Potęgowo Wind Farm Project
Non-Technical Summary

Prepared by Ramboll Environ Sp . z o. o.

Potegowo Winergy Sp. z o.o.

Introduction

Winergy Management Sp. z o.o., one of the leading national wind farm operators is developing via a special purpose vehicle (SPV) Potegowo Winergy Sp. z o.o. a number of wind farms in the communes of Słupsk, Damnica, Potęgowo and Malechowo, northern Poland. All these wind farms together constitute a common project further referred to as "Potęgowo Wind Farm" or "the Project). The Project

The Project has been under development since early 2000's and currently, after passing environmental impact assessment procedures for each of the subprojects and having construction permits granted is ready for commencement of construction works and further exploitation.

The Project will be co-financed by various financial institutions with European Bank for Reconstruction and Development (EBRD) as a leading lender. Prior commitment for financing, EBRD has classified the Project as a "Category A" one, following EBRD's Environmental and Social Policy (2014, further "ESP"). Moreover, the Project was subject to review by the independent company (Ramboll Environ Poland Sp. z o.o., a member of Environment and Health global practice of Ramboll, further referred to as "REH") who assessed the Project against the national and EU environmental law and EBRD Performance Requirements, as per ESP. 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 REH assessed the Project for compliance with the Health and Safety Guidelines for Wind farms and the Project was found to be developed in respect to this reference document. Further, a cumulative impact assessment report has been prepared by REH to address potential environmental and social impacts of the Project as a whole.

EBRD requires, that the projects, in particular these classified as "Category A" shall be developed in a way ensuring that the meaningful public and stakeholders engagement process is properly secured. In order to meet this requirement a set of documents which comprise:

- Environmental Impact Assessment Reports prepared for individual subprojects in line with the national requirements;
- Cumulative Environmental and Social Impact Assessment Report for the entire Project;
- Supplementary Report which summarizes findings of the Project assessment and Cumulative Environmental and Social Impact Assessment;
- Environmental and Social Action Plan;
- Stakeholders Engagement Plan, and this
- Non-technical Summary,

have been prepared in English and Polish as the Project Disclosure Package.

General presentation of the Project

The Project is being developed by Winergy Management Sp. z o.o. (as EPCM), via the special purpose company Potegowo Winergy Sp. z o.o (the Company). All necessary permits for the project are in place, including; environmental permits, planning permission and an interconnection agreement. Winergy have provided the funds that were needed to acquire the project company and finalize the development.

Winergy Management Sp. z o.o. is a company which will manage and coordinate the construction process. The engineering department of Winergy Management consists of former top utility executives utilizing their years of experience and network for the benefit of the Project.

Potegowo Winergy Sp. z o.o. is a special purpose company established for project development, owned by the investors through Winergy S.r.a.l. Winergy S.r.a.l is a joint venture between CERAC- a group of highly experienced, dedicated local energy professionals, Israel Infrastructure Fund II (IIF II) - international project finance and debt structure specialists, CME and Helios Fund (Helios III) - renewable energy investment specialist.

Until 2017 the Potęgowo Wind Farm project was carried out, as a two separated projects: Potęgowo West (comprising of Przystawy, Bartolino and Sulechówko subprojects) and Potęgowo East (comprising Karżcino, Wrzeście-Kępno, Bięcino and Głuszynko- Grapice subprojects).

The Potęgowo West part of the Project comprises of:

- development of a group of 7 WTGs type GE 2.75 – 120, hub height 98,3m, rotor diameter 120 m, capacity 2.75 MW, in the vicinity of the Przystawy village (Przystawy subproject), Malechowo commune (gmina), Sławno county (powiat), Zachodniopomorskie voivodeship;
- development of a group of 7 WTGs type GE 2.75 – 120, hub height 98,3m, rotor diameter 120 m, capacity 2.75 MW, in the vicinity of the Bartolino village (Bartolino subproject), Malechowo commune (gmina), Sławno county (powiat), Zachodniopomorskie voivodeship;
- development of a group of 29 WTGs type GE 2.75 – 120, hub height 98,3m, rotor diameter 120 m, capacity 2.75 MWin the vicinity of the Sulechówko village (Sulechówko subproject), Malechowo commune (gmina), Sławno county (powiat), Zachodniopomorskie voivodeship.

Figure 1. Locations of WTG's (marked with blue icon) in the Przystawy subproject, approximated WF border is marked with red line

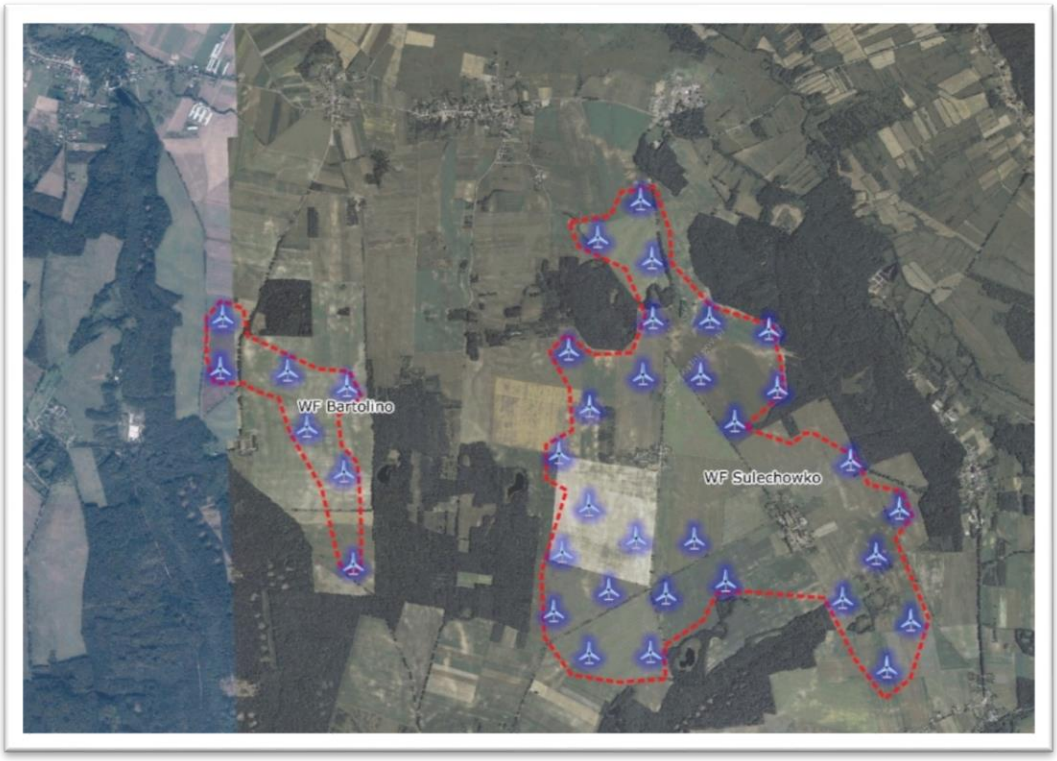

Figure 2. Locations of WTG's (marked with blue icon) in the Bartolino and Sulechówko subproject, approximated WF border is marked with red line

The eastern part of the Project, Potęgowo East, comprises of the following:

- development of a group of 7 WTGs type GE 2,5 xl-103, hub height 98.3 m, rotor diameter 103 m in the vicinity of the Karżcino village (Karżcino subproject), Słupsk commune (gmina) and county (powiat), Pomorskie voivodeship;
- development of a group of 5 WTGs type GE 2.75 – 120, hub height 110m, rotor diameter 120 m, capacity 2.75 MW each in the vicinity of the Bięcino village (Bięcino subproject), Damnica commune, Słupsk county, Pomorskie voivodeship;
- development of a group of 6 WTGs type GE 2.5-103, hub height 98.3 m, rotor diameter 103 m, capacity 2.5 MW each, in the vicinity of the Wrzeście and Kępno villages (Wrzeście-Kępno subproject), Słupsk commune and county, Pomorskie voivodeship;
- development of a group of 20 WTGs type GE 2.75 – 120, hub height 110m, rotor diameter 120 m, capacity 2.75 MW each, in the vicinity of the Głuszynko and Grapice villages (Głuszynko-Grapice subproject), Potęgowo commune, Słupsk county, Pomorskie voivodeship.

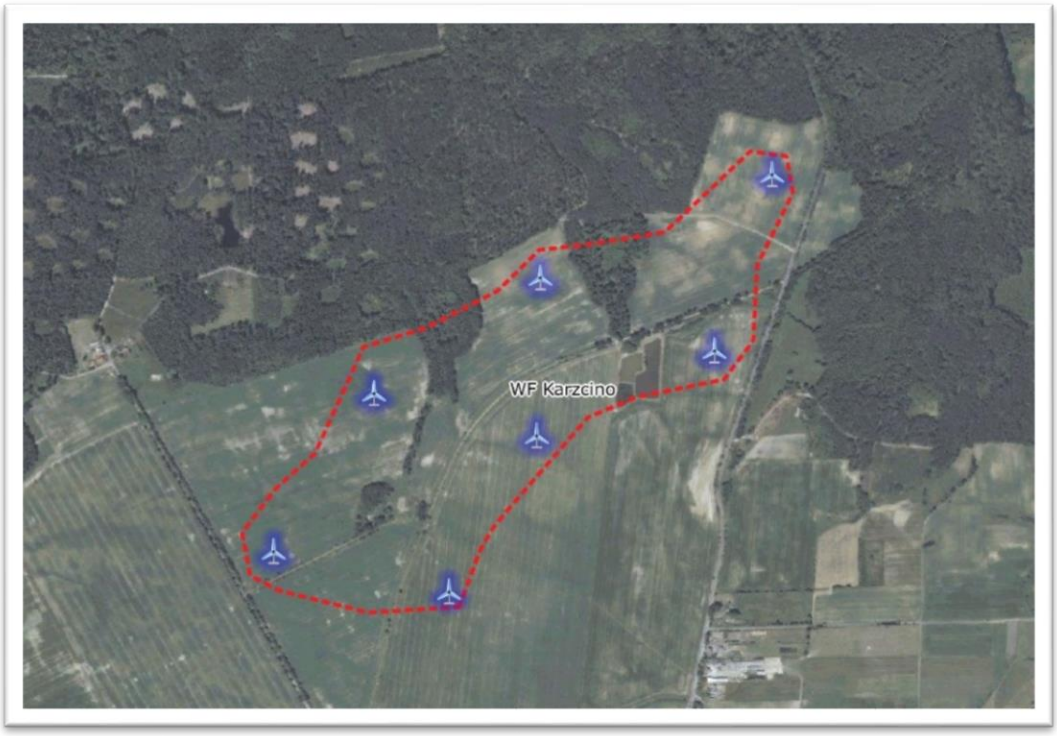

Figure 3 Locations of WTG's (marked with blue icon) in the Karżcino subproject, approximated WF border is marked with red line

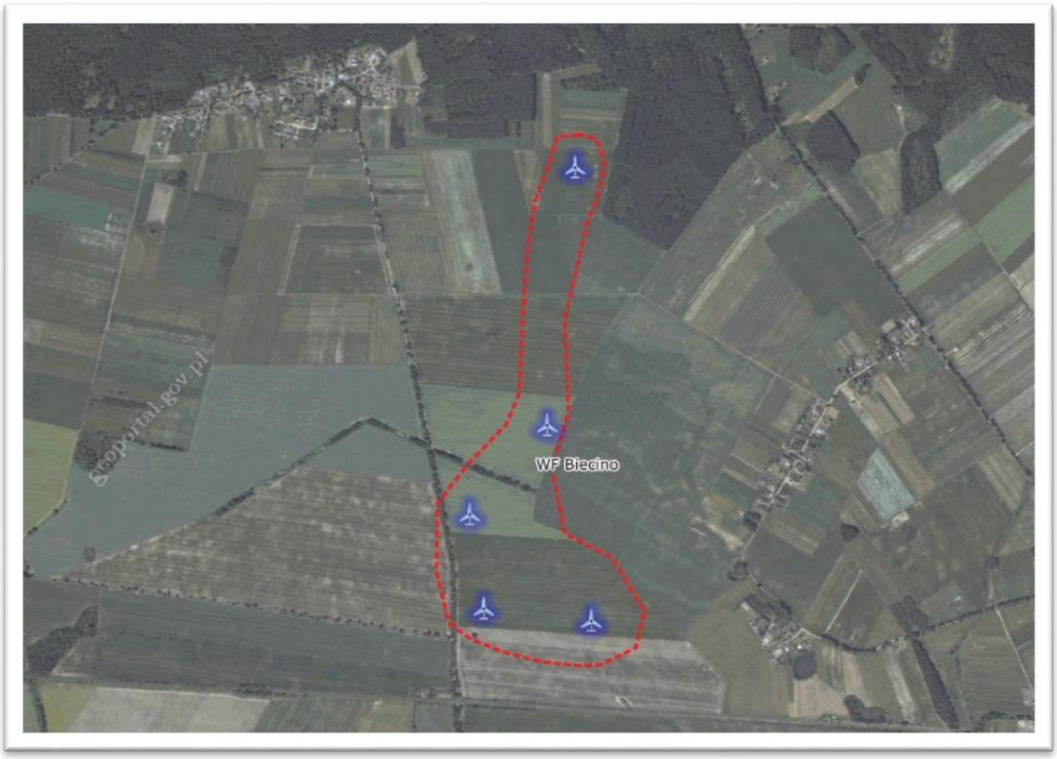

Figure 4 Locations of WTG's (marked with blue icon) in the Bięcino subproject, approximated WF border is marked with red line

Figure 5 Locations of WTG's (marked with blue icon) in the Września-Kępno subproject, approximated WF border is marked with red line

Figure 6 Locations of WTG's (marked with blue icon) in the Głuszynko-Grapice subproject, approximated WF border is marked with red line

Configuration of all of the subprojects include the wind farms infrastructures of internal access roads, assembly/service yards and underground cabling for power transmission and steering.

The Karżcino and Wrzeście-Kępno subprojects will be connected to the local MTS MV/110kV located nearby the village of Bięcino, and further to the 110/400 kV MTS "Słupsk". The Bięcino wind farm will be connected to a local MTS MV/110kV near the village of Bięcino, and further to the MTS "Słupsk". The Głuszynko-Grapice wind farm will be connected to the MV/110 kV substation nearby the village of Bięcino and then to the national power grid. All medium and high voltage PTLs will be executed as underground ones.

All of the subprojects are being developed at the land designated by the respective valid local zoning plans for development of wind farms.

What is a wind turbine generator?

A typical wind turbine generator 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.

Figure 7. GE Wind Turbine Generator (Source: www.ge-energy.com)

For the Potęgowo Wind Farm, the investor has already decided, which model of the wind turbine generator will be installed. The wind turbines for each of the subproject, can be found in previous chapter.

The WTG is a combination with the proven single – blade pitch control that includes the latest enhancements in load management control, low acoustic emissions, efficient electrical power conversion and robust performance.

Where the Project will be developed?

Location of the subprojects constituting the Project is shown on the

Figure 8.

The Potęgowo Wind Farm project will be developed in the communes of Potęgowo, Damnica and Słupsk, Słupsk County, pomorskie voivodeship and in the commune of Malechowo, Sławno County, zachodniopomorskie voivodeship.

The Potęgowo commune occupies an area of approximately 228 km^2 of which approx. 80% is occupied by agricultural land and only 28% by forests (as for 2016). A characteristic feature of the commune is the

domination of the agricultural landscape. As for 2016, the population of the commune counted approximately 7,031.

The Damnica commune occupies an area of approximately 168 km^2, of which 64,6% is occupied by agricultural land and only 29,4% by forests (as for 2016). As for 2016, the population of the commune counted approximately 6222.

According to the available sources, the Słupsk commune occupies an area of approximately 262 km^2, of which 62% is occupied by agricultural land and only 28% by forests (as for 2016). As for 2016, the population of the commune counted approximately 17383.

According to the available sources, the Malechowo commune occupies an area of approximately 227 km^2, of which approx. 60% is occupied by agricultural land and only 30,8% by forests(as for 2016). As for 2016, the population of the commune counted approximately 6,421.

In all locations of the planned subprojects there are a valid local zoning plans allowing for construction of wind farms. These plans were adopted in line with the national legislation, with participation of local societies and other stakeholders secured.

Figure 8. Map of Potęgowo Wind Farm- location of subprojects (source: Ramboll Environ)

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. In January 2008, the European Commission proposed an energy and climate package to achieve objectives of reducing greenhouse gas emissions and boosting renewable energies by 2020. Currently, the UN are attempting to finales a legally binding global climate treaty to succeed the Kyoto Protocol in 2013.

Poland, currently is finalizing formal approval of its energetic policy until 2030 'Polityka energetyczna Polski do 2030 roku'. Based on this draft document Poland plans to increase the fraction of renewable sources in total energy consumption by at least 15 % by 2020 with its further growth. According to the regulation issued by the Ministry of Energy, the national plan assumes the achievement of 18.5% renewable energy use in total energy consumption by 2019.

The development of wind energy is one of the measures to be implemented, which leads to 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 producing none of the emissions to the air. Conventional energy sources, mainly based on various types of coal incineration, when producing energy generate emissions of greenhouse gases, SO_2, dust and others.

The expected annual energy production from the Głuszynko- Grapice, Bięcino, Wrzeście- Kępno and Karżcino wind farms will amount in total approximately 326,000 MWh (50% probability), distributed as follows:

- Głuszynko-Grapice – 192,300 MWh;
- Bięcino – 50,500 MWh;
- Wrzeście-Kępno – 44,000 MWh;
- Karżcino – 39,200 MWh.

Respectively, the expected annual energy production from the Przystawy, Bartolino and Sulechówko wind farms, will amount in total approximately 320,800 MWh (50% probability), distributed as follows:

- Przystawy – 54,500 MWh;
- Bartolino – 55,000 MWh;
- Sulechówko – 211,300 MWh.

Apart from saving the greenhouse gases emission, the Potęgowo WF will also result with significant 'avoidance' of post – combustion emissions. As an example, the equivalent production of electricity by the largest Polish hard-coal power plant in Kozienice would result with the following emissions (estimations based on Elektrownia Kozienice emission factors for 2011).

If considering 7 subprojects separately, then the following "avoidance" of post-combustion emissions will be obtained:

Table 1. Amount of "avoided" emission due to development of WTG's (50% probability)

Emission [tons/year]	PM	SO2	NOx
Probability [%]	50%	50%	50%
Głuszynko- Grapice	17.06	509.96	332.35
Bięcino	4.31	128.87	83.99
Karżcino	4.26	127.55	83.13
Wrzeście-Kępno	3.95	118.09	76.96
Przystawy	5.51	164.9	107.47
Bartolino	5.17	154.38	100.61
Sulechówko	20.32	607.27	395.76

Exploitation of the subject wind farm is therefore a measure to avoid the emissions to the atmosphere of the comparable amounts of pollutants. Future activation of the wind farm will increase those advantages.

The issues which are in favor for location of the wind farm in this region include among others, approving attitude of the local Authorities, lack of protected areas in the neighborhood and favorable wind conditions; additionally successful realization of such investment is connected with benefits for the local communities, including reconstruction of power supply installations, new occupation and improvement of the local road infrastructure.

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. An EIA's are carried out to obtain a decision on Environmental Conditions (environmental decision) for group I and group II projects. The planned wind farm is, according to the regulations, classified to group II.

In the administrative procedure for the Potęgowo WF, the EIA reports for the subprojects, were completed and submitted to the authorities as follows:

- Głuszynko- Grapice in March, 2011;
- Wrzeście- Kępno in October, 2014 (date of supplementary ENINA report). Original EIA was done in 2008
- Bięcino in January, 2013;
- Karżcino in October, 2014 (date of supplementary ENINA report). Original EIA was done in 2008;
- Przystawy, Bartolino and Sulechówko in June, 2012

Information on the planned investment together with the EIA Reports were made available for comments of the public, including local communities and potential interested parties, such as nature protection bodies and ecological organizations. Announcements on the subprojects were presented to the public in the manner adopted by the competent local authorities, i.e. on their websites, at the information boards in the authorities' sits and affected villages and often in local newspapers, such as "Głos Pomorza" for example. During the public consultations, stakeholders were informed on potential impacts associated with the investment, in particular impacts on landscape, acoustic environment, shadow flicker phenomena and noise. There were no complaints or protests against the planned investments.

How large will be the Project and how it is located versus protected areas?

Głuszynko-Grapice subproject

The WTGs belonging to the Głuszynko-Grapice subproject will be located in two subgroups:

- on the western side of the road connecting villages of Rzechcino and Głuszynko, in the area delineated by the village of Jeziorka to the north, Dąbrówka and Dąbrówka Kolonia to the west, Grapice to the south and a forest to the east, and
- on the eastern side of the road connecting villages of Rzechcino and Głuszynko.

The overall area of this subproject is 12.18 ha, among which 10.54 ha are in Potęgowo commune, where all WTGs and a part of an underground power transmission lines are planned to be located, while 1.64 ha are in Damnica commune, where only underground power transmission lines are planned to be located.

The site has a rural and agricultural character. The terrains are slightly hilly, their elevation varies some 15 m, with the surface altitude at 70 m above sea level in the south eastern part and 84 m above seas level in the north western part, in majority occupied by arable fields (corn, grains etc.), pastures, unused land, and in some extent by small forest complexes, located distant from the planned WTGs locations. There is a network of local, mainly dirt roads, surrounding the subproject's area. These are connected with the asphalt roads of a local character and by mean of these with a national road No. E28.

The Głuszynko-Grapice subproject is not situated within borders of any nature and landscape protected areas, except of the medium voltage underground power transmission cable line, which will cross Natura 2000 site "Dolina Łupawy" PLH220036 over an approximate distance of 1070 m. Moreover, it will be located along the border of Natura 2000 site "Dolina Łupawy" PLH220036 over approximate distances of 110 m and 360 m respectively.

The environmentally sensitive areas located up to 20 km away, are the following:

1. National Park "Słowiński Park Narodowy i jego otulina", approx. 15.7 km to the north of the nearest WTG location and approx. 14.4 km from the planned 110 kV high voltage (HV) power transmission cable line;
2. Nature Reserves:
   - "Grodzisko Runowo", approx. 7.3 to the south-east of the nearest WTG location and approx. 11.8 km from the planned medium voltage power transmission cable line;
   - "Czarne Bagno", approx. 7.8 km to the north-east of the nearest WTG location and approx. 10.3 km from the planned medium voltage power transmission cable line;
   - "Łebskie Bagno", approx. 10.6 km to the north-east of the nearest WTG location and approx. 12.7 km from the planned medium voltage power transmission cable line;
   - "Torfowisko Pobłockie", approx. 11 km to the north of the nearest WTG location and approx. 11.1 km from the planned medium voltage power transmission cable line;
   - "Bagna Izbickie", approx. 13.3 km to the north of the nearest WTG location and approx. 12.3 km from the planned medium voltage power transmission cable line;
   - "Jałowce", approx. 14.3 km to the north of the nearest WTG location and approx. 10.3 km from the planned medium voltage power transmission cable line;
   - "Karwickie Źródliska", approx. 15.5 km to the south-east of the nearest WTG location and approx. 20.3 km from the planned medium voltage power transmission cable line;
   - "Las Górkowski", approx. 17.3 km to the north-east of the nearest WTG location and approx. 17.6 km from the planned medium voltage power transmission cable line;
   - "Nowe Wicko", approx. 19 km to the north-east of the nearest WTG location and approx. 19.6 km from the planned medium voltage power transmission cable line;
3. Landscape Park "Park krajobrazowy Dolina Słupi i jego otulina", approx. 20 km to the south-west of the nearest WTG location and approx. 14.4 km from the planned medium voltage power transmission cable line;
4. Landscape Protection Areas:
   - "Fragment pradoliny Łeby i wzgórza morenowe na południe od Lęborka", approx. 5 km to the south-east of the nearest WTG location and approx. 9.8 km from the planned medium voltage power transmission cable line;

- "Pas pobrzeża na wschód od Ustki", approx. 25 km to the north-west of the nearest WTG location and approx. 14.4 km from the planned medium voltage power transmission cable line;

5. Natura 2000 sites:
   - "Ostoja Słowińska" PLB220003, approx. 15.7 km to the north of the nearest WTG location and approx. 14.4 km from the planned medium voltage power transmission cable line;
   - "Dolina Słupi" PLB220002, approx. 20 km to the south of the nearest WTG location and approx. 14.4 km from the planned medium voltage power transmission cable line;
   - "Przybrzeżne wody Bałtyku" PLB99002, approx. 15.7 km to the north of the nearest WTG location and approx. 14.4 km from the planned medium voltage power transmission cable line;
   - "Dolina Łupawy" PLH220036, approx. 3.5 km to the south and west of the nearest WTG location and from the planned medium voltage power transmission cable line;
   - "Łebskie Bagna" PLH220040, approx. 7.8 km to the north-east of the nearest WTG location and approx. 10.3 km from the planned medium voltage power transmission cable line;
   - "Torfowisko Pobłockie" PLH220042, approx. 11 km to the north of the nearest WTG location and approx. 11.1 km from the planned medium voltage power transmission cable line;
   - "Bagna Izbickie" PLH220001, approx. 13.8 km to the north-east of the nearest WTG location and approx. 12.5 km from the planned medium voltage power transmission cable line;
   - "Karwickie Źródliska" PLH220071, approx. 14.6 km to the south-west of the nearest WTG location and approx. 19.4 km from the planned medium voltage power transmission cable line;
   - "Górkowski Las" PLH220045, approx. 17.3 km to the south-east of the nearest WTG location and approx. 17.6 km from the planned medium voltage power transmission cable line;
   - "Klify Poddębskie" PLH220100, approx. 29 km to the north-west of the nearest WTG location and approx. 18.1 km from the planned medium voltage power transmission cable line;
   - Nature monuments – all of them located more than 5 km away from the site and approx. 2.6 km from the planned medium voltage power transmission cable line;
   - Ecological lands – the closest ones located approx. 1.8 km to the north of the nearest WTG location and medium voltage power transmission cable line;
   - Documentation stand of an inanimate nature "Oz Grapice", approx. 1.3 km to the south-west of the nearest WTG location and approx. 2.3 km from the planned medium voltage power transmission cable line.

Bięcino subproject

The WTGs belonging to the Bięcino subproject will be located on the eastern side of the road connecting villages of Karżniczka and Bięcino, in the area delineated by the villages of Bięcino, Mrówczyno, Budy, Dębniczka, Karżniczka and Bięcino Kolonia. Four out of five WTGs are planned to be concentrated between Bięcino Kolonia and Dębniczka, while one WTG will be placed to the north of them, between Bięcino and Mrówczyno villages. The overall area of the second subproject is 6.5 ha in Damnica commune, where all WTGs and part of underground power transmission lines are planned to be located, however the before mentioned area does not include temporary crane pads areas (which will be removed after accomplishing the WF construction stage) and access roads,. The area of planned main electrical substation (MES) territory "GPO Bięcino" will cover approximately 1ha.

The site has a rural and agricultural character. The terrains are slightly hilly, their elevation varies some 5 m, with the surface altitude at 80 m above sea level in the south eastern part and 85 m above seas level in the central part., in majority occupied by arable fields (corn, grains etc.), pastures, unused land, and in some extent by small forest complexes, located distant from the planned WTGs locations. There is a network of local, mainly dirt roads, surrounding the subproject's area. These are connected with the asphalt roads of a local character and by mean of these with a national road No. E28. The WTGs provider has been already chosen and appropriate delivery routes have been planned. Moreover, based on visual observations, the local road network provides easy access to the construction sites with no evident obstacles that could affect transport of an oversize cargo during the construction phase. In particular no trees or historical monuments were identified as such possible obstacles.

The Bięcino subproject is not situated within borders of any nature and landscape protected areas. The nearest protected areas, located up to 20 km distant from the planned WTGs locations, are listed below:

1. National Park "Słowiński Park Narodowy i jego otulina", approx. 12.5 km to the north-east of the nearest WTG location;
2. Nature Reserves:

- "Bagna Izbickie", approx. 17 km to the north-east of the nearest WTG location;
- "Jałowce", approx. 12.5 km to the north-east of the nearest WTG location;
- "Torfowisko Pobłockie", approx. 18 km to the north-east of the nearest WTG location;

3. Landscape Park "Park krajobrazowy Dolina Słupi i jego otulina", approx. 14.8 km to the south of the nearest WTG location;
4. Landscape Protection Areas:
   - "Pas pobrzeża na wschód od Ustki", approx. 14.2 km to the north-east of the nearest WTG location;
5. Natura 2000 sites:
   - "Pobrzeże Słowińskie" PLB220003, approx. 12.5 km to the north of the nearest WTG location;
   - "Dolina Słupi" PLB220002, approx. 15 km to the south of the nearest WTG location;
   - "Ostoja Słowińska" PLB220003, approx. 12.5 km to the north of the nearest WTG location;
   - "Przybrzeżne wody Bałtyku" PLB99002, approx. 18.5 km to the north of the nearest WTG location;
   - "Dolina Łupawy" PLH220036, approx. 3 km to the west of the nearest WTG location;
   - "Torfowisko Pobłockie" PLH220042, approx. 18.7 km to the west of the nearest WTG location;
   - "Bagna Izbickie" PLH220001, approx. 18 km to the north-west of the nearest WTG location;
   - "Klify Poddębskie" PLH220100, approx. 18 km to the north-west of the nearest WTG location;
6. Nature monuments – located in the region of Karżniczka, approx. 1.6 km to the south from the site;
7. Ecological lands – the closest located in the region of Dąbrówka lake, approx. 9 km to the south of the nearest WTG location.

Karżcino and Wrzeście-Kępno subprojects

The WTGs of the Karżcino subproject will be situated to the north of the Karżcino village, on the western side of the road connecting villages of Karżcino and Gąbino, while the WTGs belonging to the Wrzeście-Kępno subproject will be situated to the north of the Bukówka village, on the southern side of the road connecting villages of Lubuczewo and Wrzeście. The overall area of the Karżcino subproject will be approx. 2,535 m^2 for 7 WTGs, 6,202 m^2 for maneuvering yards and 5,193 m^2 for access roads, which in total gives approx. 13,930 m^2 and the overall area of the Wrzeście-Kępno subproject will be approx. 1,530 m^2 for 6 WTGs, 5,316 m^2 for maneuvering yards and 6,086 m^2 for access roads, which in total gives approx. 12,932 m^2. Based on the information presented in the EIA report, both third and fourth subproject should not exceed the total area of 3.1 ha.

The site has a rural and agricultural character. The terrain is relatively flat, its altitude is approximately 30 m above the sea level. To the north of the wind farms' areas there is a forest with a moraine hill of altitude 53.6 m above sea level. The terrains are, in majority, occupied by arable fields (corn, grains etc.), pastures, unused land, and in some extent by small forest complexes, located distant from the planned WTGs locations. There is a network of local, mainly dirt roads, surrounding the subproject's area. These are connected with the asphalt roads of a local character and by mean of these with a national road No. E28. In particular no trees or historical monuments were identified as such possible obstacles.

None of the planned WTGs belonging to Karżcino subproject and Wrzeście-Kępno subproject are situated within borders of any nature and landscape protected areas. The nearest protected areas, located up to 20 km distant from the planned WTGs locations, are listed below:

1. National Park "Słowiński Park Narodowy i jego otulina", approx. 4.3 km to the north-east of the Karżcino subproject and approx. 5.15 km to the north of the Wrzeście-Kępno subproject;
2. Nature Reserves:
   - "Buczyna nad Słupią", approx. 11.2 km to the west of the Karżcino WF and approx. 14.2 km to the north-west of the Wrzeście-Kępno WF;
   - "Jałowce", approx. 15.2 km to the north-east of the Karżcino WF and approx. 14.5 km to the north-east of the Wrzeście-Kępno WF;
   - "Jezioro Modła", approx. 17 km to the west of the Karżcino WF and approx. 19.9 km to the north-east of the Wrzeście-Kępno WF;
   - "Zaleskie Bagna", approx. 19 km to the west of the Karżcino WF;
   - "Bagna Izbickie", approx. 20 km to the north-east of the Karżcino WF and approx. 19 km to the north-east of the Wrzeście-Kępno WF;
3. Landscape Park "Park krajobrazowy Dolina Słupi i jego otulina", approx. 16 km to the south of the Karżcino WF and approx. 14.1 km to the south-west of the Wrzeście-Kępno WF;

4. Landscape Protection Areas:
   - "Pas Pobrzeża na Wschód od Ustki", approx. 5.0 km to the north-west of the Karżcino WF and approx. 9.11 km to the north-west of the Wrzeście-Kępno WF;
   - "Pas Pobrzeża na Wschód od Ustki", approx. 14.85 km to the north-west of the Karżcino WF and approx. 18 km to the north-west of the Wrzeście-Kępno WF;
5. Nature-Landscape complex "Kraina w kratę w Dolinie Rzeki Moszczeniczki", approx. 10.5 km to the south-west of the Karżcino WF and approx. 9.11 km to the south-west of the Wrzeście-Kępno WF;
6. Natura 2000 sites:
   - "Pobrzeże Słowińskie" PLB220003, approx. 6.8 km to the north of the Karżcino WF and approx. 9.15 km to the north of the Wrzeście-Kępno WF;
   - "Przybrzeżne wody Bałtyku" PLB990002, approx. 8.6 km to the north of the Karżcino WF and approx. 12.5 km to the north-west of the Wrzeście-Kępno WF;
   - "Dolina Słupi" PLB220002, approx. 8.6 km to the south of the Karżcino WF and approx. 12.5 km to the south of the Wrzeście-Kępno WF;
   - "Dolina Słupi" PLH220052, approx. 3.6 km to the west of the Karżcino WF and approx. 4.9 km to the west of the Wrzeście-Kępno WF;
   - "Dolina Łupawy" PLH220036, approx. 5.6 km to the north-east of the Karżcino WF and approx. 5.55 km to the north-east of the Wrzeście-Kępno WF;
   - "Ostoja Słowińska" PLH220023, approx. 6.8 km to the north of the Karżcino WF and approx. 9.14 km to the north of the Wrzeście-Kępno WF;
   - "Klify Poddębskie" PLH220100, approx. 7.7 km to the north-west of the Karżcino WF and approx. 19.5 km to the north-west of the Wrzeście-Kępno WF;
   - "Jezioro Wicko i Modelskie Wydmy" PLH320068, approx. 19.1 km to the west of the Karżcino WF;
   - "Bagna Izbickie" PLH220001, approx. 19.8 km to the north-east of the Wrzeście-Kępno WF.

Przystawy, Bartolino and Sulechówko subprojects

The WTGs, all located in Malechowo commune, will be divided in the following subgroups:

- The Przystawy subproject will be located to the south-west of the Przystawy village, nearby the border between Darłowo and Malechowo communes (7 WTGs) ;
- The Bartolino subproject will be located to in the area delineated by the villages of Kusice and Krzekoszewo (6 WTGs) and to the south of Krzekoszewo village, nearby the border between Polanów and Malechowo communes (1 WTG);
- The Sulechówko subproject will be located to the north of the border between Polanów and Malechowo communes, in the area delineated by the villages of Sulechówko, Kukułczyn, Lejków, Lejkowo, Darstkowo, Borkowo, Sierakowo Sławieńskie and Krzekoszewo.

The overall area of these subprojects will be approximately 27.94 ha, including WTGs foundations, assembly yards, access roads and assembly roads along with existing commune and county roads intended for reconstruction.

The sites have a rural and agricultural character. The terrains are slightly hilly; their elevation in the north-western part varies some 25 m, with the surface altitude between 15 m and 40 m above sea level, while in the south-eastern part the elevation varies some 30 m with the surface altitude between 50 m and 80 m above sea level, in majority occupied by arable fields (corn, grains etc.), pastures, unused land, and in some extent by small forest complexes, located distant from the planned WTGs locations. There is a network of local, mainly dirt roads, surrounding the subproject's area. These are connected with the asphalt roads of a local character and by mean of these with a national road No. E28.

The three subprojects are not situated within borders of any nature and landscape protected areas, except of the high voltage underground power transmission cable lines, which will cross Natura 2000 site 'Dolina Wieprzy i Studnicy' PLH220038 over an approximate distance of 540 m, moreover it will be located along its border over an approximate distances of 50 m and 730 m.

Secondly, the medium voltage underground power transmission cable lines, will cross Natura 2000 site 'Dolina Bielawy' PLH320053 over an approximate distance of 90 m and 35 m.

The nearest nature protected areas, located up to 20 km distant from the wind farm's or underground cable lines' areas, are as follows:

1. National Park 'Słowiński Park Narodowy', approx. 40 km to the north-east of the nearest WTG location and approx. 18.4 km to the north-east from the planned 110 kV high voltage (HV) power transmission cable line;
2. Nature Reserves:
   - 'Słowińskie Błota', approx. 4.2 km to the north of the nearest WTG location and approx. 9.4 km to the west from the planned 110 kV HV power transmission cable line;
   - 'Sieciemińskie Rosiczki', approx. 6 km to the south-west of the nearest WTG location and approx. 9 km to the south-west from the planned 110 kV HV power transmission cable line;
   - 'Jodły Karnieszewickie', approx. 6.5 km to the north of the nearest WTG location and approx. 9.4 km to the west from the planned 110 kV HV power transmission cable line;
   - 'Janiewickie Bagno', approx. 9 km to the east of the nearest WTG location and approx. 8 km to the south-west from the planned 110 kV HV power transmission cable line;
   - 'Łazy', approx. 11.3 km to the west of the nearest WTG location and approx. 20 km to the west from the planned 110 kV HV power transmission cable line;
   - 'Wieleń', approx. 12 km to the south-east of the nearest WTG location and approx. 15 km to the south-east from the planned 110 kV HV power transmission cable line;
   - 'Sławieńskie Dęby', approx. 13 km to the north and north-east of the nearest WTG location and approx. 2 km to the west from the planned 110 kV HV power transmission cable line;
   - 'Bielica', approx. 15.7 km to the north of the nearest WTG location and approx. 20.4 km to the south-west from the planned 110 kV HV power transmission cable line;
   - 'Rezerwat na rzece Grabowej', approx. 16 km to the south-east of the nearest WTG location and approx. 19 km from the planned 110 kV HV power transmission cable line;
   - 'Jezioro Lubiatowskie im. Prof Wojciecha Górskiego', approx. 17 km to the south-west of the nearest WTG location and approx. 20 km to the south-west from the planned 110 kV HV power transmission cable line;
   - 'Zaleskie Bagna', approx. 30 km to the north-east of the nearest WTG location and approx. 6.6 km to the north-west from the planned 110 kV HV power transmission cable line;
   - 'Jezioro Modła', approx. 30 km to the north-east of the nearest WTG location and approx. 6.2 km to the north-west from the planned 110 kV HV power transmission cable line;
   - 'Buczyna nad Słupia', approx. 30 km to the north-east of the nearest WTG location and approx. 5.6 km to the north from the planned 110 kV HV power transmission cable line;
3. Landscape Park 'Park krajobrazowy Dolina Słupi', approx. 30 km to the east of the nearest WTG location and approx. 12.5 km to the south-east from the planned 110 kV HV power transmission cable line;
4. Landscape Protection Areas:
   - 'Koszaliński Park Nadmorski', approx. 7.4 km to the west and to the north-west of the nearest WTG location and approx. 12 km to the north-west from the planned 110 kV HV power transmission cable line;
   - 'Okolice Polanowa', approx. 11.7 km to the south-east of the nearest WTG location and approx. 14.5 km to the south-east from the planned 110 kV HV power transmission cable line;
   - 'Jezioro Łetowskie i okolice Kępic', approx. 14 km to the east of the nearest WTG location and approx. 12.5 km to the south-east from the planned 110 kV HV power transmission cable line;
   - 'Dolina Radwi (Mostowo-Zegrze)', approx. 17.7 km to the north-east of the nearest WTG location and approx. 5.6 km to the north from the planned 110 kV HV power transmission cable line;
   - 'Pas Pobrzeża na zachód od Ustki', approx. 20.5 km to the north of the nearest WTG location and approx. 6 km to the north from the planned 110 kV HV power transmission cable line;
   - 'Pas Pobrzeża na wschód od Ustki', approx. 40 km to the north-east of the nearest WTG location and approx. 8.2 km to the north-east from the planned 110 kV HV power transmission cable line;
5. Natura 2000 areas:
   - 'Przybrzeżne wody Bałtyku' PLB990002, approx. 10.5 km to the north of the nearest WTG location and approx. 9.3 km to the north from the planned 110 kV HV power transmission cable line;
   - 'Zatoka Pomorska' PLB990003, approx. 14.2 km to the west of the nearest WTG location and approx. 22.5 km to the north-west from the planned 110 kV HV power transmission cable line;
   - 'Dolina Słupi' PLB220002, approx. 30 km to the north-east of the nearest WTG location and approx. 12.8 km to the south-east from the planned 110 kV HV power transmission cable line;

- ‘Ostoja Słowińska’ PLB220003, approx. 40 km to the north-east of the nearest WTG location and approx. 18.5 km to the north-east from the planned 110 kV HV power transmission cable line;
- ‘Dolina Grabowej’ PLH320003, approx. 75 m to the east and north-east of the nearest WTG location and approx. 350 m to the east from the planned 110 kV HV power transmission cable line;
- ‘Dolina Bielawy’ PLH320053, approx. 350 m to the west of the nearest WTG location and the planned MV power transmission cable line is crossing that area;
- ‘Słowińskie Błoto’ PLH320016, approx. 4.9 km to the north-west of the nearest WTG location and approx. 9.2 km to the west from the planned 110 kV HV power transmission cable line;
- ‘Jezioro Bukowno’ PLH320041, approx. 7.2 km to the north-west of the nearest WTG location and approx. 16 km to the north-west from the planned 110 kV HV power transmission cable line;
- ‘Janiewickie Bagno’ PLH320041, approx. 8.6 km to the east of the nearest WTG location and approx. 7.9 km to the south-east from the planned 110 kV HV power transmission cable line;
- ‘Dolina Wieprzy i Studnicy’ PLH220038, approx. 10.3 km to the north of the nearest WTG location and approx. 13 km to the east and north-east from the planned 110 kV HV power transmission cable line;
- ‘Jezioro Kopań’ PLH320059, approx. 16.2 km to the north of the nearest WTG location and approx. 15 km to the north-west from the planned 110 kV HV power transmission cable line;
- ‘Mechowisko Manowo’ PLH320057, approx. 19 km to the south-west of the nearest WTG location and approx. 21 km to the south-west from the planned 110 kV HV power transmission cable line;
- ‘Bukowy Las Górki’ PLH320062, approx. 20 km to the west of the nearest WTG location and approx. 25 km to the west from the planned 110 kV HV power transmission cable line;
- ‘Przymorskie Błota’ PLH220024, approx. 30 km to the north-east of the nearest WTG location and approx. 5 km to the north from the planned 110 kV HV power transmission cable line;
- ‘Klify Poddębskie’ PLH220100, approx. 40 km to the north-east of the nearest WTG location and approx. 9.8 km to the north-east from the planned 110 kV HV power transmission cable line;
- ‘Ostoja Słowińska’ PLH220023, approx. 40 km to the north-east of the nearest WTG location and approx. 18.5 km to the north-east from the planned 110 kV HV power transmission cable line;
- ‘Dolina Łupawy’ PLH220036, approx. 40 km to the north-east of the nearest WTG location and approx. 19.3 km to the north-east from the planned 110 kV HV power transmission cable line;

6. Ecological lands are located approx. 100 m from the nearest WTG location;
7. Nature monuments are located approx. 450 m from the nearest WTG location, in the village of Sulechówko, within the cemetery’s area.

The map presented below shows location of abovementioned wind farms (Głuszynko-Grapice, Bięcino, Wrzeście-Kępno, Karżcino, Przystawy, Bartolino, Sulechówko) and nature protection areas.

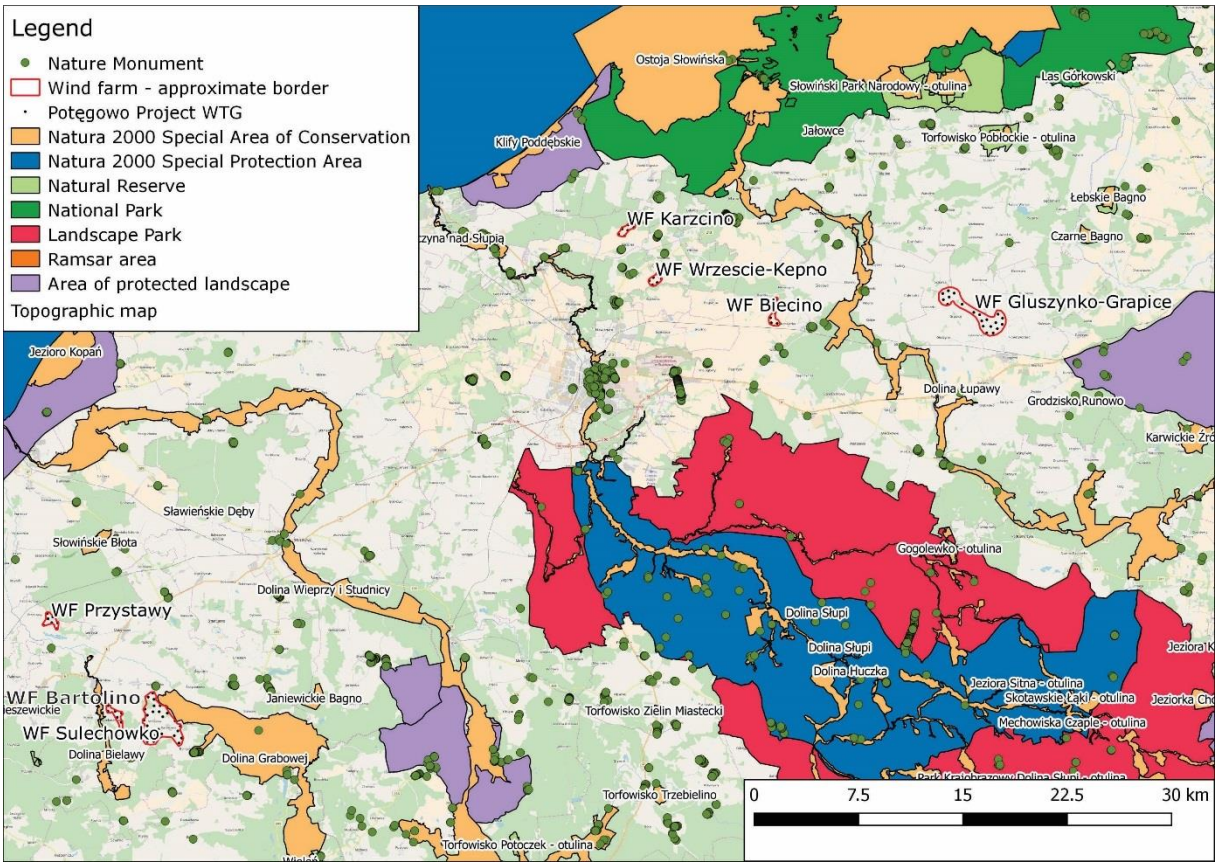

Figure 9 Map of nature protection areas and locations of planed wind farms

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 or will need to take place. The land for the subprojects purposes was achieved 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 WTG annually);
- increase of the annual income of land leasers for each;
- improvement of the local communication routes;
- creation of working places on local labor 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 Potęgowo WF due to increased 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 Company will implement measures to compensation 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 Company representative assisted by the land owner. Then the range of damages and a compensation level will be evaluated by the expert (appraiser). Agreed compensation will be paid to the victim.

What impacts during construction will occur?

The main impacts of the projects associated with the wind farm development relate to earth works (primarily during setting of foundations for the towers), construction works and increased transport traffic and include intrusion and disturbance within soils strata, temporary change of groundwater level (when groundwater draining is required during the construction), increased noise and vibration.

The Company is going to implement the best practice to limit the nuisance of the construction works. To limit the impact the investor is going to apply such measures as:

- to use construction equipment complying with noise and exhaust fumes abatement levels while excavating for foundations and building provisional access roads;
- to plan transport routes for cars and heavy machinery in such way that local citizens are least disrupted; in addition, to reduce noise emissions during the investment delivery stage, construction works which could cause excessive noise emissions should be reserved for daytime and organized in such a manner to reduce the noise-related nuisance to a minimum;
- to provide protection of trees within the access roads construction site with protective bands which should be removed immediately upon completion of construction works;
- to prevent contamination of construction site with polluting substances, e.g. by well-sealed fuel distribution to equipment and vehicles operated during construction and maintenance;
- to conduct waste management in line with the provisions of Waste Act and local commune regulations.

What will be the impacts during operation?

Completed investigations and public consultations conducted primarily as part of the environmental impact assessments procedure identified that main environmental impacts associated with the operation of the wind farm refer to increased noise levels, change in the landscape and influence on avifauna and bats. Apart from the individual EIAs for the subprojects also a cumulative impact assessment has been completed for the Project as a whole. This assessment takes into account also other wind farms in the vicinity of the Project subprojects in order to get a clear picture of the cumulative effect. Below we present the general conclusions of the assessment.

Noise

Operation of a WTG causes noise generation as a result of wind interfering with the tower and particular with the blades as well as by equipment installed in the WTG, such as gear, transformer etc. The noise impact is considered as one of the most obvious impacts generated by the wind farms.

In order to predict an impact on the acoustic climate the noise dispersion analyses have been completed. The purpose of such analyses was to assess, whether any acoustically protected areas, such as homestead housing, are in risk of noise impact exceeding the binding environmental quality standards. It should be noted here, that the acoustic model commonly used in the EU and used for the analysis predicts the worst case scenario and the noise levels observed at various existing wind farms are below the predicted levels.

In order to assess the noise impact generated be all windfarm subprojects, but taking also into account impact already generated by existing wind farms a comprehensive noise modeling was undertaken as part of the Cumulative Impact Assessment. For the purpose of the assessment data on 3rd party wind farms located within 10 km distance from the subprojects was collected and analyzed. Given the noise propagation properties, noise generated by wind turbines distant more than 2 km shall not overlap. Among the identified 3rd party wind farms only one was found to be located within this distance, approximately 800 m away from the Głuszynko-Grapice subproject. The noise modeling results indicate that if the noise level emitted by the wind

turbines does not exceed the levels imposed by the environmental decisions and supplementary environmental impact assessment for the Karżcino and Wrzeście-Kępno subproject, then the environmental standards (40 or 45 dB at night) will not be exceeded at any point in the villages located in the proximity of the Project. The modern turbines which will be installed at the sites have capability to work with reduced acoustic power, hence, the noise reduction to a necessary level is technically possible. Further, during operation of all wind farms of the Project will pass noise measurements and the necessary measures to secure acceptable noise level in the villages will be adopted.

Visualization of the cumulative noise impact is presented on the below maps:

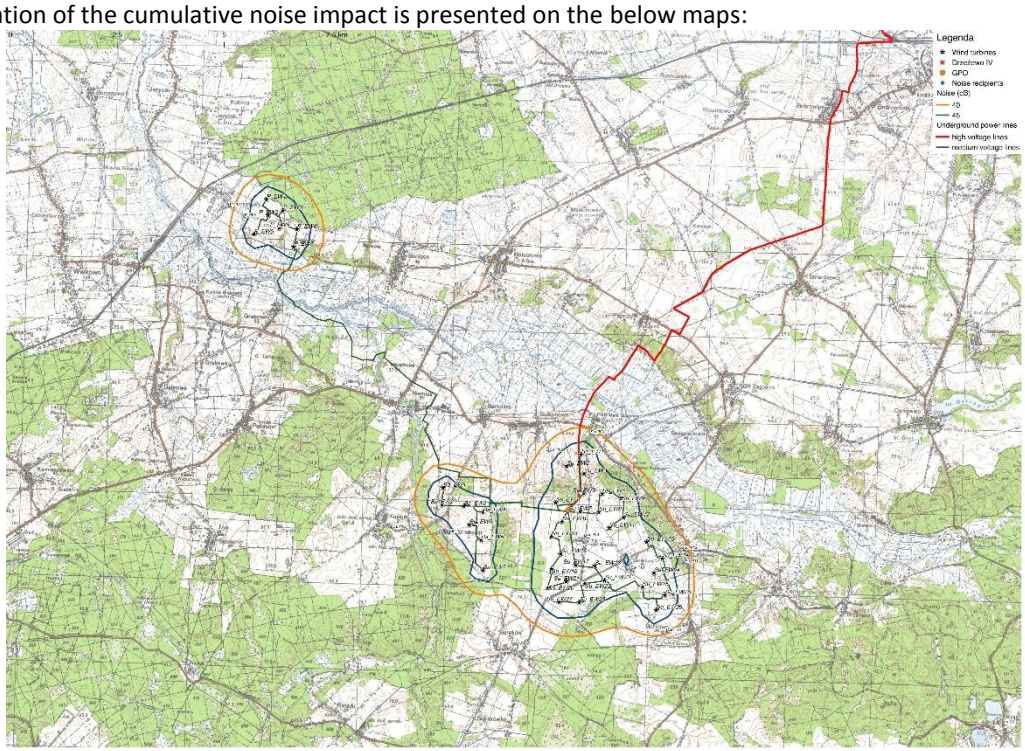

Figure 10 Cumulative noise impact map for the Bartolino, Sulechówko and Przystawy subprojects - daytime

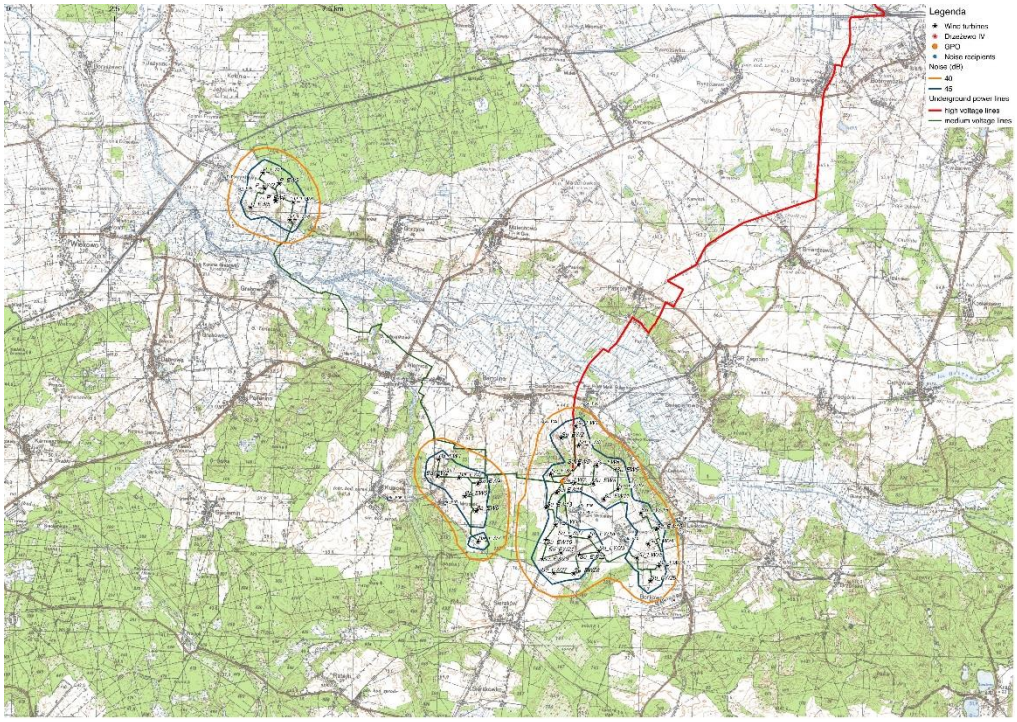

Figure 11 Cumulative noise impact map for the Bartolino, Sulechówko and Przystawy subprojects - nighttime

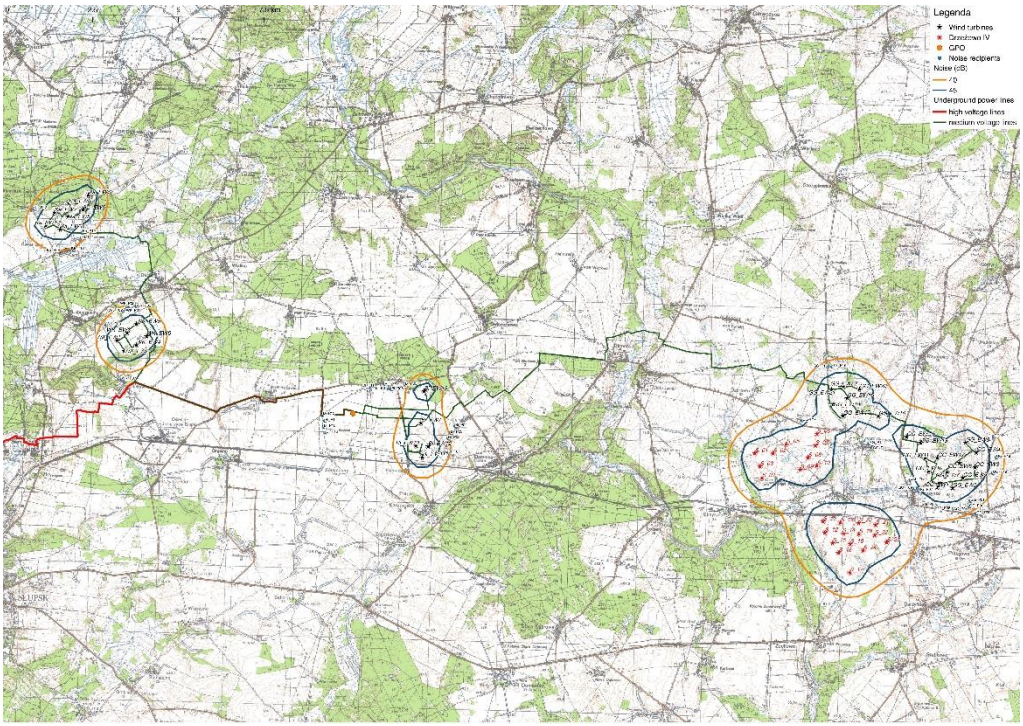

Figure 12 Cumulative noise impact map for the Karżcino, Wrzeście-Kępno, Bięcino and Głuszynko-Grapice subprojects - daytime

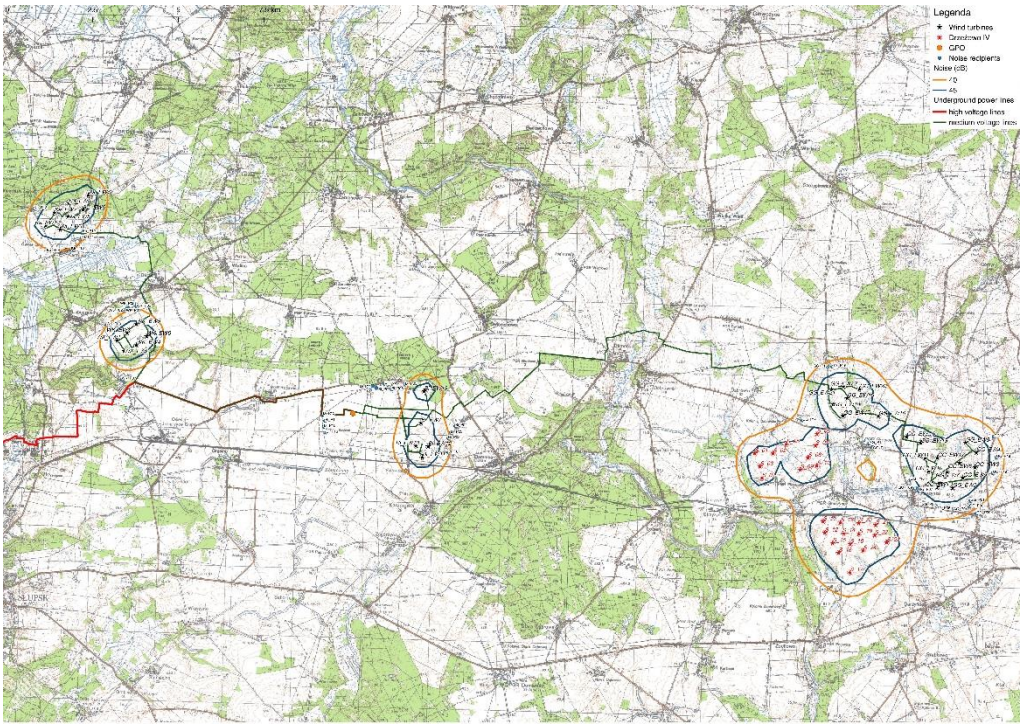

Figure 13 Cumulative noise impact map for the Karżcino, Wrzeście-Kępno, Bięcino and Głuszynko-Grapice subprojects - nightime

Birds and bats

The location of the Potęgowo Wind Farm may create a possible threat to birds and bats. Nevertheless, it should be pointed that number of observations and reports on active wind farms and its impact on birds' populations

indicates that birds avoid collisions with wind farms. The number of deaths within birds resulting from collisions with wind turbines is significantly smaller than those caused by collisions with e.g. cars, power lines and houses.

To recognize the local birds' populations and undertake applicable measures during the planning stage the investor has conducted a number of ornithological observations on the area of the planned wind farms. These were conducted by qualified ornithologists in line with the guidelines recommended, among others, by the Polish Wind Energy Association and OTOP[1]. The scope of the assessment was later assessed as adequate for the subject areas by the Competent Authority and RDOS (Regional Environmental Agency). Accuracy, quality and compliance with the national and international guidelines were also positively assessed by an independent ornithologist of Ramboll Environ.

According to the EIA reports the planned investments should not create a significant negative impact on birds present in the area covered by the monitoring campaign. The ornithological monitoring was conducted between September 2009 and September 2010 at the Karżcino WF and Wrzeście-Kępno WF areas, for Głuszynko- Grapice WF was conducted between September 2009 and August 2010, in Bięcino WF from the beginning of May 2009 to the end of April 2010, for Bartolino, Przystawy and Sulechówko WFs from the beginning of March 2009 to the end of February 2010. From the pre investment monitoring results point of view the identified avifauna was represented mainly by small birds with insignificant records of rare and infrequent species. The areas included in this project have not been identified as valuable or of special interest concerning wildlife and nature protection needs.

Collisions of birds with the new objects 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. Since the wind farms are not on a migration routes and are not an important breeding ground for protected species, it is therefore expected that collisions may only occur incidentally and will not have a significant effect on the populations. The overall Potęgowo Project's impact on birds is assessed as low to medium.

A cumulative impact assessment completed by Ramboll Environ included also assessment of the impact on birds. Apart from the planned Potęgowo Project wind farms, also existing and far advanced in development 3rd parties wind farms distant no more than 10 km from the Potęgowo subprojects were taken into account. The cumulative impact on birds of a few windfarms, located close to each other, may occur mainly due to inappropriate location of wind turbines, e.g. at the sites used by birds as valuable breeding areas, nesting areas or, on the major migration routes. In case of the Project and nearby 3rd party windfarms such circumstances do not occur: neither the sites nor their surroundings are important or potentially important breeding or nesting areas nor the wind farms are located on the birds migration routes (these were confirmed by the pre-construction monitoring programs). Hence, the cumulative adverse impact on birds is not expected to occur.

There were also bats observations within the area of each WF, which, according to each of the subproject's EIA's, were performed between September 2009 and August 2010 at the Karżcino WF and Wrzeście-Kępno WF areas, for Głuszynko- Grapice WF was conducted between beginning of September 2009 to the beginning of September 2010, in Bięcino WF from the beginning of June 2009 to the end of May 2010, for Bartolino, Przystawy and Sulechówko WFs in the begging of March 2009. This monitoring was undertaken in accordance with the national guidelines[2], compliant with these issued by EUROBATS, and was positively approved by the competent authorities and then by an independent bat expert of Ramboll Environ.

During bats monitoring, only limited number of bats were detected at the sites. None of identified bat species is classified as rare nor listed in the Annex II to the Habitats Directive or Polish Red Data Book. Taking into account the status of protection, all these are included in a group with low risk of quantity change and therefore with no needs of undertaking significant conservations measures. As indicated by the bats monitoring reports, the planned investment will not significantly influence the population of bats occurring in the region of Potęgowo Wind Farm project.

1 Wytyczne w zakresie oddziaływania farm wiatrowych na ptaki. Chylarecki, Pasławska. Szczecin 2008. (in Polish)
2 Tymczasowe wytyczne dotyczące oceny oddziaływania elektrowni wiatrowych na nietoperze. 2009. (in Polish)

In line with EUROBATS guidelines the identified species of bats belong to a group of high risk of collision with wind turbines. However taking into account the spatial distribution of wind turbines and areas where bats were observed it can be concluded that the risk may be significantly reduced by moving the turbines from forested areas and borders of residential areas – as it has been adopted by the Project.

Taking into account the characteristics of the investment, results of birds and bats monitoring as well as location of the sites versus valuable nature areas, it can be concluded that the Project will have no negative impact on the species and habitats protected under 'Natura 2000'.

Similar as for birds assessment on cumulative impact on bats was conducted by Ramboll Environ. Based on the assessment results, existence of the groups of wind turbines should not result with a barrier effect or destruction of the breeding sites. Such types of impacts are related to individual wind turbines rather than the wind farms, hence, the cumulative effect is a set of impacts generated by each, individual wind turbine but do not generate any additional impact of the entire group of wind turbines (at least such effect is not known or described in the literature, as it is of birds). Based on the monitoring results, the Project sites are not located at the important bats migration routes a cumulative impact on migrating birds is not expected to occur. The impact on breeding bats has been already assessed as low and potential adverse impact is reduced by proper location of the individual wind turbines, sufficiently distant from water bodies, forests and linear element of the landscape preferred by both breeding and migrating bats.

Visual impacts

The visual aspects of the planned wind farm were described in the individual EIA reports and cumulative impact assessment report and no negative impacts were identified. 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 always subjective and depends on the individual approach. It may be assumed that the subproject will gain supporters and critics taking into account the influence on the landscape.

The picture below presents exemplary visualization of the wind farm.

Figure 14 View on the Głuszynko-Grapice WF from the outskirts of Nieckowo Village

The landscape impact is not permanent, given the expected "lifetime of the product" i.e. 25-30 years, when decommissioning should be undertaken.

The WFs development apart from the stable visually intrusive change will create, so called shadow flicker, caused by rotating turbine blades. This may affect residents living in a close proximity to the rotating shadow sources. It should be noted, that this effect has not been proved as directly harmful to human health, however, may be

disruptive to the recipient and cause unpleasant effects such as irritability or headaches. The shadow flicker effect is not formally regulated in the European countries, however, some guidelines exist in Germany, the Netherlands or the UK. These guidelines recommend that shadow flicker should not occur longer than 30 minutes per day or 30 hours per year. Within the Cumulative Impact Assessment a shadow flicker study was undertaken for the same wind farms as for the noise modeling. The assessment results indicate that seven dwellings may be in risk of the shadow flicker impact generated by the wind turbines belonging to the Project. Winergy will monitor occurrence of shadow flicker in these locations and if the actual data confirm duration of the shadow flicker exceeding the recommended time will propose appropriate mitigation or compensation measures.

The results of the shadow flicker modeling are presented on the below maps.

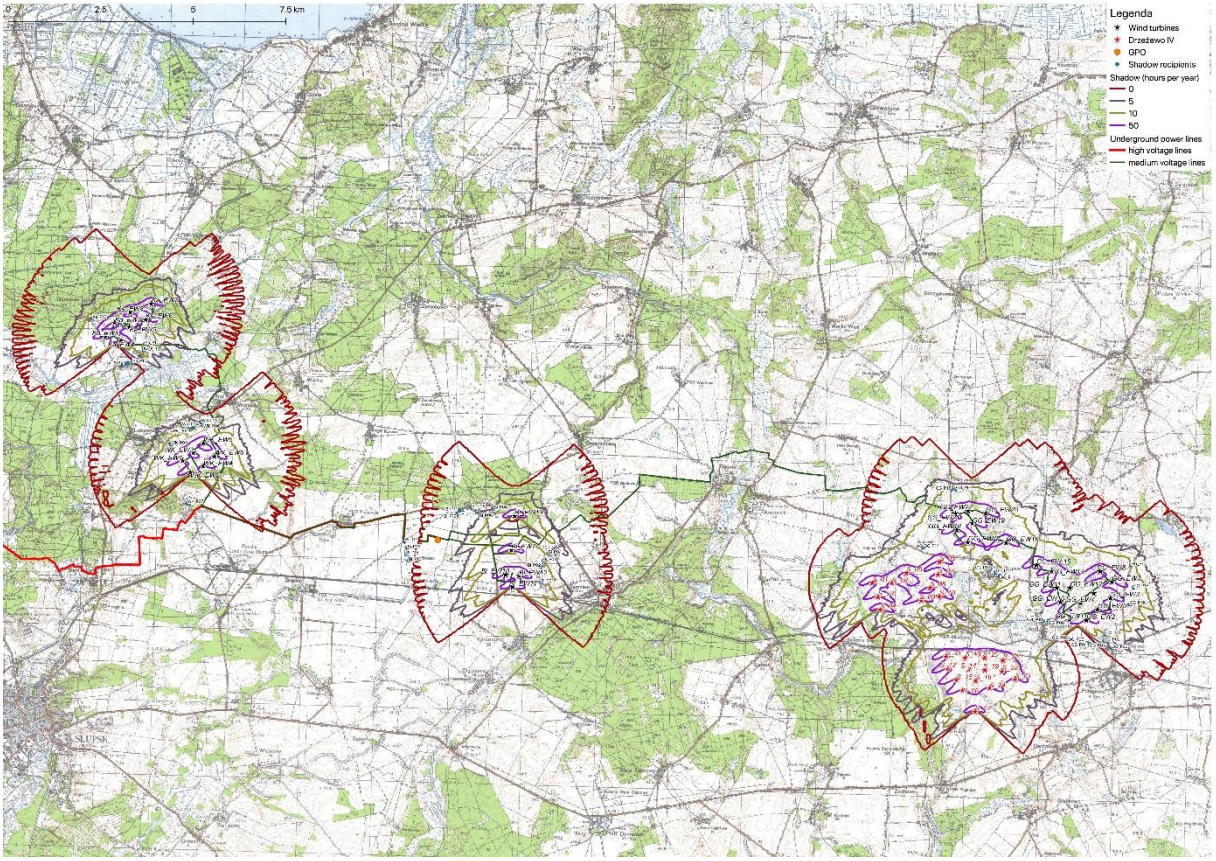

Figure 15 Cumulative shadow flicker effect impact map for the Karżcino, Wrzeście-Kępno, Bięcino and Głuszynko-Grapice subprojects

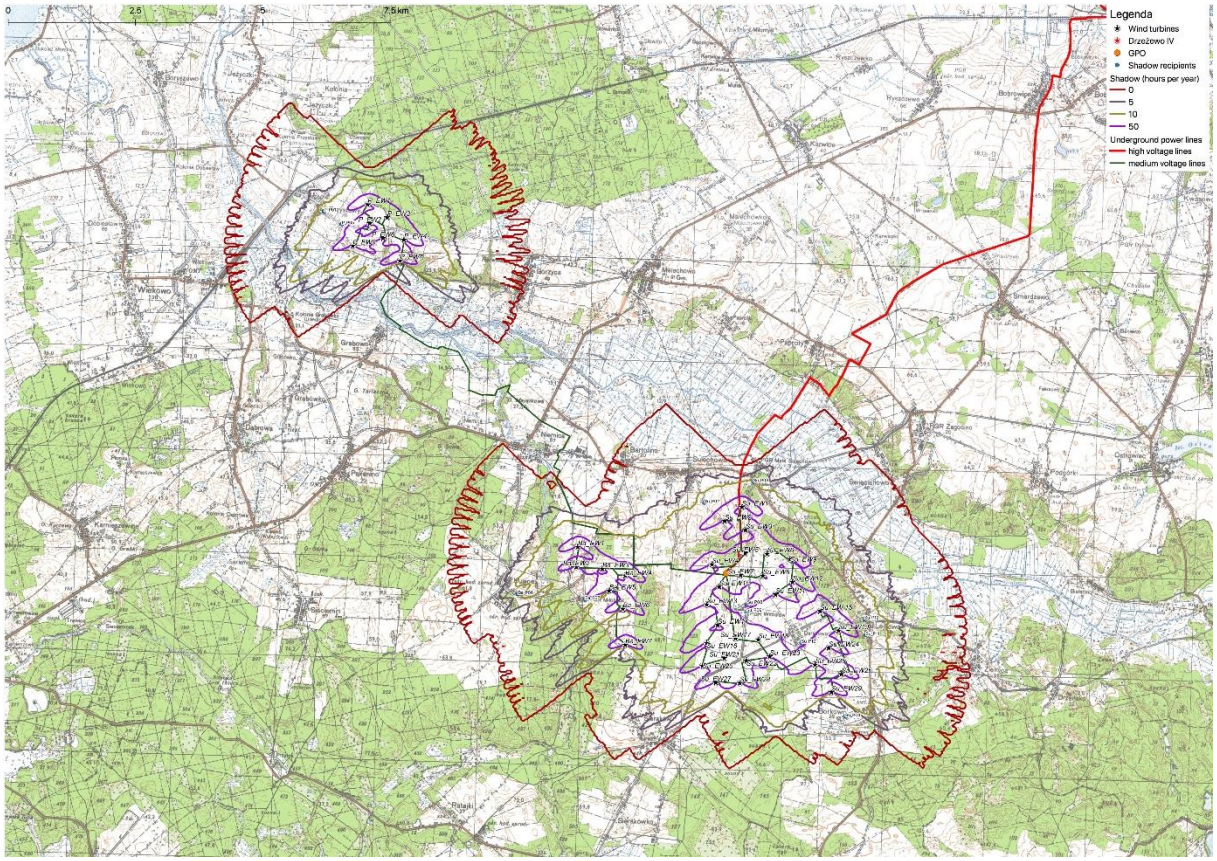

Figure 16 Cumulative shadow flicker effect impact map for the subprojects Bartolino, Sulechówko and Przystawy

Electric and magnetic fields

The electric and magnetic fields are generated by the following elements of the wind farms' infrastructure:

- Electrical equipment placed in the WTGs
  The electrical equipment in modern WTGs is placed in the nacelle on top of the tower. The wind energy after transformation first to mechanical energy is then transformed to low voltage (about 400 V) electrical energy. Prior transmission off the WTG the low voltage energy is transformed to medium voltage (30 kV) in a transformer. Due to the location of the internal WTG transformer high above the ground, the level of the generated electromagnetic field at the ground level (at a height of approximately 1.8 m) can be generally omitted. The situation is similar in the case of the designed devices equipped with generators with relatively low power. Besides the fact that they will be located at high altitudes, they will also be encapsulated within the metallic conductor surrounded by a nacelle, which in turn causes the WTG will not affect the electromagnetic climate.
- Medium voltage underground power transmission lines
  In accordance with the applicable standards, all cables will be placed in trenches with a depth of at least 1 m and a width of about 1 m. Medium voltage cable networks generate an electromagnetic field which level is low enough that it does not threaten the environment.
- Main transforming stations (MTS)
  In case of modern MTS, the radiation of the electric and magnetic fields does not occur in practice. The MTS is considered to be a part of the project. Based on the information included in the EIA report and according to the already existing similar experiences, it is assumed that the maximum intensity of the electromagnetic fields should not exceed 10kV/m (in the areas available for personnel). Moreover, the electromagnetic force will not exceed the permissible value of 60 A / m (at maximum load). The area of GPO will not be available for public.

Measure aiming at limitation of the impacts

The main measure which may be used to prevent significant environmental impact of a wind farm is a good choice of the location. Thus, during the project preparation a number of possibilities of different locations of wind turbines have been analyzed. Preparation of the variants of the investment, apart from technological and economic issues such as winds characteristics and costs of land lease and use, have taken into account the following issues, important from the perspective of environmental protection:

- existing state and way of land development and use of areas, which includes distribution of residential housing, forests, farming land,
- mutual impact on individual objects on each other, including also possible adding up of sound waves,
- necessity of protecting the objects of residential housing against noise,
- location from the perspective of birds and bats protection.

The second aspect of choice, very important from the point of view of environmental protection, was the choice of a producer and a supplier of equipment. The company decided to install WTGs manufactured by the leading international company, General Electric.

Works consisting of placement of WTGs and successive preparation of variants of individual WTGs' location took several months. After many analyses of the preliminary lay-out of wind turbines, considering noise restrictions, avifauna protection, soil's characteristic, adjustment to lay-out have been implemented. In summary it may be stated, the layout of wind turbines has been planned in that way to achieve the following goals:

- not to exceed the binding environmental noise quality standards, set in Executive Order of the Ministry of Environment;
- to be located out of birds migration routes, birds concentrations, feeding or nesting areas;
- to be located out of valuable plants habitats, wetlands or forest areas;
- to be located out of nature and landscape protected areas;
- not to disturb the continuity of ecological corridors.

Will the impacts of the Project be controlled?

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 described below.

Noise

As the noise modeling gives an approximation of the actual noise distribution only, the Company will undertake a noise measurements at all subprojects in a short period after the subprojects are operational. The noise measurements will be conducted by an independent company, in line with the national measurements requirements, at all acoustically protected areas around the wind farms. Should any exceedances of the noise standards are observed, the Company will work out (with relevant authorities) and then implement a noise impact mitigation plans to secure that the noise standards are not exceeded.

Shadow flicker

Although not legally regulated the shadow flicker effect will be voluntarily monitored by Winergy. If excessive nuisance of this effect is observed, the company will develop and implement a mitigation or compensation measures to limit duration of the flickering below 30 hours per year, as recommended by some of the European guidelines.

Birds

Birds monitoring has been required by the local authorities and will be executed in 1st, 3rd and 5th year of the wind farm operations. The scope of monitoring programs will be, as far as possible, in line with the pre-investment onesand the national guidelines[1] 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 worked out and implemented. The mitigation measures may include direct technical measures, such as e.g. birds deter 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.

Bats

Bats monitoring has been also requested by the authorities to be conducted in 1st, 2nd and 3rd year 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 search for bats fatalities as a result of collisions with WTGs. Following the guidelines at least 25 controls will be conducted at every site during a single monitoring campaign. 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 will be developed and implemented.

Overall Project performance

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 labor 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.

Is additional information available?

The whole Project disclosure package is available for review at the Project website www.winergy.pl and at the Company HQ in Warsaw (ul. Twarda 18, 24 floor, 00-105 Warsaw).

The table below lists available locations where the disclosure package will be available for the review:

No.	Contact Points	Address	Contact Person
1	Malechowo commune	Urząd Gminy Malechowo Malechowo 22A 76-142 Malechowo	Mayor Radosław Nowakowski
2	Słupsk commune	Urząd Gminy w Słupsku ul. Sportowa 34 76-200 Słupsk	Mayor Barbara Dykier
3	Damnica commune	Urząd Gminy Damnica ul. Górna 1 76-231 Damnica	Mayor Grzegorz Jaworski
4	Potęgowo commune	Urząd Gminy Potęgowo ul. Kościuszki 5 76-230 Potęgowo	Mayor Dawid Litwin
5	Winergy local	ul. Twarda 18, 24 floor, 00-105 Warsaw	Grzegorz Borowiecki
6	Winergy site	www.winergy.pl	Grzegorz Borowiecki

All requests for additional information related to the Potęgowo Wind Farm can be also addressed to the Project Manager :

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Tel: +48 695 666 516
Email: grzegorz.borowiecki@winergy.pl