for the Project, number of wind towers was 33 with maximum power generation of 3,3 MW each, the total power output might have reached over 100 MW, classifying the project as "undertaking which can always significantly impact the environment" and thereby administrative obligation to submitting full scale EIA report and proceeding with public participation was required.

The new approach was to build 33 wind towers. Monitoring of chiroptero fauna (bats) indicated collisions of 15 wind towers with bat protection, thus EIA Report of 2015 determined the scope to be 18 wind towers only.

The application to obtain environmental consent decision (environmental permit) was submitted by Ekologia -System Sp. z o.o. to mayor of Kuślin. According to the procedure, the mayor of Kuslin sought opinion of statutory consulting authorities: Regional Environmental Inspector in Poznan and the District Sanitary Inspector in Nowy Tomyśl. Consulting authorities decided that running the full scale EIA proceedings with public participation is needed. The Investor submitted the EIA Report prepared by company DOMI PHU in March 2015. NGO, Natural Protection Society "Skowronek" commented EIA Report, proceedings and requested additional information.

On Aug.03, 2015 the investor changed application and reduced number of wind towers to 15 (and also changed localisation of wind towers within the farm). In contact with RDOS in Poznan there was stated conflict of 5 wind towers with protection of Red Kite what excluded these locations from investment and investor indicated two new locations what together gave number of 15 wind towers for the farm

After the EIA proceedings with public participation was completed, the Mayor of Kusin issued environmental consent decision of Nov. 24, 2015 (Decision No: RŚ.6220.6.2014)

but covered only 15 wind towers with total power 45-49,5 MW. For birds and bats, full year monitoring has to be performed three times during first five years after commissioning. Noise level measurements have to be performed twice a year during first five years of operation.

On Jun 17, 2020 the decision of the mayor of Kuslin transferred conditions set by environmental consent from Ekologia System Sp z o.o to the new investor Sevivon Windpark2 Sp z o.o.

The scope of the Project, declared by WKN in Information Memorandum dated March 26, 2020 is 12 Vestas V126, 3,3MW each, connection cables and access roads.

All of the wind turbines have been located in line with the requirements of Local Development Plan concerning the development of energy infrastructure (Miejscowy Plan Zagospodarowania przestrzennego gminy Kuślin (uchwała nr VIII/45/2003 dated 29.05.2003)

Review of the WTGs location versus constraints of the Plan and environmental decisions indicated that all WTGs are located in appropriate distances to residential buildings, roads and other terrain elements.

Subsequently, the Investors applied for building permits for the turbines and obtained relevant decisions, separate permits were obtained for the turbines, the medium and high voltage cabling and transformer stations.



## 6 What is the scale of the Project and how will it impact protected areas?

During operation of the wind turbine, a manoeuvring yard next to each turbine should be provided. A typical yard area is between 2000 and 4500 sq. m. The remaining area will be re-used as arable land. Total area of access roads will be approximately 4,4 ha and the manoeuvring yards ca. 4 ha.

All the turbines included in the Project are located in rural and agricultural areas with small forest complexes and a network of local, mainly dirt roads. No valuable nature areas were identified in the area of the turbines.

Location of valuable landscape, fauna and flora sites in the vicinity of the wind farm is presented in the picture below.

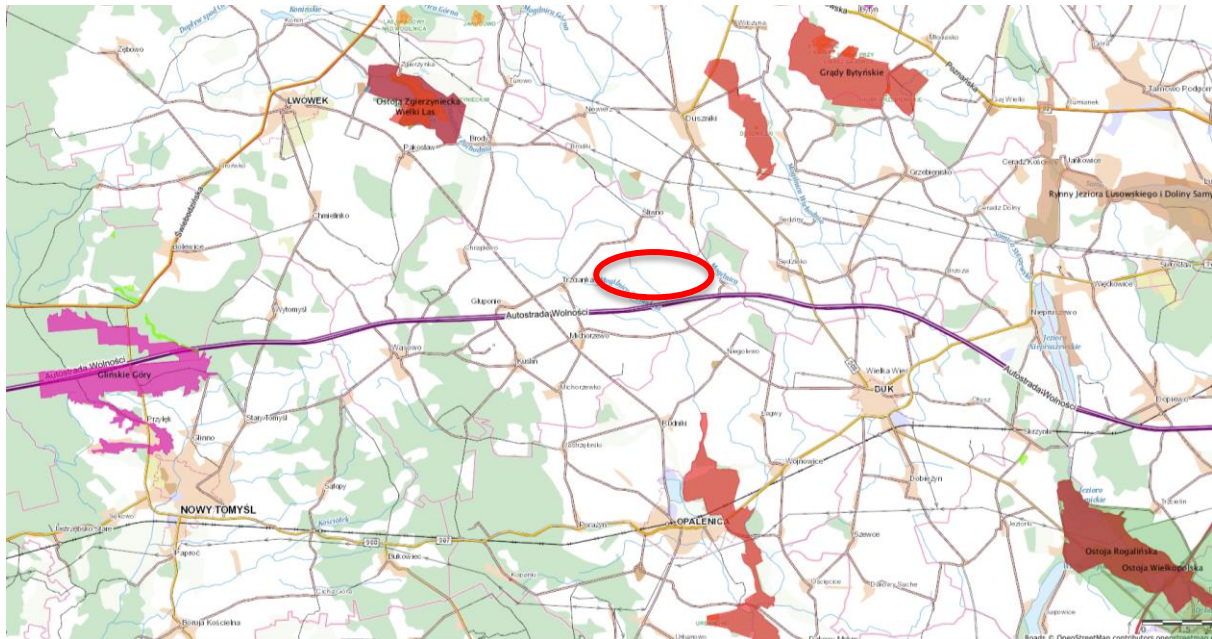


Figure 5. Location of Kuślin wind farm vs. protected areas

The closest protected areas to Kuślin wind farm include:

- Zgierzynieckie Lake Nature Reserve, part of Mogielnica River basin being a habitat for over 140 bird species and 60 nesting species; and Wielki Las protected forest area, both located over 5 km north-west from the wind farm.
- Sierakowski Landscape Park found ca. 20 km north from the wind farm.
- Pszczewski Landscape Park, located over 25 km to the west.
- Protected landscape area in Lusów – 15 km east from the farm.
- Protected landscape area in Miedzichowo commune – located ca. 20 km east from the turbines.
- There are number of nature monuments (eg. protected oak, sycamore and lime trees) present in the distance of over 200 m from the turbines.
- Natura 2000 areas include:
  - PLH 300033 Dolina Mogielnicy is located ca. 12 km south from the turbines;
  - PLH 080002 Jeziora Pszczewskie i Dolina Obry – 20 km west;

- PLH 300007 Ostoja Zgierzyniecka – 5 km north-west;
- PLH 300008 Kopanki (bat colony) – 7 km south-east;
- PLB 300009 Jezioro Zgierzynieckie – 5 km north-west;
- PLH 300051 Grądy Bytyńskie – 4 km north-east.

The planned Kuślin wind farm does not border any protected areas established pursuant to the provisions of the Act on nature protection.

Based on the assessment conducted as part of EIA procedure, no significant negative impact of the wind farm was identified.

## **7 Will the Project affect societies?**

Development of the Project does not require any displacement of the people or business - no physical or economical resettlement had taken place or will need to take place. The land for the subprojects purposes was acquired based on lease contracts signed with the land owners.

The project has direct socio-economic impacts on development of all relevant communes and local inhabitants. The following direct impacts have been identified:

- increased income of the commune by taxes paid by the operator for commercial activities in the area (estimated at approx. 20-25 thousand euro per turbine annually);
- increase of the annual income of land owners leasing their land for the turbines and the underground cabling;
- improvement of the local communication routes;
- creation of working places on local labour market during construction phase of the Project.

The negative impact is related to decrease of the land area used for agricultural purposes; however, this is compensated by the land lease fees. The footprint of the wind farms and infrastructure is limited, and farming can be maintained around the turbines.

Moreover, some negative social impacts can be expected during construction phase of the turbines, due to nuisance associated with increased road traffic. These include:

- noise and vibrations generated by heavy trucks to which the citizens will be exposed;
- increased traffic on the local roads;
- increased likelihood of road accidents;
- damages to road's surface and possibly also building structures;
- temporary limitations in the access to the roads due to the needs of oversize cargo transport.

The developer will implement measures to compensate to farmers and land users for any damages that could result from the construction works undertaken. This is in line with Polish legislation. In general, any works-related damages reported by the land owners will be immediately verified on-site by the developer's representative assisted by the land owner. Then the scope of damages and a compensation level will be evaluated by the expert (evaluator). Agreed compensation will be paid to the affected party.

Sevione declared also to repair any damages to the access road to the turbine sites.

## 8 What will be the impacts of the wind farm?

The main impacts associated with construction phase of the Projects relate to earth works (primarily during setting of foundations for the towers). Construction works and increased heavy traffic include heavy machinery operations during earthworks and temporary change of groundwater level (in case groundwater drainage is required during the construction), increased noise and vibration. The developer will be required to implement best practice solutions to minimise the nuisance caused by the construction works.

Based on the results of Environmental Impact Assessment procedure and the public consultations, the main environmental impacts associated with the operation of the wind farm will refer to increased noise levels, change in the landscape and potential influence on avifauna and bats.

### 8.1 Noise emission

Wind turbines can have a negative impact on noise levels in the residential areas. Model calculations proved that the noise levels at the residential buildings will be within the 40 and 45 dB(A) limits set for residential areas during the night time.

As shown on the map presented below, impact of noise generated by the turbines was assessed to confirm lack of excessive impact.

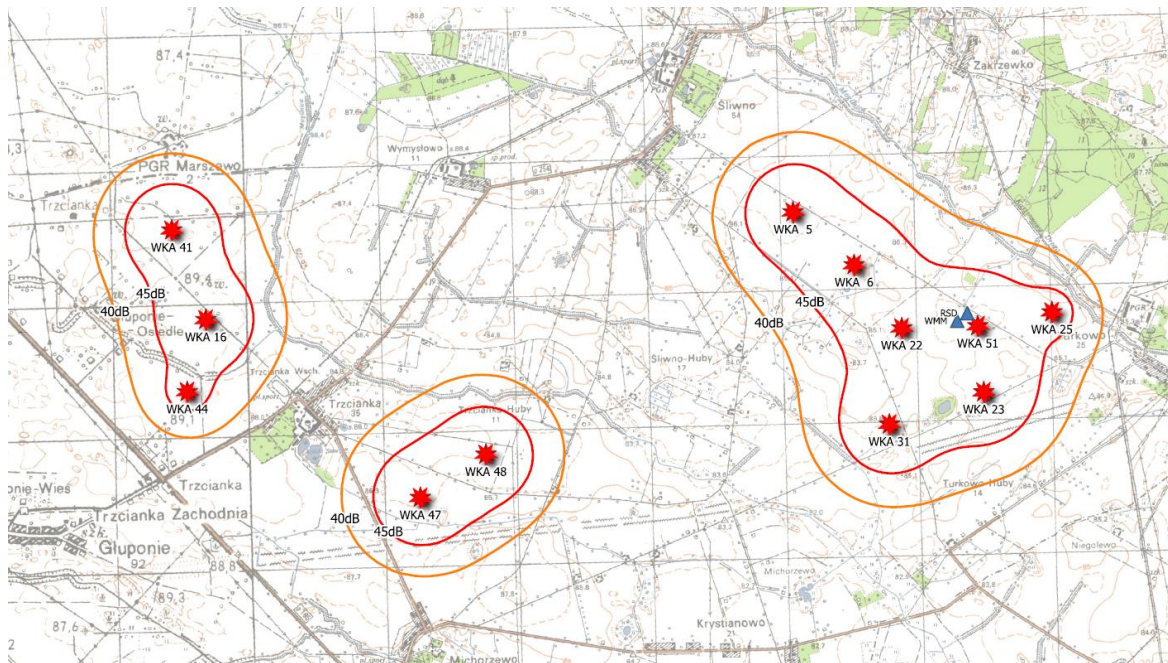


Figure 8. Impact of noise generated by Kuślin wind farm

In order to minimize the acoustic impact, low-emission STE blades with elements reducing noise emission will be used. It is possible to control the noise generated by the turbines depending on the operating mode (associated with power output).

The assessment undertaken has confirmed that the Project will have no impact on any sensitive areas.

## **8.2 Landscape**

The development of the Project (encompassing 12 wind turbines with the maximum level above the ground outlined by the blade of approximately 200 m – tower plus blade) will influence the landscape of the subject communes. The turbines which are currently regarded as visually intrusive to current rural landscape will form architectonic dominant objects in the environment. Nevertheless, it should be stressed that the evaluation of the influence of the wind farm on the landscape is difficult and depends on the individual approach. It may be assumed that the projects will gain supporters and critics taking into account the influence on landscape.

The development of the investment apart from the stable visually intrusive change will create so-called shadow flicker caused by rotating turbine blades. This impacts residents living in proximity to the rotating shadow source.

Polish law does not regulate in any way the issues related to the shadow flicker effect. Therefore, any recommendations or restrictions associated with it cannot be applied to the investor. However, in many European countries (eg. Great Britain, France, the Netherlands) the German guidelines which bases on a document *Hinweise zur Ermittlung Und Beurteilung der optischen Immissionen von Windenergieanlagen (WEA-Schattenwurf-Hinweise)* are used to assess this effect. According to this document, the ratio of the shading duration should not exceed 30 hours per calendar year and should be a maximum of 30 minutes per day.

No shadow flicker analyses for the turbines were conducted as part of the EIA analysis, as no areas, where the effect could be potentially significant were identified.

## **8.3 Birds and bats**

To recognize the local birds' populations and undertake applicable measures during the planning stage in 2010 – 2011 period the investor conducted 29 ornithological observations and number of bat monitoring in the areas of the planned wind farm. The study covered the entire phenological period including: spring migrations, breeding season, moorlands and camps, autumn migrations and wintering grounds.

In a view of the pre-investments monitoring results the identified avifauna was classified as typical for this part of the country. The areas included in this project have not been identified as valuable or of a special interest concerning wildlife.

To assess the presence of representatives of birds, the combined research methodology, based on the cartographic counting method and the method counting on transects and observation points.

In the case of bats, the controls included 27 AnaBat detector listening and 14 night observations in 2010 and 2011 updated in 2013 and 2014.

Collisions of birds with new objects (i.e. wind turbines) may occur, especially at night, with weather conditions resulting in limited visibility. However observations from existing wind farms show that those would be very isolated incidents and would not have a significant effect on local bird populations if the wind farms are not on a migration routes and are not an important breeding ground for protected species. Because the wind farms of the Project were found outside the migration routes and being not attractive as breeding areas it can

be expected that collisions may only occur incidentally and will not have a significant effect on the populations.

The turbine foundation planned by the investor will not affect valuable habitats for avifauna. Wind turbines will be located in arable fields, however, as a result of turbine location, there is a possibility of physical loss of bird habitats as a result of so-called deterrent effect.

Taking into account the characteristics of the investment, it has been concluded that the Project will have no negative impact on the species and habitats protected under 'Natura 2000' European network. The competent authorities did not raise any issues related to potential for the Project to have such negative impact.

## **9 What impacts of the Project will be monitored?**

In order to ensure that the Project meets the highest international standards, national legal obligations and lenders' requirements, a defined monitoring program will be implemented during construction and the operation of the wind farms. The monitoring program will include elements as required by environmental consent decisions issued by competent authorities.

### **9.1 Noise**

Environmental decisions for all the development obliged the investor to conduct post construction noise level surveys within 2 months from the project start-up. The results should be presented to the Regional Environmental Directorate in Poznań. Subsequent monitoring is required twice a year for the first five years of operation of the wind farm.

### **9.2 Birds**

Birds monitoring has been required by the local authorities and will be executed in the 3 out of 5 years of the wind farm operations. The scope of monitoring program will be approved by the Regional Environmental Protection Directorate; the scope of monitoring may be subject to additional requirements or amendments made by RDOŚ.

The birds monitoring should, as far as possible, in line with the pre-investment one and the national guidelines and additionally it will include the following:

- observations of species and numbers of birds,
- investigation of birds colliding with the turbines to discover any dead and hurt birds in the vicinity of the wind turbines,
- observation of the altitude of birds flights, including 3 intervals (to the lowermost part of the blade, within the blade's range and above the uppermost part of the blade),
- observations of the directions of birds' flights,
- number of deaths caused by collisions with wind turbine generators.

The monitoring programs will be executed by experienced ornithologists and the results will be presented among others to the competent authorities. If an excessive impact on birds is observed, the mitigation measures will be proposed and implemented. The

mitigation measures may include direct technical measures, such as e.g. birds detector equipment, or indirect, such as creation of sites more attractive for birds than the wind farm sites. Selection of adopted measures will depend on the results of monitoring.

### **9.3 Bats**

Bats monitoring has been also requested by the authorities to be conducted three times in the first 5 years of the wind farm operations (in line with good practice guidelines of EUROBATS 2006 implemented in the Polish guidelines). The scope of work will include observations and automatic registration of bats activity in the close and further vicinity of the WTGs locations. Moreover, the monitoring program will include bats fatalities as a result of collisions with WTGs. The monitoring program will be executed by experienced bats' experts and the results will be summarized in the reports, which will be submitted, among others, to the competent authorities.

If an excessive impact on bats is observed, a dedicated mitigation plan might be required by the authorities.

### **9.4 Overall Project performance monitoring**

As the project will be financed by EBRD and other international lenders the overall Project performance will be continuously monitored during construction and then operational phases. As part of the agreement with the lenders, the Company has committed among others to:

- Implement and maintain environmental and social management system tailored to the character of the Project and size of the company. The management system will be based on the Environmental and Social Policy developed by the Company and by the respective procedures and instructions will address all operational aspects of the wind farms. By the Company management commitment relevant resources will be allocated for environmental and social management of the Project. Non-discrimination and equal opportunity principles will be secured by the system and full compliance with the national standards with respect to employment of child and pregnant women or forced labour will be followed for both own and outsourced human resources.
- As part of the environmental and social management system the Company will develop procedures to monitor the key performance indicators which, apart from purely operational factors, will include also monitoring of accidents and other than normal operations, submitted grievances and others.
- Develop and adopt the H&S policy and implement and maintain a H&S management system, which by procedures and instructions will secure that all internationally recognized H&S standards and national legal requirements are followed. In particular the system will secure that all own and outsourced staff will be properly trained, will pass medical examination and will be provided with the personal protective equipment adequate for the performed tasks. Certain procedures will constitute the H&S plans for various operations at the wind farms, such as working in the confined spaces, working at heights, working with electrical equipment etc.
- Develop and maintain stakeholders engagement plan (SEP) which will define rules

of communication with all Project stakeholders as well as the grievance mechanism for both own and outsourced workers and external stakeholders.

- Implement necessary measures in order to avoid or limit excessive environmental impacts.
- Report on Project performance on annual basis.
- Maintain a Project website on which all major documents related to the Project, including possessed permits, results of the environmental monitoring, annual reports and other Project related information will be posted and regularly updated. The Project website will also allow to submit grievances.
- Be subject to a 3rd party environmental and social audit every three years during the Project lifetime.

The whole list of the Company commitments can be found in the environmental and social action plan available at the Project website.

## **10 Is additional information available?**

Full EIA reports are available for the project and copies can be obtained in respective Commune offices. An electronic copy can be requested from the Company. All requests for additional information related to the Project should be addressed to Sevivon on a phone number or email indicated below.

The mechanism for the claim procedure will be implemented by the company as part of the project management system. Information on the Project milestones will be published in advance on the Company website at <http://www.sevivon.pl/> to be available for the public and non-governmental organizations. The procedure assigns a coordinator of the integrated system, who will be responsible for reacting in case of complaints.

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