



## Non-Technical Summary

40 MW Sepopol Wind Farm, Warmińsko-Mazurskie province, Sepopol commune, Poland

22 February 2021

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### Acronyms and Abbreviations

Name	Description
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
E&S	Environmental and Social
ESAP	Environmental Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental and Social Management System
kV	kilovolt
LLC	Limited Liability Company
OHS	Occupational Health & Safety
MP	Management Plan
MW	MegaWatt

40 MW Sepopol Wind Farm, Warmińsko-Mazurskie province, Sepopol commune, Poland

PS	Performance Standard
SEP	Stakeholder Engagement Plan
SPV	Special Purpose Vehicle
WEP	Wind Electric Plant
WT	Wind Turbine

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## 1. INTRODUCTION

This Non-Technical Summary (NTS) provides an overview on the environmental and social impacts associated with the construction and operation of the 40 MW Sepopol Wind Farm (hereinafter referred to as “the Project”) and on the measures considered to keep these potential impacts at acceptable levels.

Energix Renewable Energies Ltd. (Energix Group, hereinafter referred to as “Energix”) is one of Israel’s largest renewable energy companies with a portfolio of more than 1GW of projects under development. The Group also runs the existing 106 MW Banie Windfarm (Banie 1 and 2), which is the second largest in Poland.

Energix Group intends to now develop a 40 MW Wind Electric Plant (WEP), comprising 20 onshore wind turbines and associated project components, located in the area of Różyna and Sępopol. Sępopol commune is an urban-rural administrative districts of Bartoszyce County, Warmińsko-Mazurskie Voivodship, in northern Poland, on the border with Russia.

Energix Group is seeking to enter a financial agreement with a group of international lenders and these banks have additional requirements besides the Polish procedures already completed. Therefore, the following additional studies and documents were commissioned so that the Project also meets the requirements of the EBRD environmental and social standards:

- 2011 local Environmental Impact Assessment (EIA);
- this NTS;
- a Stakeholder Engagement Plan (SEP);
- an Environmental and Social Action Plan (ESAP).

For Sepopol windfarm, Energix through/ with its contractors will voluntarily develop a set of topic-specific Management Plans, accompanied by a Commitments Register, to document how Project-related impacts will be managed during construction and, subsequently, during operation.

## 2. PROJECT DESCRIPTION

### 2.1.1 Project components and schedule

The 40 MW Sępopol is planned outside settlement boundaries, within the territory of of Różyna and Sępopol, Sępopol Commune, Bartoszyce County, Warmińsko-Mazurskie Voivodship, north eastern Poland, at approximate 10 km to the border with Russia. The Project comprises:

- 20 Vestas V110 2.0/2.2 turbine generators (WTG)<sup>1</sup> with a 110-m rotor diameter and a hub height of 120 meters. Each WTG will have a capacity of 2 MW, which results in a maximum Project capacity of 40.0 MW. All WTGs will be located in Sępopol commune in parcels 217/2 (EW1, EW3, EW4, EW6, EW8, EW9, EW11; 8WT), parcel 256/3 (EW12, EW14; 2WT) – 0027 Różyna district; and 27/10 (EW30, EW31, EW32, EW33; 4WT), parcel 30/37 (EW34; EW52; 1 WT), parcel 254 (EW16; EW17; EW23, EW25; EW26; 6 WT) – 0033 Śmiardowo district.
- medium voltage line, connecting power plant with main power pint; and
- building of assembly square, exit and technological routs.

Figure 2-1 below shows the 40 MW Sepopol WEP layout and Figure 2-2 presents the location of the Project in relation to natural protected and / or designated sites.

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<sup>1</sup> According to Road Survey for Sepopol Wind Farm, dated 29 January 2020

Figure 2-1 Sepopol WEP layout



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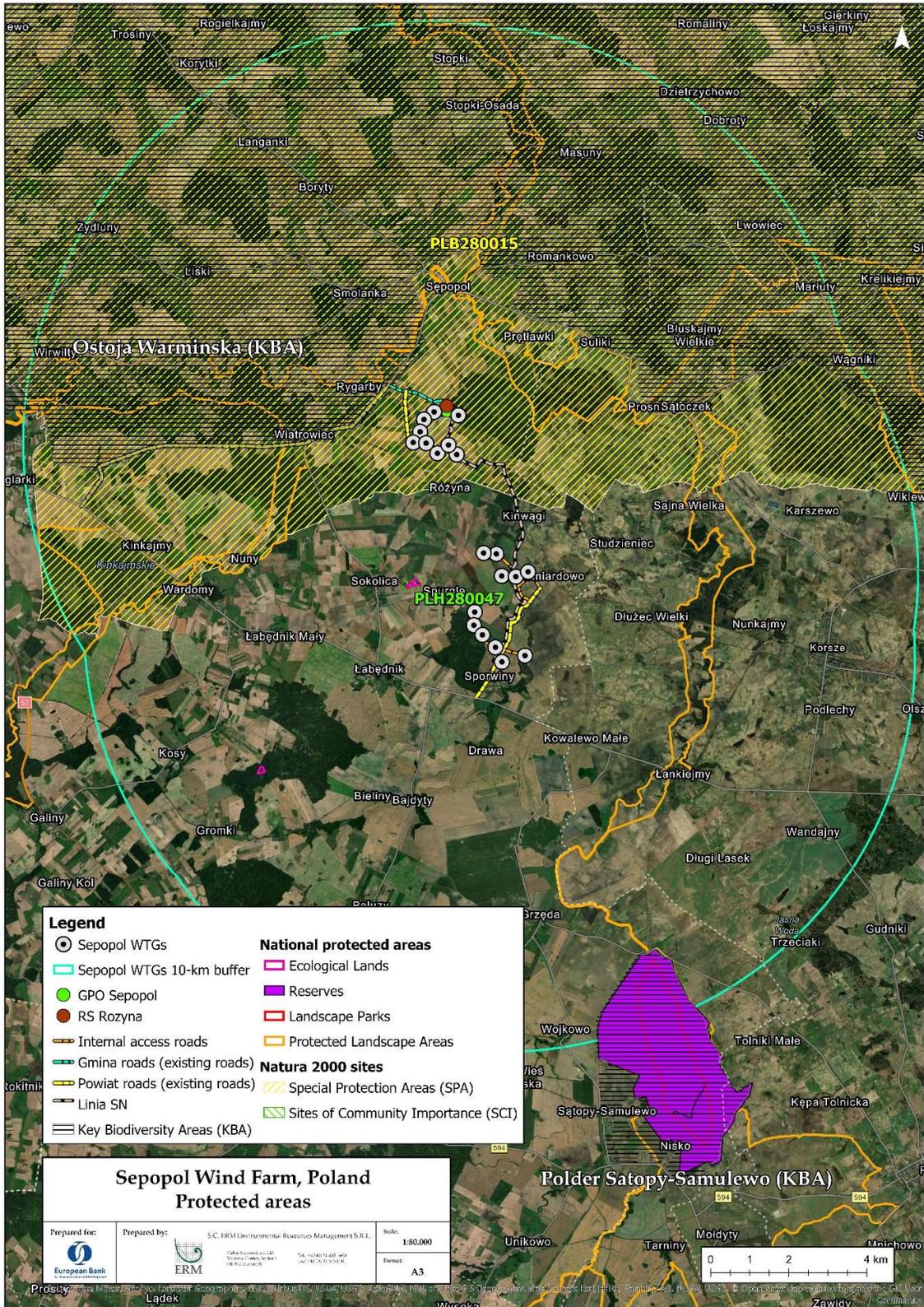
**Figure 2-2 Vestas WTGs**



Source: [www.vestas.com](http://www.vestas.com)

The Project is located mostly in agriculture lands and partially overlaps a Natura 2000 site *Ostoja Warmińska* (PLB280015). The site was proposed for designation primarily for the protection of the White Stork *Ciconia ciconia* that reaches here the largest population and the highest density in the country. In order to update the biodiversity survey data collected in 2008-2009, Energix plans to undertake voluntarily additional spring and autumn migration monitoring campaigns.

Figure 2-3 Protected and designated areas within 10 km of Sepopol wind farm



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The preliminary construction schedule provided by the Client included electrical and civil works starting October 2020, however the delivery of anchor cages and other supporting infrastructure works are scheduled for spring 2021. The final completion of the works is currently scheduled for spring 2022. According to the Client, the exact schedule for the works will depend on the BoP contractor, but an indication at the moment that significant delays are to be expected.

### **2.1.2 Land acquisition**

Land for permanent project components has been acquired via voluntary land lease agreements with private owners or easement agreements with public authorities for roads and cable lines. The agreements were negotiated on a case-by-case basis, following individual negotiations.

## **3. SUMMARY OF IMPACTS AND MITIGATION MEASURES**

### **3.1 Soil and groundwater**

Potential impacts on soil and groundwater during the Project construction could be associated with removal and handling of topsoil, soil compaction and potential spills of fuel, lubricants and paint. Potential impacts on soil and groundwater generated by future operations of Sepopol WEP could potentially result from leakage of lubricants from the wind turbine nacelle and the transformer substation. However, this is unlikely due to the liquid retention systems integrated into the structure of the wind turbine nacelle and of the electrical substation.

Energix Group and its contractors will voluntarily develop a Resource Efficiency and Pollution Prevention and Control Plan for the Project to include measures that will be implemented on site to avoid potential contamination, for example:

- avoid storage of construction waste outside designated areas for temporary storage;
- implement preventive maintenance of construction vehicles and machinery;
- place machinery and equipment on metal trays to collect oil, condensate and diesel spills;
- avoid storage of construction waste outside designated areas for temporary storage;
- conduct refuelling outside the construction site.

Similarly, during construction, Energix and its contractors will develop and implement a Waste Management Plan to cover all waste streams generated by the Project activities and will make sure that the waste is temporarily stored and managed in line with national requirements and international best practices.

With the above mitigation measures in place, impacts on soil and groundwater are not expected to be significant.

### **3.2 Air emissions and ambient air quality**

During Project construction, air emissions sources will consist of dust generated from construction activities (e.g. land clearance and excavation, traffic on local roads) and combustion-related emissions from vehicles and construction equipment. These impacts will be mitigated by employing good construction practices, including using well-maintained construction equipment and employing dust abatement measures. Such measures will be included in the Resource Efficiency and Pollution Prevention and Control Plan to be developed and implemented for the Project.

No significant air quality impacts are associated with the Project operational phase. Operational traffic emission impacts will be associated with a limited number of vehicles accessing the site for maintenance or security purposes.

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## 3.3 Biodiversity and nature conservation

### 3.3.1 Legally Protected Sites

The Project is partially located in a Natura 2000 site *Ostoja Warmińska* (PLB280015), Special Protection Area (Birds Directive) and 2 km NW of *Warmia* IBA site. Energix Group will voluntarily undertake additional supplementary surveys and assessment to mitigate potential effects on the Natura 2000 site integrity.

### 3.3.2 Habitats and Flora

The Project components are mostly located on agricultural land associated with ruderal communities; therefore, modified habitat will be impacted because of project implementation. Given the position of the turbines in the modified habitat no significant impact is expected on flora and habitats.

### 3.3.3 Birds and bats

The assessment of potential impacts on biodiversity receptors were based on data collected from a one-year field campaign (September 2008-August 2009) for birds and bats. The baseline identified 5 species of bats and 103 species of birds, eight of which are listed under Annex I of Birds Directive. EIA includes post-construction monitoring recommendations for birds over a period of 5 years along with carcass searching.

In addition to the surveys undertaken during the EIA process, Energix Group will voluntarily undertake additional supplementary surveys for birds and bats, using quantifiable methods such as VP (Vantage Point) surveys and CRM (Collision Risk Modelling). Based on the current baseline and additional information from surveys recommended, Energix and its consultants will identify if any Critical Habitat and Priority Biodiversity Features (PBF) are present in the Project Aol.

Energix will appoint an Independent Ornithological and Chiropterologist (birds and bats) expert (IOCE) to undertake monitoring of the Project during commissioning then subsequently during operation of the wind farm.

Specific survey work using VP studies and CRM mentioned above, together with further desk study and consultation, will assist with identifying whether automated approaches such as DTbird would be suitable, and if so how best to configure them. Such studies will also assist in refining and understanding peak risk periods, when shut down procedures may be most effective. The data collected will also allow Energix to develop a bat mitigation procedure that includes triggers for change based on the number of bats per turbine killed assessed against European averages for operational turbines and population levels.

## 3.4 Community Health and Safety

### 3.4.1 Noise

In order to minimize negative impact during construction phase of the Project, the following rules will be implemented:

- the construction timeline will be organized in a way to reduce the number of construction days to the minimum;
- all ground works will be conducted between 6 am and 10 pm only;
- all equipment and machines will be of a good technical condition;
- temporary areas created for the construction works purposes as well as transportation routes, will be placed in the longest possible distance from the nearest residential areas;
- the rule of turning off the engines during work breaks will be implemented.

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Energix will conduct operation noise modelling based on international and local standards, while taking into account information on sound power level vs wind speed at 10 above the ground and at hub height. Additionally, a noise-monitoring program will be established and put in place during operation stage. If the results show risks for noise exceedances, Energix will establish proper mitigation measures to ensure compliance with local and IFC noise limits (e.g. installing noise reduction equipment for blades, double-glazing of affected houses, reduced wind function).

### **3.4.2 Shadow flicker**

Any moving object that comes between a viewer and a light source can cause a flicker effect. Wind turbines, like other tall structures, cast a shadow on the neighbouring area when the sun is visible.

Areas that are particularly sensitive to shadow flicker impacts are residential houses, which are designated shadow flicker receptors. A shadow flicker is observed when the windows in a house are facing the wind turbine, and the position of the sun on the horizon results in a shadow of the turbine blades to be cast on the window.

In general, the maximum impact distance from the wind turbines at which the impacts of shadow flicker will be observed is 10 times the rotor diameter distance. Energix will voluntarily undertake additional studies to assess shadow flicker impacts, starting with the identification of all receptors within the maximum potential impact distance and then assessing the significance of impacts upon each receptor.

### **3.4.3 Ice and blade throw risk**

Wind farms operating in cold climates may suffer from icing in certain weather conditions and ice accretion can result in 'throwing' of ice from the wind turbines, which may affect public safety. The temperature in Sepopol commune varies from -6.6 °C to 23.8 °C. Wind turbine icing is rather unlikely under such climatic conditions.

The Project is located in an agricultural area, with regular farmer car traffic, farmers working the land, as well as grazing livestock during spring and summer.

However, in order to minimize ice throw risks, the following mitigation measures will be adopted:

- all WTGs will be equipped with ice detecting systems to control ice formation on the rotor blades. In case of icing detection, wind turbines are shut down automatically;
- warning signs will be placed at the entrance into each WTG location;
- the wind farm personnel and local farmers will be informed about the conditions that could lead to WTG icing, about the risk of ice falling from the wind turbine rotor, as well as the existing risk area; such information will be delivered through continuous engagement with local communities, as the Project SEP will outline;
- if a change in WTG operation is detected, which may be associated with the start of rotor blade icing, the turbine will be shut down.

With the aforementioned mitigation in place, no significant impacts from ice throw are expected.

### **3.4.4 Public access**

Potential impacts to community health and safety may arise as a result of:

- transportation of people, goods and Project components;
- noise generated by the wind turbines;
- shadow flicker and electromagnetic interference.

A Community Health and Safety Plan will be developed by Energix's contractors to define health and safety measures for the protection of the local communities. This Plan will also include measures to address community exposure to diseases, with particular focus on COVID-19.

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### 3.4.5 Project traffic

The potential impacts of increased heavy and oversized transportation may include:

- increased noise, vibrations and particulate matter;
- increased traffic on the local roads (delivery of construction materials, wind farm components);
- damages to road's surface and possibly also building structures; and
- temporary roads access.

The route survey was completed by the wind turbines provider. During the construction phase, Energix and its contractors will develop and implement a Traffic Management Plan which will describe truck routes and planned schedule when heavy and oversized transportation can be expected.

Appropriate public communication to allow timely notice of affected residents before major construction operations or traffic movements on public roads will be implemented before commencement and during construction phase of the Sepopol WEP.

Currently, the area of the planned Sepopol WEP is used for arable farming and occasional grazing. Measures to allow safe access to grazing/farming areas will be identified and implemented upon consulting local authorities and residents. These will be reflected in the Traffic Management Plan.

If the abovementioned mitigation measures will be implemented, no significant transportation impacts would be anticipated to occur.

### 3.5 Socio-economic

During the construction phase, the following types of socioeconomic impacts are likely to arise as a result of the Project implementation:

- positive impacts:
  - direct employment opportunities with the Project; the exact number of required construction workforce is still to be defined at this stage but the Project could involve up to 50 workers;
  - direct economic impacts as a results of Project purchase of goods and services such as construction materials for civil works, construction equipment and machinery, catering, transportation; Energix will seek to maximize local procurement of goods and services for the Project;
  - induced economic effects of spending by construction workers;
  - increase of the commune income through payment of taxes by Energix;
  - increase of household income of land owners leasing their land for each WTG. The land for the Project was secured based on land lease agreements signed with the land owners by Energix;
  - improvement of local communication routes (4 km);
  - potential impacts on community cohesion arising from the influx of construction workers;
- potential adverse impacts:
  - permanent loss of approximately of arable land;
  - potential increased pressure on local infrastructure and utilities as a result of transporting goods and services, constructing new roads and rehabilitating existing ones, wiring the wind farm.

The operational stage will also feature both direct employment opportunities with the Project and indirect opportunities, as the Project will subcontract maintenance and security services.

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### 3.6 Landscape and visual

A formal landscape visual impact assessment has not been included as part of the EIA. An additional assessment is to be done, starting with an initial analysis within 30 km of wind turbines is initially recommended to screen for areas where WTGs may be visible, and to quantify the number of WTGs visible from various points within the study area. This would incorporate existing vegetation and structures that may screen the Project from view in certain locations.

In order to mitigate any potential landscape and visual impacts, the following measures will be implemented:

- smooth cylindrical towers will be used, as this type of tower has a simpler configuration, less complex surface characteristics and a lower reflection/shadow casting potential;
- non-reflective paints and coatings will be used in order to reduce glare;
- the Project will involve only underground power cables at the site in order to minimize distortion of the surface;
- the tower, nacelle and rotor will be painted in a uniform colour, in order to reduce visual impacts.

### 3.7 Cultural heritage

No historical and cultural heritage was discovered within the Project area. Energix and its contractors will voluntarily implement a chance finds procedure that prescribes how any cultural heritage that may be identified during the construction works will be managed and define relevant roles and responsibilities for the process.

## 4. ENVIRONMENTAL AND SOCIAL MANAGEMENT

The local EIA prepared for the Project identified the potential environmental and social impacts associated with the Project and defined mitigation measures to be implemented in order to maintain these impacts within acceptable limits. Additional measures to comply with international (EBRD, IFC) standards were added for the project. These measures are included in the Environmental and Social Action Plan (ESAP), which represents a roadmap for implementation of key environmental and social actions required for the Project.

Energix Group will implement an Environmental and Social Management System with policies and procedures, as well as management plans to manage environmental and social aspects. Energix will also develop and implement a Stakeholder Engagement Plan that will:

- define the relevant Project stakeholders, planned engagement activities, resources from Energix to deal with stakeholder engagement, a community grievance mechanism and a management process along with monitoring and evaluation. The Project SEP will aim to lay the foundation for an effective, bilateral communication between the Project and its stakeholders, and to build reliable relationships between the Project and local communities. Regular stakeholder engagement will also enable Energix to gain a better understanding of the ways in which communities prefer for receive information about the Project. The Project SEP will be made available to the public on Energix's website, and as hard copy to local authorities and communities. It will be periodically updated as needed, to reflect engagement undertaken, stakeholder feedback and potential changes in the Project.
- feature a formal grievance management procedure for the Project. This mechanism will be disseminated to the affected communities so that people understand how to proceed in case they have questions or complaints in relation to the Project.
- furthermore, in order to build community members' trust in the Project and its contribution to local development, Energix will elaborate and implement an annual Community Investment Plan,

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engaging appropriately all relevant parties and, in particular, the neighbouring households impacted during construction and/ or operation of the Project.

#### **4.1 Stakeholder engagement**

Information and consultation activities conducted for the Project were largely limited to complying with the permitting requirements of Polish legislation. To date, no comments from the public were received during the environmental approval proceedings, as reported in the Environmental Decisions made available. Energix has committed to engaging in meetings or other forms of dialogue with landowners and affected communities, to provide updated information about the Project, disseminate the SEP and the grievance mechanism and understand key concerns and benefits in relation to the Project and how these can be mitigated, respectively enhanced.