Darłowo Wind Farm
Phase IIIA & IIIB, Poland

Non-Technical Summary

April 2014

Pekanino Wind Invest and Gorzyca Wind Invest

Invenergy

Enerco

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Issue and revision record

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Contents

1 Introduction

1.1 Overview

Pękanino Wind Invest Sp. z o.o. and Gorzyca Wind Invest Sp. z o.o. [1] (collectively referred to as the Project Company) are currently sponsoring the phase IIIA and phase IIIB (both referred to as the Project) of the Darłowo Wind Farm Energy Centre (DEC).

The document is presented as a non-technical summary (NTS), which provides a summary of the Project and describes the benefits and the mitigation of any potentially adverse environmental and social impacts. It has been based on the original environmental studies and Environmental Impact Assessments (EIAs) undertaken from 2007 to 2013 with additional work undertaken by an independent consultant to verify the data and findings of the EIA and to support developing additional best practice mitigation measures for the Project.

The DEC is approximately a 250MW multi-stage wind energy project in advanced development, located in the district of Sławno, near the Baltic Sea and close to the town of Darłowo, approximately 22 kilometres (km) northeast of Koszalin in northwestern Poland ("Darłowo") and between five and 16km from the Baltic Sea.

The development of the DEC has been carried out in three different main phases:

- Phase I, with a total capacity of 80MW;
- Phase II, with a total capacity of 97.5MW;
- Phase III with a total capacity of 74MW.

The construction of the Phase I and the necessary transmission facilities were completed in February 2012 with full commercial operations being achieved in March 2012. Phase II was developed and financed following the completion of Phase I, allowing the construction works to begin in March 2012 and to be completed in April 2013.

Phase III consists of two different sectors, named Phase IIIA and Phase IIIB.

Phase IIIA consists of 16 wind turbine generators (wind turbines) with a total capacity of 24MW and it is entirely developed within the Darłowo municipality jurisdiction. This sector is currently under operation. Its construction commenced in July 2013 and was completed in March 2014.

Phase IIIB consists of 20 wind turbines with a total capacity of 50MW and will be located within the municipalities of Darłowo and Malechowo. As of April 2014, this sector is currently receiving the relevant environmental authorisations and construction is expected to start from July 2014.

Phase IIIB will be developed in three different clusters:

- Wiekowo cluster, consisting of 6 wind turbines of 2.5 MW with a total capacity of 15MW;

[1] Pękanino Wind Invest Sp. z o.o. and Gorzyca Wind Invest Sp. z o.o. are single corporate entities formed by Invenergy Poland Darłowo Holdings (Invenergy) and Enerco (collectively referred to as the Sponsor).

- Gorzyca cluster, consisting of 9 wind turbines of 2.5 MW with a total capacity of 22.5MW;
- Pękanino cluster, consisting of 5 wind turbines of 2.5MW with a total capacity of 12.5 MW.

A new transmission line and substation is not required for Phase III, as the co-owned facilities of DEC, the Jeżyczki 30/110 kV substation (Jeżyczki substation) and the 110 kV transmission line, will be used for grid connection to the existing Dunowo 110/220/400 kV substation (Dunowo substation).

The Project will be developed via a multi-contract arrangement whereby the Project Company intends to use largely the same contractors involved in Phase I, Phase II and Phase IIIA. Civil balance of plant (BoP) works will be performed by MDI S.A (MDI). Total Wind PL Sp. z.o.o. (Total Wind) will be responsible for installation works at the Project site. Wind turbines commissioning services will be performed by GE II Poland and operation and maintenance (O&M) services will be performed by GE International S. A. during the first two years of operation. The Project Company will take over O&M responsibilities thereafter through Wind Services, an Enerco / Invenergy entity.

This Non-Technical Summary is being made available for public review on the Darłowo and Malechowo municipalities' website (www.ugDarłowo.pl and www.malechowo.pl respectively) and a dedicated Project webpage will be created and used to make available relevant Project information, including a Stakeholder Engagement Plan in Polish. The website will be updated on a regular basis. Anyone may submit comments on the NTS and the Project. Questions and comments can be addressed to Pękanino Wind Invest Sp. z.o.o. and Gorzyca Wind Invest Sp. z o.o. via the following contact details:

Name:	Izabela Wojciechowska
Address:	Gorzyca Wind Invest Sp. z o.o. Sińczycy 24, 76-150 Darłowo
Email:	windservice@windservice.eu
Telephone Numbers:	+48 (94) 314-33-22

2 Summary of the Project

2.1 Why is the Project needed?

Wind energy is a form of renewable energy which provides a more sustainable energy source than conventional methods such as coal and gas fired power stations. As well as providing a renewable source of energy, wind farms do not cause impact on air quality, water quality or generate greenhouse gas emissions.

There can be potential environmental impacts associated with wind farm, including impacts on birds and bats, noise, visual impact and shadow flicker. A number of environmental studies were prepared from to 2007 to 2013 in accordance with national requirements to assess the significance of impacts for the Project and where possible identify mitigation measures to reduce the effects. Environmental and social impacts identified for the Project are explained in section 3.

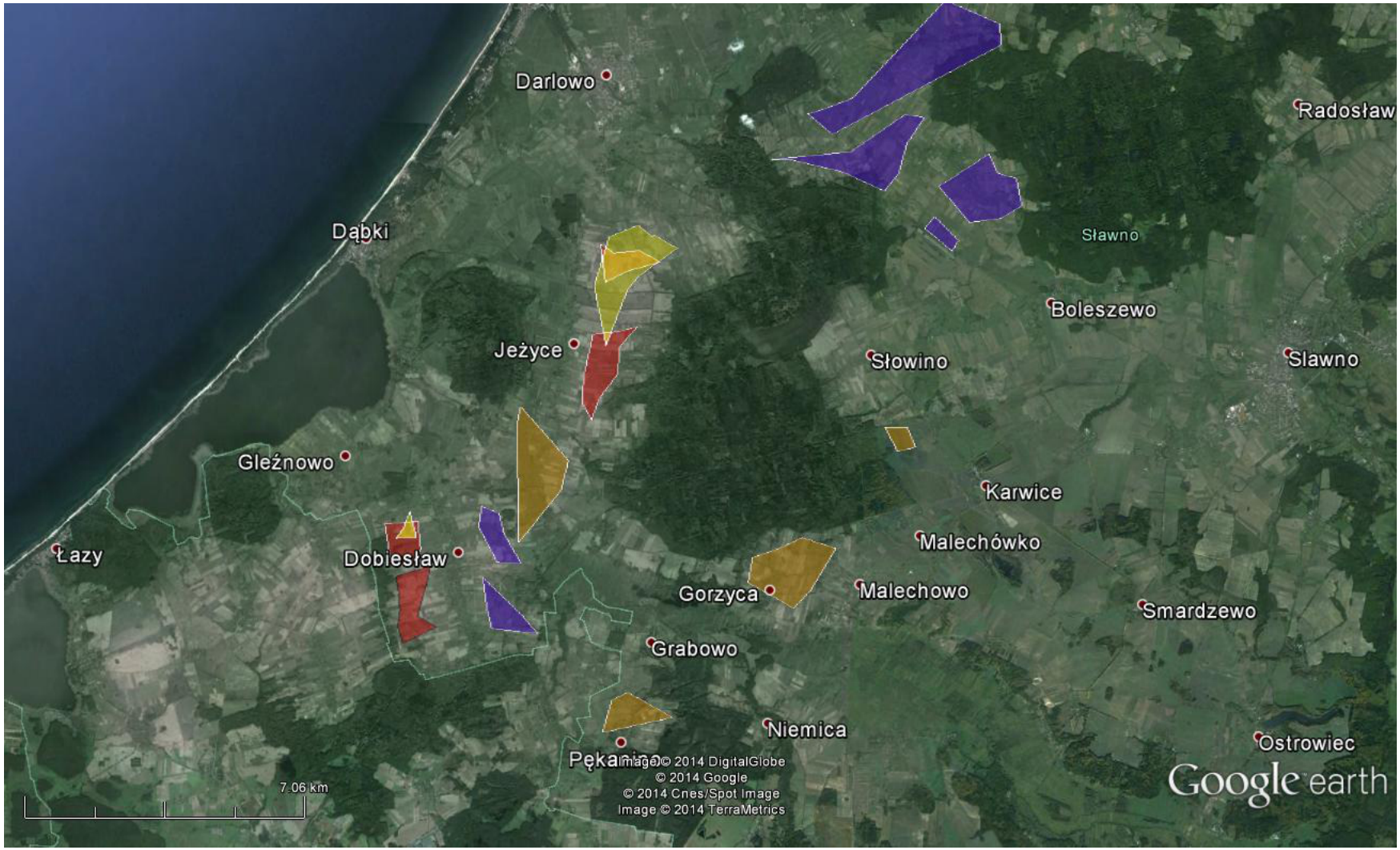
2.2 Where is the wind farm to be located?

The Project will be located in the Darłowo and Malechowo municipalities, around the villages of Porzecze, Wiekowice, Gorzyca, Dobieslaw and Boryszewo, within the Sławno County in the West Pomeranian Voivodeship. The closer wind turbine is located approximately 6km from the south coast of the Baltic Sea, in a flat area mainly dedicated to agriculture and grazing activities and consisting of open farm land with adjacent woodland areas and scattered dwellings and farms. The full project can be enclosed in a square area of approximately 13km. Figure 2.1 shows the project location in the national map, Figure 2.2 shows the whole DEC project, Figure 2.3 and Figure 2.4 presents the wind turbines location of phase IIIA and Phase IIIB respectively.

Figure 2.1: Site location - National

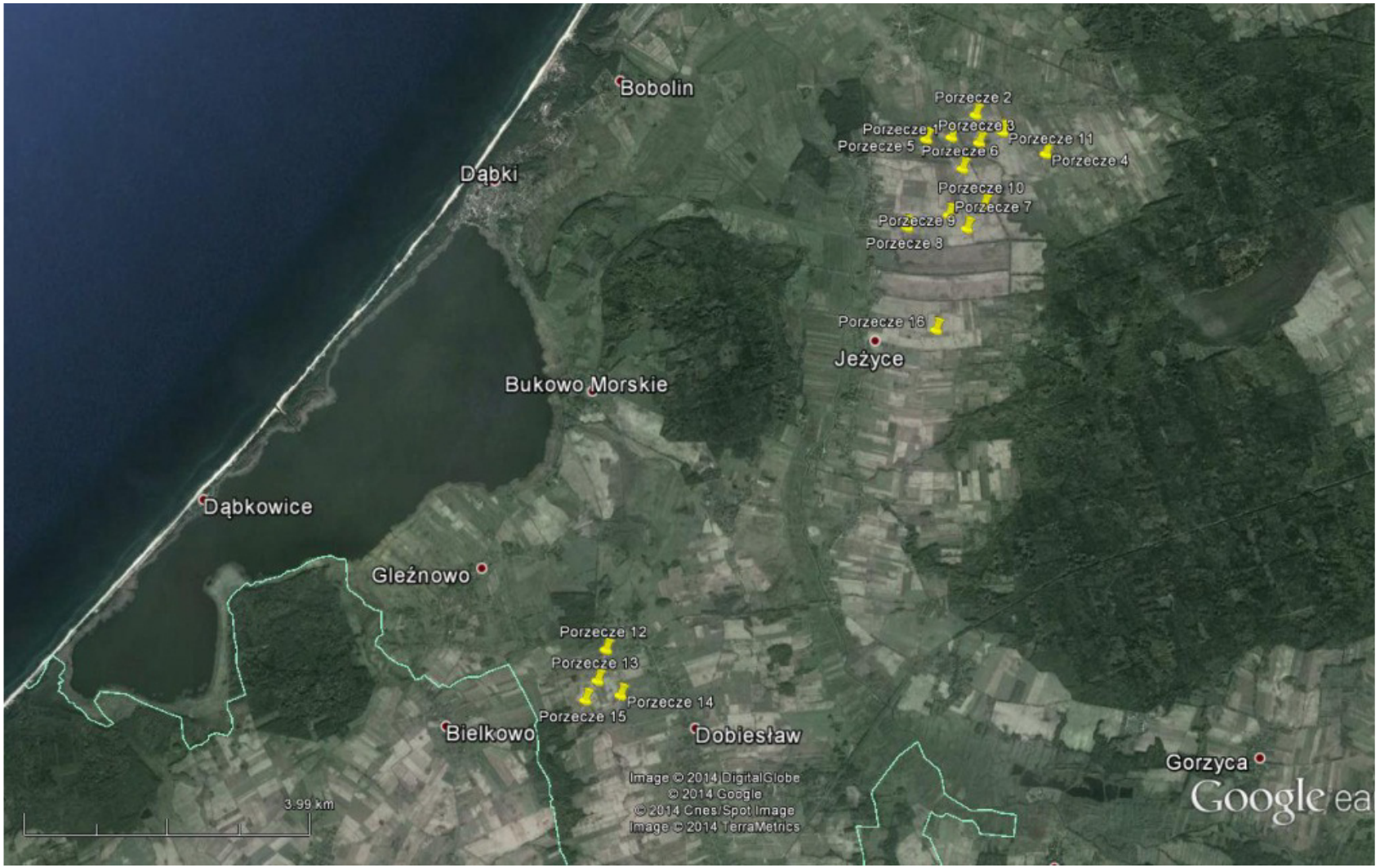
Source: Google Maps, retrieved April 2014

Figure 2.2: Darłowo DEC project location; Purple areas enclose Phase I; Red areas enclose Phase II; Yellow areas enclose Phase III-A; Orange areas enclose Phase III-B.



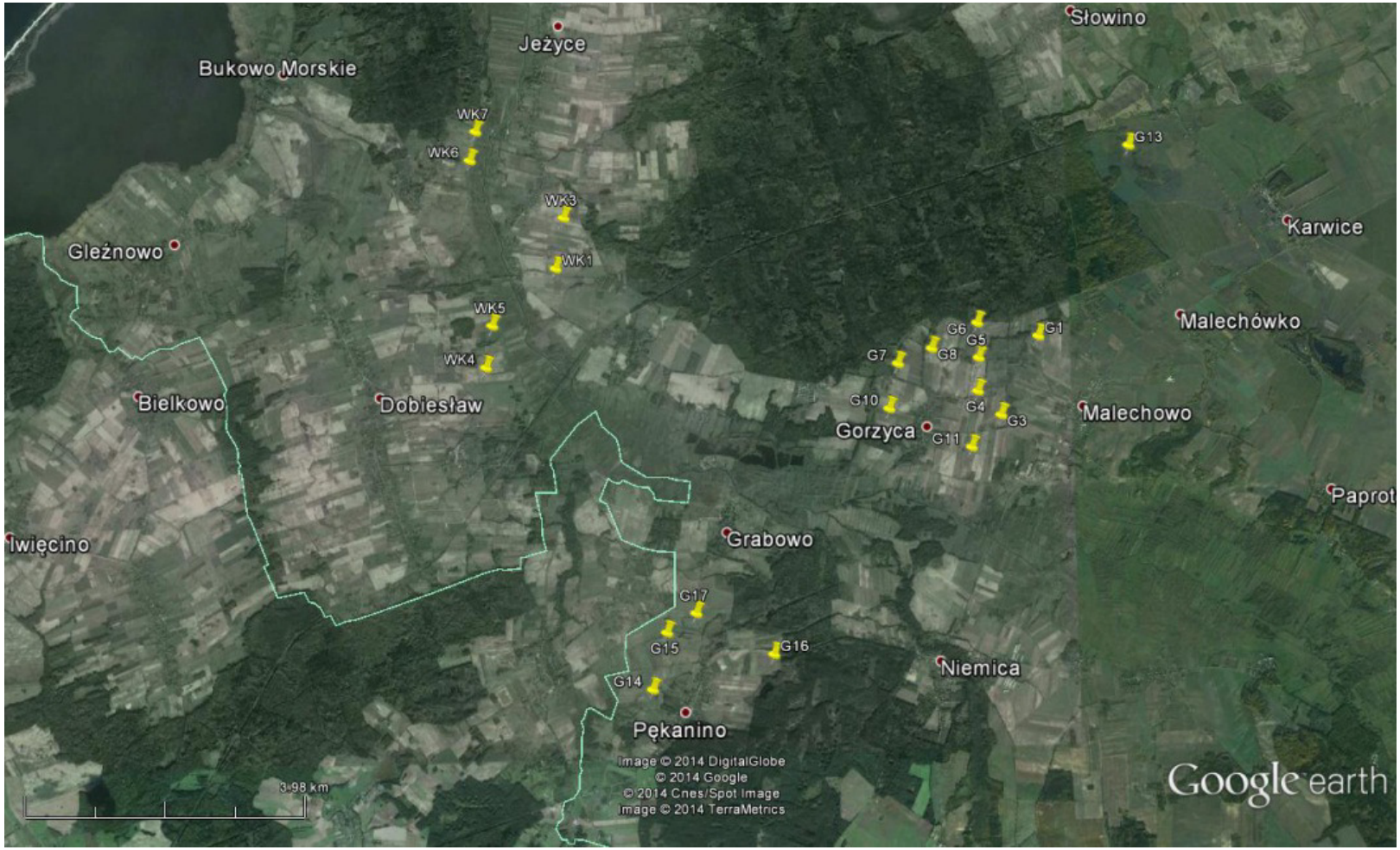
Source: Google Earth Pro used under licence

Figure 2.3: Site location – Phase IIIA



Source: Google Earth Pro used under licence

Figure 2.4: Site location – Phase IIIB



Source: Google Earth Pro used under licence

2.3 What alternatives were considered?

Through the permitting process, the competent authorities, mainly represented by the local municipalities, the West Regional Office and the Regional Directorate for Environmental Protection, evaluate whether the Project is compliant with requirements of the local master plan and against the site environmental conditions.

Within the context of the local master plans, the Project Company assessed which areas were available for the development of a wind farm and which site alternatives were suitable for the installation of each wind turbines, taking into account the local environment, where the nearest houses were, whether the Project would have an effect in combination with other existing infrastructure and whether the wind conditions were optimal in order to maximise the energy production.

The Project layout was modified and amended throughout the permitting process in order to ensure that the final design met the environmental national standards and minimises impacts on natural features, with special attention on the birds and bats, and on existing or planned buildings and households.

As a result of the permitting process, the initial project layout and the number of turbines was refined down from 21 turbines to 16 turbines for phase IIIA and from 23 turbines to 20 for Phase IIIB. The choice of wind turbine technology was also reviewed so that the most appropriate turbine could be installed.

2.4 What will the Project consist of?

The Project will consist of a total of 36 wind turbines arranged in two phases and consisting of:

- Phase IIIA – this phase includes 16 wind turbines model GE 1.5 SLE with a hub height of 80m and a rotor diameter of 82.5m;
- Phase IIIB – this phase includes four wind turbines model GE 2.5-100, with a hub height of 98.3m and a rotor diameter of 103m, and 16 GE 2.5-120 with a hub height of 120m and a rotor diameter of 120m;
- An underground electric collection system, which interconnects the wind turbines directly to the existing 30 kV/110kV Jeżyczki Substation.
- Access roads - whenever possible, the Project will make use of the existing access roads, which will be refurbished to grant access to heavy vehicles.
- Additional transformer of 75 MVA that will be built at existing Jeżyczki Substation

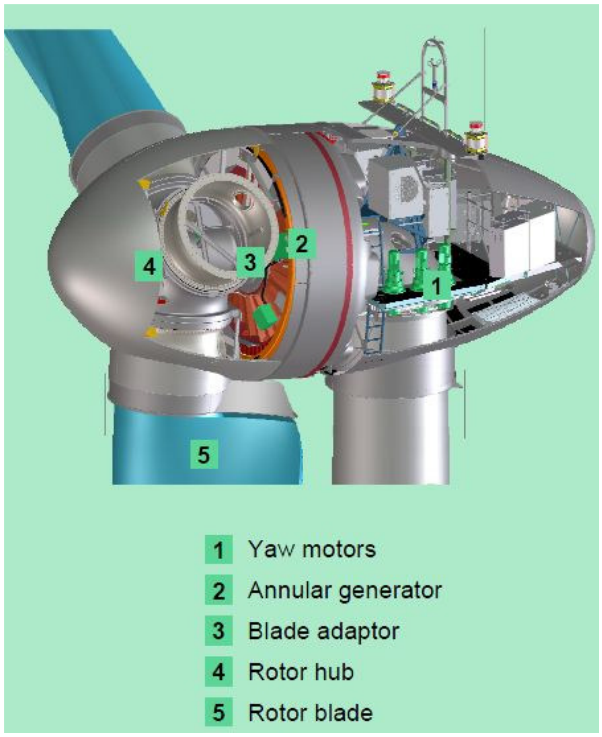
Wind turbines consist of a number of components. An example of wind turbine to be used at the Darłowo Phase IIIA and Phase IIIB wind farm is shown in Figure 2.5 and Figure 2.6. Rotor blades are attached to an axle that runs into a direct drive annual synchronous generator. From there the energy is inverted to

produce the electric power which is then send to the grid. View simulations on how the Project will impact the landscape were carried out in the environmental studies. An example is provided in Figure 2.7.

Figure 2.5: Example of a GE wind turbine to be installed at the Project

Source: Mott MacDonald

Figure 2.6: Parts of a wind turbine



Source: Europa.eu

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Figure 2.7: View simulation of Phase IIIB (Wiekowo cluster) from the road between the villages of Przystawy and Jeżyczki

Source: Environmental Impact Assessment - Wiekowo Wind Farm

2.5 What is the condition of the existing environment?

The site is located on a wide plateau characterised by alternating pasture land, intensive agriculture crops and some significant areas of mature forestry. The site is located adjacent to other wind farm developments.

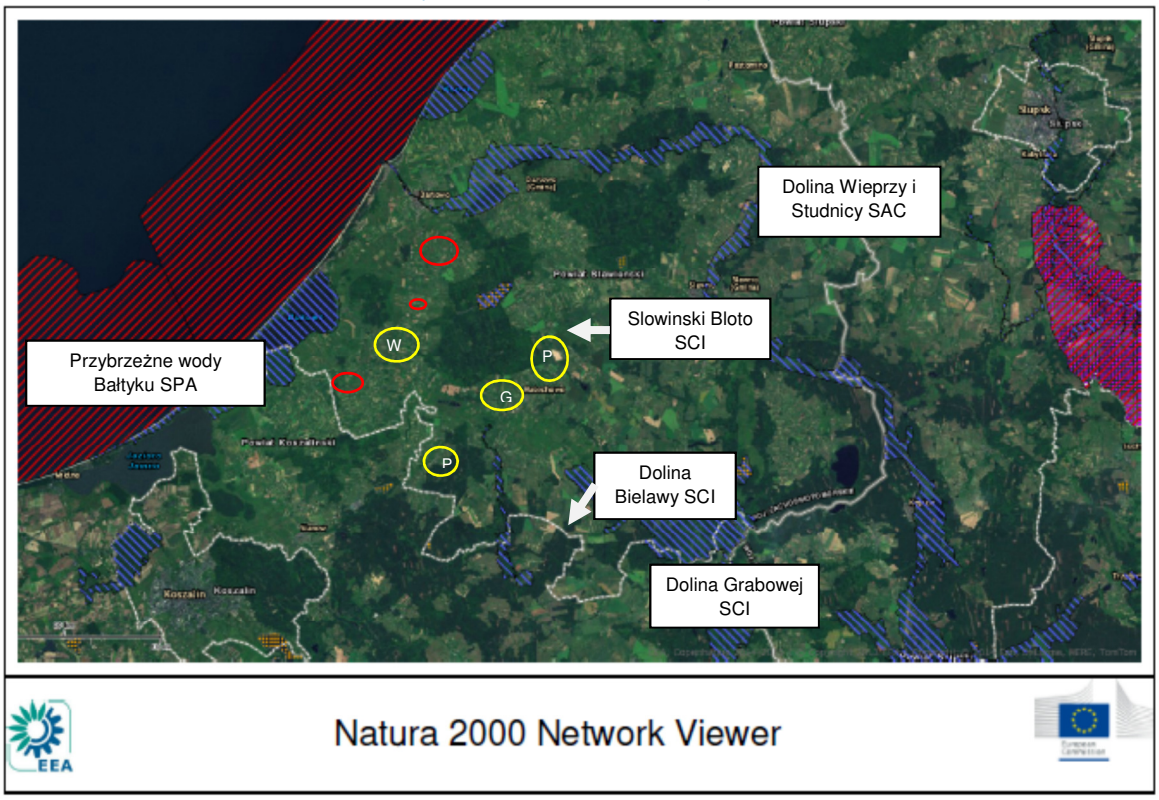
The area has been transformed and altered over the years as result of intensive farming activities. Notwithstanding, the flora and fauna ecosystems present a rich ecological diversity and the environmental studies have highlighted the presence of important species in the wider Project area.

The Project site is accessed via national route 6, which connects Gdynia to Szczecin. Around 25 villages are located within 3km of the Project site, some of which are shown in Figure 2.2. The minimum distance from any dwelling to the Project's wind turbines is approximately 400m.

The most sensitive potential receptors for Project impacts are the residences nearby as well as the dense forest vegetation areas, given their potential to host sensitive birds and bats species. Five sites that are protected at European level (Natura 2000 sites) have been identified in the surrounding of the Project.

Figure 2.8 indicates the proposed layout of the wind farm in relation to Natura 2000 sites.

Figure 2.8: Natura 2000 sites and locations of wind turbines (red circles show Phase IIIA, yellow circles show Phase IIIB; P – Pekanino site; G Gorzyca site; W – Wiekowo site)



Source: http://natura2000.eea.europa.eu/#

2.6 What are the relevant environmental regulations and what studies have been completed?

An environmental authorisation (DSU) is required under the provisions of the Polish Act on Providing Information on the Environmental Protection and on Environmental Impact Assessment of 3 October 2008.

In order to obtain a DSU, a developer is required to apply to the head of the relevant municipality or local mayor with jurisdiction over the proposed location of the Project. In addition to the application, an EIA process must be performed for projects which can significantly impact the environment (group I projects) or particular ones which have the potential to impact the environment (group II projects), or may impact an area of 'Natura 2000' protected land.

For Phase IIIA, a 'Project Information Sheet' (Karta Informacyjna Przedsiewziecia - KIP) was produced in 2011 as part of the application to the Environmental Authorisation by "Doradztwo Ecologiczne" consulting firm and it represents the main document for the assessment of the environmental impact generated by this phase. The environmental authorisation process was coordinated by the head of the Darłowo municipality and involved the following authorities:

- Darłowo municipality;
- Slawno county;
- Regional director of environmental protection (Szczecin region); and
- Sanitary Authorities of Slawno County.

With regards to Phase IIIB, three different EIAs were carried out between April and July 2013 to support the application for the environmental authorisation. As for Phase IIIA, a number of addenda were produced until December 2013 in order to provide additional information regarding the most sensitive impacts, such as baseline information on birds and bats and assessment of noise emissions.

Release of the environmental authorisations for Phase IIIB is expected to occur in May 2014.

The EIA reports, in accordance with Polish administrative procedure, are sent out to statutory consultees. Information on the planned Project together with the EIA Reports must be made available for comments of the public, including local communities and potential interested parties, such as nature protection bodies and ecological organisations. These disclosure and consultation activities process have been completed for Phase IIIA and are currently ongoing for Phase IIIB.

3 Environmental and Social Impacts

3.1 What are the Environmental and Social Impacts

3.1.1 Overview

The main environmental and social impacts (positive and negative) associated with the construction and operation of the Project and the mitigation measures which will be implemented to remove or reduce the level of impact have been identified. Mitigation measures will be implemented via:

- The Project Environmental and Social Action Plan (ESAP), which forms the basis of environmental and social management measures and actions to be provided by the Project Company and third party construction contractors;
- Overarching Environmental and Social Management Plan to oversee contractor environmental, occupational health and safety and social performance during construction; and
- An environmental management system (EMS) and occupational health and safety management system (OHSMS) for the operational phase.

3.1.2 What impacts may arise during the Project Lifecycle?

The main impacts from the construction stage will be related to the earth works such as excavations associated with the foundations of the wind turbines, laying of underground cables and building of access roads. Good environmental practice will be adopted to reduce the risk of impact from things like noise, dust, dirty water run-off and impact on flora and fauna so that the potential impact is considered to be minor and temporary.

The main impacts arising from the operation of the wind farm are impacts to ecology (in particular with regards to birds and bats), visual impact, noise and traffic. Table 3.1 provides a summary of potential impacts and mitigation to minimise the impacts. The potential impacts on nearby Natura 2000 sites are summarised separately in section 3.1.3 below.

Table 3.1: Summary of Key Environmental and Social Impacts of the Project

Environmental / Social Aspect	Key Issues Identified and Proposed Mitigation
Landscape and Visual	
Potential Impact	Visual impact to the surrounding area caused by the wind farm.
Assessment and Mitigation	
	The Project will influence the landscape of the local communes and could be considered visually intrusive.
	Within the environmental studies carried out for Phase III, it is recognised that the Project, in combination with other proposed wind farms, due to the height of its

Environmental / Social Aspect	Key Issues Identified and Proposed Mitigation
	elements compared to the surrounding buildings and vegetation, will dominate the landscape and will be visible from significant distance. Whilst the Project will contrast with the existing character and there are limited opportunities for additional mitigation, it is noted that the landscape character is largely agricultural, it is not protected or considered to be sensitive and accordingly the impact is not considered to be significant.
Noise	
Potential Impact	Potential noise disturbance to residential receptors exceedence of noise limits caused by construction activities and during operation.
Assessment and Mitigation	Noise modelling was performed for all the clusters of the Phase IIIA and Phase IIIB layout; the assessment includes other wind turbines associated with Phase I and Phase II. Appropriate modelling methodologies and standards of reference have been considered. The results of the assessment indicated that the noise levels at the closest inhabited buildings during operation would be below the noise emission levels set out by the national limits The environmental authorisations stipulate a number of conditions for minimising the impact of noise nuisance on nearby residential areas, these include: ▪ A 400m acoustic buffer zone; ▪ The use of sound absorbing materials on construction equipment; ▪ A requirement to undertake pre and post development noise measurements at the border of the nearest housing under various conditions and times the results of which will be reported to the local authority and to the sanitary authorities; and ▪ Adjustment of wind turbines noise output where the allowable levels are exceeded during operation of the wind turbines. Good practice measures to minimise noise impacts during construction and operational maintenance periods will be implemented. Operational noise will be monitored at the most sensitive receptors locations to ensure compliance with the environmental authorisations.
Ecology & Habitat	
Potential Impact	Potential to affect sensitive areas and species.
Assessment and Mitigation	The Project is considered in assessments as unlikely to have a significant adverse effect on flora, woodlands and fauna due to its small footprint minimising habitat loss and there not being significant populations of protected species observed in the area. There will be no relevant habitat losses as all turbines will be sited on farmland habitats and it is also noted that no direct land-take of Natura 2000 will occur. On this basis, previous studies concluded that the Project will not have significant impacts on Natura 2000 sites. Due to there being potentially sensitive habitats near some of the sites, there is a potential significant adverse effect on bat populations and bird species (more detail is provided below). Additional information on Natura 2000 sites is presented below in section 3.1.3. A Habitat Regulation Assessment (Phase 1) will be carried

Environmental / Social Aspect	Key Issues Identified and Proposed Mitigation
	out in order to assess the potential effect of the Project to the Natura 2000 sites. Local ecological features will be protected from construction activities through the adoption of good practice construction environmental management measures such as clearance of all vegetation under ecological supervision and covering of excavation at night and when not in use. The assessments also note the importance of maintaining local ecological corridors along streams and lines of trees.
Bats	
Potential Impact	Potential to affect local populations of bats due to disturbance and collision.
Assessment and Mitigation	Surveys for bats were undertaken based on the Polish "Guidelines for consideration of bats in wind farm projects", an adaptation of the European EUROBAT guidelines, to identify the presence of bats at the sites and assess likely impacts on bats for the EIAs for Phase IIIB and also for the submission of environmental documentation for Phase IIIA. Although the impacts on bats are not considered significant, further monitoring of the bat population in accordance with international best practice will be undertaken as described in section 3.1.3.
Birds	
Potential Impact	Potential to affect local populations of breeding and migratory birds due to disturbance and collision.
Assessment and Mitigation	Assessments of the potential impacts of the Project on birds were based on bird surveys. A relevant diversity of bird species was detected in the Project area, including species that are protected at national level and other that are protected according to the European Birds Directive. Therefore there is potential for a significant adverse effect although the baseline information available to date and the operational monitoring carried out for the adjacent Phase I of the DEC project do not show any critical risks in terms of impacts on birds. To manage potential risks, mitigation measures will include implementing habitat management measures to reduce the attractiveness of the surrounding habitats to foraging birds of prey coupled with habitat improvements and/or creation elsewhere to support 'at risk' populations away from the wind farm sites. This includes maintenance of linear features such as hedgerows. In addition, robust operational monitoring activities in accordance with international best practice will be implemented for Phase IIIA and Phase IIIB as described in section 3.1.3. Outcomes from the monitoring activities will be compared with the results of other monitoring activities carried out for the other phases of the DEC project.
Traffic and Transportation	
Potential Impact	Increased number of large vehicles on local roads and potential damage to roads during construction works.
Assessment and Mitigation	Impacts from construction will result in a short term and temporary increase in vehicle movements, typically Heavy Goods Vehicles and large load vehicles. This impact is not deemed to be particularly significant, given: ▪ The vicinity to major road (national road number 6); ▪ Good accessibility of the site; ▪ Low traffic in the area;

Environmental / Social Aspect	Key Issues Identified and Proposed Mitigation
	Mitigation to minimise disturbance and damage to roads from construction vehicles will include: ▪ Preparation of a Traffic Management Plan to be agreed with the wind turbines providers; ▪ Selecting routes for construction vehicles to minimise impact on local community areas, in accordance with road authorities and agreements with communes; ▪ Use of existing access roads for the delivery of turbines components. Existing access roads will be re-built or upgraded during construction which will also benefit the community that use these roads. Minimal traffic will be generated during the operation of the wind farm.
Shadow Flicker	
Potential Impact	Blades of the wind turbines can create a flickering effect which can cast intermittent shadows periodically over buildings.
Assessment and Mitigation	A shadow flicker modelling was not performed for Phase IIIA; since this phase is operating. A grievance mechanism will be put in place to identify any potential receptors that are adversely affected, allowing appropriate mitigation to be implemented. A shadow flicker modelling was carried out for the Phase IIIB layout; in this case, appropriate methodologies and standards of reference (German guidelines) have been considered. The distance and orientation of the turbines in relation to properties that could be affected by shadow flicker has been considered and, according to these studies, any potential impact is expected to be minor. Should impacts occur, these will be managed through the community grievance mechanism.
Cultural Heritage / Archaeology	
Potential Impact	Construction activities can disturb archaeological features.
Assessment and Mitigation	Some land plots of the Project at the Wiekowo site of Phase IIIB are situated within an area designated as a partial archaeological protection zone W II. While no direct impacts on known archaeological or cultural heritage features are anticipated for Phase IIIB there is a risk that unknown sites or artefacts could be damaged during construction. This risk can be addressed through the development of a cultural heritage chance find procedure to be adopted by the Project, which must be approved by the authorities. It will be implemented by the EPC contractor during construction.
Employment	
Potential Impact	Creation of employment opportunities.
Assessment and Mitigation	Some employment opportunities will be generated during the construction phase through the employment of a number of contractor firms.
Community Health and Safety	
Potential Impact	Accidents and incidents involving local residents and members of the public.

Environmental / Social Aspect	Key Issues Identified and Proposed Mitigation
	Impacts on community cohesion.
Assessment and Mitigation	Construction safety plan/procedures will be implemented within the Operational Health and Safety Plan throughout construction to minimise construction impacts to local communities. Signs and other means of enhancing community awareness of danger zones hazards will be maintained. Construction work and non-emergency maintenance works will be undertaken during daylight hours. Ongoing community consultation will be in place with local municipality officials and nearest residents to inform them of upcoming construction activities in the area and the local community will be informed of the grievance mechanism that can be used to raise any concerns about risks from the Project; for example, regarding non-adherence to traffic speed limits and safe driving rules. Community cohesion issues will be addressed through improved communication measures, described in the Stakeholder Engagement Plan.
Electromagnetic Fields	
Potential Impact	Concern on impact to health caused by electromagnetic fields generated by electric interconnection lines.
Assessment and Mitigation	The Project is constructing a 30 kV underground power line. As part of the EIAs, modelling analysis was performed to estimate potential emissions of electric and magnetic fields of the power line. The calculations established that: ▪ The standards defined in the Regulation of the Minister of Environmental Protection on permissible electromagnetic field levels in the environment will not be exceeded in any place near the line; ▪ Electromagnetic field generated by the high voltage Project elements (mainly windfarm generators, electric lines) will not have a frequency and/or intensity that would pose a risk to the environment or the community health; ▪ Completion of the project will not affect the quality of the received radio/TV transmission and will not cause disturbance on electronic devices. No further actions are proposed.
Land Acquisition	
Potential Impact	Temporary or permanent loss of agricultural land. Potential social issues related to land compensation.
Assessment and Mitigation	A relatively small amount of land is to be acquired for the Project. Pękanino Wind Invest Sp. z o.o. and Gorzyca Wind Invest Sp. z o.o. have signed land lease agreements for the majority of land to be acquired. The Project Company will prepare a Livelihoods Restoration Framework (LRF) outlining the principles and methods of land acquisition, compensation and any other measures to restore and support local livelihoods. This LRF will be taken through consultation with local authorities and affected parties. The project is not expected to induce any physical displacement and resettlement.

The Project is expected to operate for approximately 25 years. The main impacts of the decommissioning phase will be similar to those during construction.

3.1.3 How will impacts on sensitive habitats, birds and bats be managed?

Habitats

Natura 2000 is a network of protected areas in the territory of the European Union, entered in force in 1992 to protect the most seriously threatened habitats and species across Europe.

A number of Natura 2000 sites near the Darłowo sites are designated for the qualifying features set out in Table 3.2. No wind turbines are located in any of the Natura 2000 sites identified in proximity of the Project's wind turbine locations. Two of the sites are less than 5km from wind turbines of the Gorzyca and Pękanino sites of Phase IIIB so it is prudent to monitor the relationship between these sites and the movement of bird populations as the Project develops.

During the EIA process, the possible impacts of the Project on Natura 2000 sites were considered and the environmental authorisations for Phase IIIA granted by the regulator on the basis that no wind turbines will be located within the boundaries of these sites. The environmental authorisations for Phase IIIB are expected to be obtained in May 2014.

Table 3.2: Natura 2000 site designations

Site Name	Habitat Type	Annex I & II Habitats Directive Significant Qualifying Features	Potential Effects of the Project
Przybrzeżne wody Bałtyku SPA (PLB990002)	Coastal waters and inlets within the Baltic Sea	Nine seabird species listed. Wintering populations of European importance. Supporting and wintering assemblages of over 20,000 birds. Qualifying species include black-throated loon (*Gavia arctica*), red-throated loon (*Gavia stellata*) and razorbill (*Alca torda*). No significant qualifying populations of terrestrial species occur.	This site is located over 10km from the Project and has not been considered in the assessments for Phases IIIA and IIIB. This site is designated for the importance of its assemblages of wintering birds, including three species listed in Annex I of the Habitats Directive. All three species breed in Scandinavia and migrate to the Baltic coast in winter. Given the location of the nearest wind turbine to the protected area is over 10km inland, it is considered that collision risks are unlikely and there would be no material impacts on the qualifying features of the SPA.
Dolina Wieprzy i Studnicy SAC (PLH220038)	A mosaic of woodland (Pomeranian beech),	21 habitats and nine significant species populations listed in Annex I & II of the Habitats	This site is less than 2km from Phase II of the Darłowo wind farm area and has not been considered in the assessments for Phases

Site Name	Habitat Type	Annex I & II Habitats Directive Significant Qualifying Features	Potential Effects of the Project
	oak woodlands, grasslands and bog habitats	Directive. These species are: • Great crested newt (*Triturus cristatus*) • Atlantic salmon (*Salmo salar*) • Fish (*Rhodeus sericeus amarus*) • European Otter (*Lutra lutra*) • River lamprey (*Lampetra fluviatilis*) • Brook lamprey (*Lampetra planeri*) • Bullhead (*Cottus gobio*) • European fire-bellied toad (*Bombina bombina*) • Spined loach (*Cobitis taenia*)	IIIA and IIIB as it is not directly affected by these phases. This site is designated for the importance of woodland habitats and oligotrophic lakes. It also contains important habitats for otter (*Lutra lutra*), fire-bellied toad (*Bombina bombina*) and great crested newt (*Triturus cristatus*). Other species in Annex II are also supported, including numerous bird species. The site also supports birds of prey that are nationally protected in Poland. Some of the same species and habitats are also found in other Natura 2000 sites that are much closer to Phases IIIA and IIIB (notably Dolina Bielawy SCI and Dolina Grabowej SCI).
Dolina Bielawy SCI (PLH320053)	Dominated by oak-hornbeam forests, alder forests, with some lowland grassland meadows	Nine habitats listed in Annex I of the Habitats Directive.	This site is located in the immediate vicinity of the Gorzyca site of Phase IIIB; however there is no information on the Natura 2000 Standard Data Form about species. The environmental studies states that habitat protection measures outside the Nature 2000 site are particularly important and it is presumed that this refers to maintaining the overall integrity of the mosaic of habitats within the site. Some mitigation suggestions are offered in order to maintain the integrity of habitats at Dolina Bielawy SCI as it is adjacent to the Pękanino site and possible re-siting of wind turbines at Gorzyca in order to reduce collision risks for white-tailed eagles in Dolina Grabowej SCI.
Dolina Grabowej SCI (PLH320003)	Beech forests, grasslands.	15 habitats and six significant species populations listed in Annex I & II of the Habitats Directive. These species are: • Great crested newt (*Triturus cristatus*) • European Otter (*Lutra lutra*) • Brook lamprey (*Lampetra planeri*)	This site is 3.5km away from the Gorzyca site but is not considered to be affected by the nearest turbines. However, the presence of white-tailed eagle (*Haliaeetus albicilla*) and corncrake (*Crex crex*), both rare species if not present in significant numbers, means that this site should be subjected to a Habitats Regulations Assessment (HRA) due to the potential for adverse in-combination effects with other wind farm sites.

Site Name	Habitat Type	Annex I & II Habitats Directive Significant Qualifying Features	Potential Effects of the Project
		• Bullhead (*Cottus gobio*) • European fire-bellied toad (*Bombina bombina*) • Large copper butterfly (*Lycaena dispar*)	Mitigation such as re-location of wind turbines to at least 200m from the nearest habitats suitable for these species, where within or outside of the SCI, would reduce this risk.
Slowinski Bloto SCI (PLH320016) – also a CCDA national site	Dominated by bog woodlands. Raised bogs, Fennoscandian mineral-rich springs, beech forests.	Five habitats and also supports four Annex II species (no significant populations).	Supports 11 species of moss and is within 4.5km of the Pękanino and Gorzyca sites of Phase IIIB. Common crane (*Grus grus*) is present on the site. The assessment states that this distance minimises the potential for disturbance of nesting cranes and therefore it is unlikely to be .

A basic habitat assessment has been carried out. To gather more information regarding the relationship between the wind turbines and the Natura 2000 sites and in particular to the birds and bats population, the Project Company is committed to carry out a Habitat Regulation Assessment and a series of construction and operational bird and bat monitoring activities. Based on the outcomes of these documents, appropriate mitigation measures will be applied to reduce any eventual impacts.

In order to establish whether any adverse impacts area likely to affect the integrity of qualifying features to the Natura 2000 sites in the Project's area of influence a Habitats Regulations Assessment (HRA)[2] will be undertaken. This includes an HRA Screening Matrix (Stage 1) and subsequent assessment (Stage 2), if screening indicates that further assessment is required. The HRA will consider the in-combination effects on Natura 2000 sites of Phases IIIA and IIIB with Phases I, II and other existing and planned wind farm sites in the Project's area of Influence.

Natura 2000 sites included within the Stage 1 Screening Matrix are considered to be existing and proposed SPAs, existing and candidate SACs and SCIs which have been adopted by the European Commission but not yet formally designated by the Polish Government. The HRA will include but is not limited to five Natura 2000 sites included in Table 3.2.

Bats

Bats are a protected species. Further monitoring will be carried out for bats in order to identify, when and where needed, the most appropriate mitigation measures. The monitoring activities are as follows:

[2] The HRA refers to Art. 6 of the EU Habitats Directive'

- A bat monitoring survey for Phase IIIB during the migratory periods (March/April and August to October);
- Acoustic surveys for bats during the breeding to identify nursing sites (roosts) in the Project area and identify the need for additional mitigation, which could influence siting of wind turbines of Phase IIIB if the results indicate any risks to pipistrelle, serotine and noctule bats. This survey will clearly identify roosts that are at risk from Phases IIIA and IIIB, both alone and in combination with other wind farms in the Project's area of influence;

A bat expert will establish and oversee an operational bat mortality monitoring program. Bat monitoring data will be reviewed by the independent expert and in the event that high rates of bat mortality are determined, additional mitigation will be implemented, for example reducing operational time and/or program the turbines to start operating only at certain higher wind speeds during certain periods of the day or year, and the turbine operational management plan updated accordingly.

Birds

The presence of breeding bird populations, migratory birds and the interactions with local habitats (including the Natura 2000 sites) means that the Project will undertake monitoring to identify, when and where needed, the most appropriate mitigation measures. The monitoring activities are as follows:

- Undertake bird surveys during the migratory periods and include habitats within 200m of turbine sites of Phase IIIB in order to provide up-to- date information on flight activities of birds in the Project area. The surveys will be coordinated with the operational surveys being carried out for Phases I and II, as far as feasible to assess collision risk; and
- A survey for breeding birds in order to assess the impacts of habitat loss and disturbance for Phases IIIA and IIIB.

In addition, bird surveys for three years during the first five years of operation will be undertaken in accordance with national requirements to verify predicted impacts of the Project on birds. Given the potential of the area to support breeding birds of conservation importance, such as lesser spotted eagle, further surveys during this period will be undertaken in order to monitor the collision risk for target species (i.e. raptors and white stork).

The methodology of all bird and bat monitoring will make use of (but it will not limited to) radar equipment as part of the monitoring programme. All activities will be carried out by a team of independent bird and bat experts, and reviewed and approved by an independent expert in order to ensure compliance with international best practice.

The outputs from the monitoring will inform further assessments of the impact on bat and bird species and appropriate actions will be taken by the Project Company. Monitoring results will be shared with the public

and regulatory authorities, including the Regional Director of Environmental Protection in Szczecin (Regionalny Dyrektor Ochrony Środowiska w Szczecinie).

3.1.4 How will local concerns be addressed?

Aspects of the land re-zoning process adopted by the municipality have been an area of concern for some local residents. A Livelihoods Restoration Framework will be prepared in consultation with affected parties, outlining the Project Company's principles of land acquisition, compensation, other measures for supporting and restoring livelihoods, as well as the implementation steps to be followed.

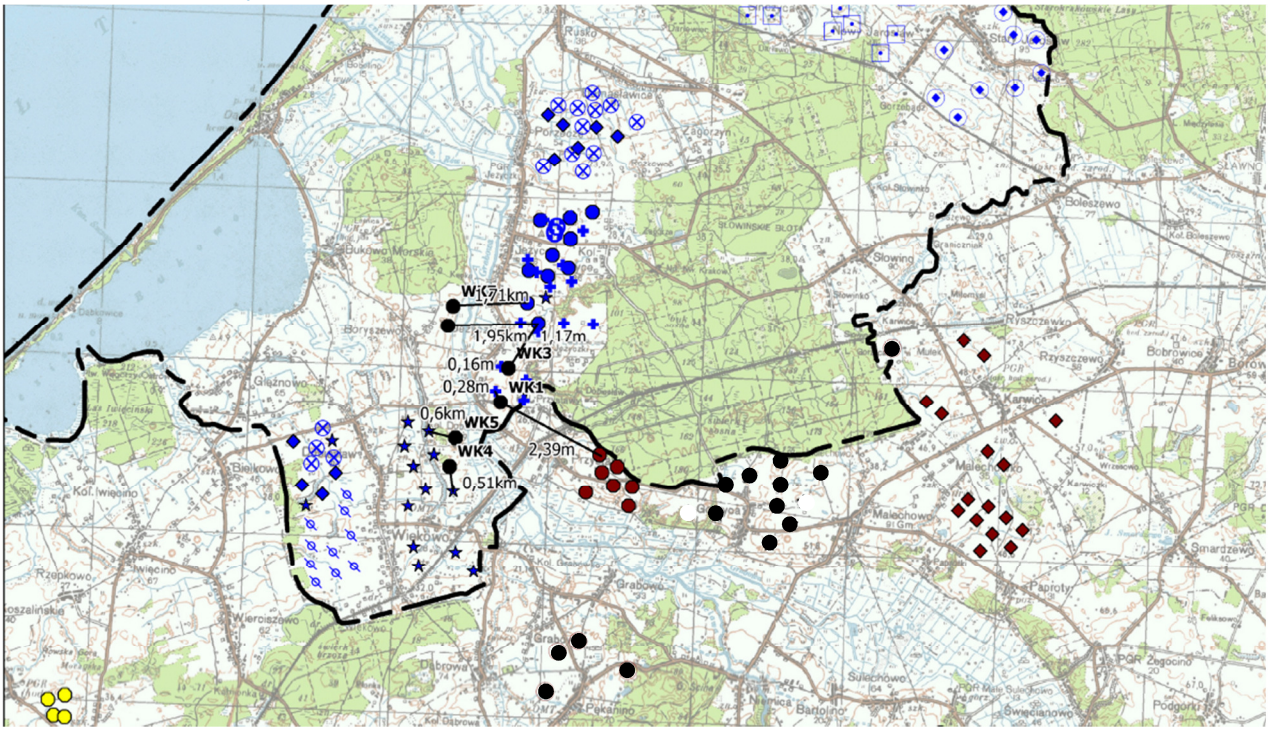
It is recognised that more can always be done to involve the community. The Project Company has prepared a Stakeholder Engagement Plan (SEP) in order to ensure that stakeholders including local residents remain aware of key Project related information and have a number of channels to provide immediate feedback about their concerns as well as on-going channels for reporting any grievances over the lifetime of the Project (see section 3.2 for details).

3.1.5 Will there be a cumulative impact with other nearby projects?

The Project was assessed in combination with other planned and existing wind farms for birds, noise and landscape.

The wind farms taken into consideration in the environmental studies for Phase IIIA for Phase IIIB are located in the Darłowo, Postomino, Malechowo, Polanów, Sianów and Sławno communes and comprise a total of approximately 200 turbines (including those planned for Phase IIIB).

Figure 3.1: Other wind farm developments located in the surrounding of the Project Area. The wind turbines associated with the Phase IIIB are shown in the map with a black circle ("●"). Wind turbines associated with Phase IIIA are shown with a blue circle with blue cross ("⊗"). Other symbols in the map refer to wind turbines associated with other wind farm developments.



Source: Environmental Impact Assessment - Wiekowo Wind Farm

The monitoring of bird populations as set out above will make use of data from the surrounding area, taking into account the influence of the total number of turbines. This will include the outputs of further work on assessing habitats (Natura 2000) to provide a cumulative view of the relationship between bird populations, bird habitats and wind farms.

Considerations on cumulative noise impact are considered appropriate and accordingly to the studies undertaken there will not be breaches of the national noise emission levels.

There will be a cumulative impact on the landscape, with the concentration of wind farms being a prominent feature of the overall landscape in the area. While the Project is surrounded by agricultural land, a number of settlements are located within viewing distance of the sites. Local residents have raised some concerns with regards the density of wind turbines in the area. The Project Company is committed to working with local residents to ensure that Project operations and staff remain sensitive to the concerns of residents, and that the benefits of wind farm development are realised locally as well as at the national level.

The Project Company will also promote dialogue between local residents and spatial planning authorities to ensure residents' involvement in spatial planning, as a means of managing cumulative impacts of wind farm development in the area.

3.2 How will stakeholders be involved?

A Stakeholder Engagement Plan has been developed with the objective of identifying key stakeholders and ensuring that, where relevant, they are informed in a timely manner of the potential impacts of projects. The plan also identifies a formal grievance mechanism to be used by stakeholders for dealing with complaints, concerns, queries and comments. The plan will be reviewed periodically during project implementation and updated as necessary, and includes:

- Public consultation and information disclosure requirements;
- Identification of stakeholders and other affected parties;
- Stakeholder engagement programme including methods of engagement and resources; and a
- Public Grievance Mechanism.

Stakeholders can be individuals and organisations that may be directly or indirectly affected by the project either in a positive or negative way, who wish to express their views. Should you wish to discuss the project further, contact details are provided in Section 1.1 of this NTS.

3.3 How will actions be implemented?

In order to ensure the appropriate environmental and social performance throughout the whole Project lifecycle and to confirm that any potential impacts are being appropriately addressed, a number of recommendations are summarised as actions in a draft Project Environmental and Social Action Plan (ESAP). Implementation and compliance with the requirements of the Project ESAP will be independently verified throughout the lifetime of the Project.