Kovačica Windfarm, Serbia

Phase Two - Project “Pupin”

Environmental and Social Impact Assessment

Non -Technical Summary

October 2023

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1 Introduction

Enlight K2-Wind d.o.o (referred to in this document as “EK2W” or “the Developer”) intend to construct the second phase of their existing windfarm near the town of Kovačica in northeast Serbia.

As EK2W is likely to seek financial support for the second phase of the windfarm from an International Finance Institute or a major commercial bank, they have chosen to adopt Good International Industry Practice in the assessment of the environmental and social impact of the Kovačica 2 Windfarm project. This means that in addition to the regulatory requirements of Serbia, an Environmental and Social Impact Assessment was completed to ensure compliance with the requirements of the Equator Principles and the environmental and social guidelines published by the International Finance Corporation.

This Non-Technical Summary (“NTS”) describes the key findings of the Environmental and Social Impact Assessment of the Kovačica 2 Windfarm (referred to in this document as the “Project” or “Kovačica 2” or “K2”; the first phase of the Kovačica windfarm is referred to Kovačica 1 or “K1”). The NTS includes a description of the Project, its location and design, the benefits of the development to Serbia and the region, as well as the mitigation of any potentially significant negative environmental and social impacts identified during the impact assessment. The Kovačica 2 Windfarm is located in an extensive area of agricultural land. As with K1, the owners of the land will continue to farm their plots throughout the operational life of the Project.

If you would like any additional information on the Project then please contact Mr. Ljuboslav Lenhart at Enlight K2-Wind:

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Enlight K2-Wind also have an office in Kovačica. This office is not staffed on a permanent basis, but arrangements can be made with Mr. Lenhart to meet there if this is preferred.

2 Second Phase of the Existing Kovačica Windfarm

Enlight K2-Wind intend to construct the second phase of the existing windfarm near the village of Kovačica in Vojvodina Province, Kovačica 1 or “K1”. This second phase of the Kovačica windfarm (“Kovačica 2” or “K2”) includes the installation of eighteen new turbines. These turbines will be placed in three rows along the northern boundary of the existing, K1 windfarm.

The Kovačica site is in the South Banat region of north east Serbia, (See Figure 2-1). The closest settlements are Padina (1 km to the northeast), Debeljača (1.75 km to the southwest) and Kovačica (2.5 km to the northwest).

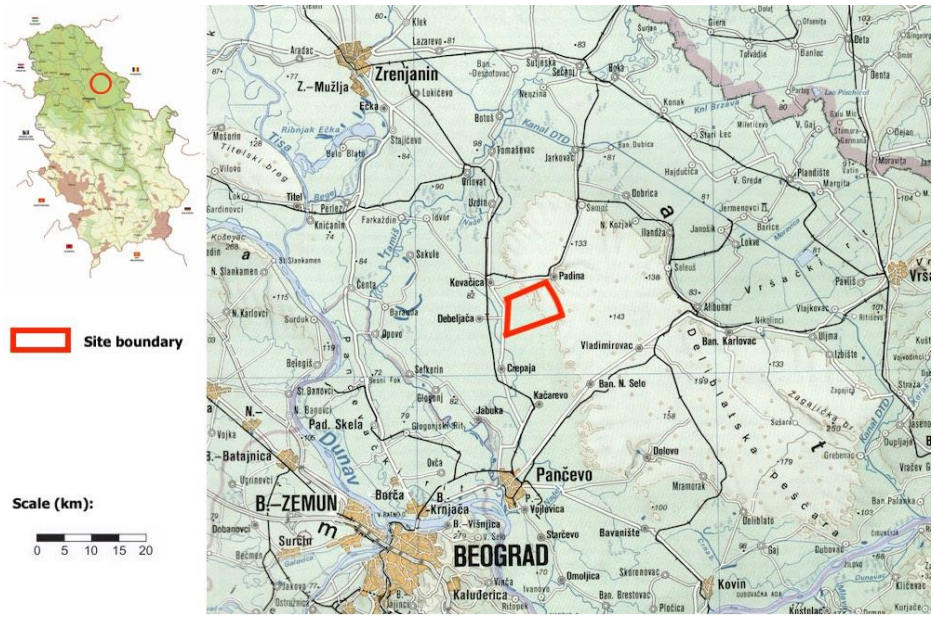


Figure 2-1 Location of the Kovačica Windfarm

Since the K1 windfarm was designed in 2017, the capacities and efficiencies of wind turbines have improved significantly and the new generation of turbines are a little bigger. The blades on the new turbines will be 85 m long as compared to 60 m for the existing. However, this means that each turbine will be able to generate almost 6MW of electricity rather than the 2.75 MW capacity of the K1 turbines. This means that the 18 new turbines will generate as much electricity as the existing 38 turbines.

The K1 windfarm was constructed during 2018 and began commercial operation in 2019. The whole Kovačica site, K1 and K2, will cover an area of about 3,711 hectares. The new turbines will connect to the existing sub-station where a new transformer will be added. The connection to the national electricity grid will be through the existing switch yard and overhead transmission line. No additional overhead transmission lines are required.

The Kovačica windfarm has been located and designed to minimise its' environmental and social impact. The Project will provide benefit to Serbia as a whole from the generation of clean energy, to local people through the creation of jobs in the local community and the provision of tax revenue to the Municipality.

The Kovačica 2 Windfarm is located in an extensive area of agricultural land. It is important to EK2W that the agricultural use of the land within the boundary of the windfarm continues. No-one, or their businesses, have been or will be displaced as a result of the Kovačica windfarm. As EK2W will upgrade the network of tracks within the windfarm, to allow the turbine maintenance teams to move across the site safely, these improved roads will also be available for use by people farming the land.

3 Why is K2 Windfarm Needed?

The primary purpose of the Kovačica windfarm, and other WPP projects in South Banat, is to reduce the national reliance on local coal mines and the import of natural gas. Renewable wind power technology will help Serbia to meet its international commitments on carbon dioxide reduction and reduce its use of expensive, polluting fossil fuels. The Serbian government plans to add 1,000MW in the wind power sector by 2025 which would make a total of 1,500MW with the existing windfarms. As a whole, the Kovačica windfarm will provide about 200 MW of this target; enough to power 144,000 homes.

The site of the Kovačica windfarm has excellent and reliable wind resources and K1 has performed very well since it was commissioned in 2019. The K2 WF will generate 283,700 MWh of renewable energy and will displace 266,110 tonnes of carbon dioxide during every year of its operation. As a whole, the Kovačica windfarm is expected to generate 575,257 MWh of renewable energy and will displace 539,591 tonnes of carbon dioxide every year of its operation.

The proposed K2 windfarm is needed as it will:

- generate renewable energy that will contribute to national targets for reducing carbon emissions into the atmosphere;
- strengthen Serbia's energy sector by helping to diversify its energy sources (which proved to be of essential importance after the unprecedented floods in May 2014);
- reduce the need for Serbia to import energy from neighbouring countries;
- reduce the country's reliance on fossil fuel combustion;
- displacing about 266,100 tonnes of carbon dioxide per year that would normally be emitted if the same amount of electricity was produced from a coal fired power station.

The K1 windfarm has strong support across Vojvodina and local people are proud of the windfarms that have been built in the area. Many locals refer to Vojvodina as being the national leader in renewables.

4 Will the K2 Windfarm Meet International Standards?

As EK2W is likely to seek financial support for the project from an International Finance Institution or a major commercial bank they have chosen to adopt Good International Industry Practice in the assessment of the environmental and social impact of the K2 project. This means that in addition to the regulatory requirements of Serbia, the environmental and social impact assessment complies with the requirements of the Equator Principles and the environmental and social guideline published by the International Finance Corporation ("IFC").

The Kovačica 1 windfarm was supported financially by the EBRD. The EBRD continue to undertake an annual review of the environmental and social performance of the K1 windfarm. The bank remains happy with the delivery of project, financial support provided to the municipality and are reassured to have confirmation of the low level of impact on bird and bat populations predicated in the original ESIA.

5 Project Alternatives

The conditions of the Project site are excellent for wind development and unfavourable for the majority of other renewable technologies. Solar energy could be exploited at the Kovačica site but to generate the same amount of energy, it would need the use of a much larger area of land and a significant increase in the loss of agricultural land. The Scoping Study concluded that a renewables project based on wind power generation was appropriate for the region and the site.

6 Meeting Serbian Regulations

Serbian EIA regulations require WPP developments of more than 10 MW installed capacity to be subject of an environmental impact assessment. To initiate the Serbian EIA Study procedure, the local authority, in this case the Municipality of Kovin, must develop and adopt a Zoning Plan that includes a basic description of a new project. The approval of the Zoning Plan includes consultation with a series of national and regional statutory bodies. These statutory bodies provide a list of Conditions that they impose in order for the Project to proceed.

The Zoning Plan is subject to a Strategic Environmental Assessment that has to be approved by the local Municipality. The permits for WPP developments (Location conditions, Building permit, Operation permit, Energy permit) are awarded by provincial and national authorities.

Once the Zoning Plan has been agreed, the Developer can proceed with the Plan of Detailed Regulation ("PDR"). The PDR incudes the Location Conditions for the project and is effectively the environmental permit for the project. The Location conditions ensure that the project can be connected to the existing infrastructure onsite. The Location conditions are provided by the same statutory stakeholders involved in the development of the Zoning Plan.

EK2W always intended to develop the Kovačica windfarm in two phases. The boundary of both phase 1 and phase 2 of the Kovačica windfarm was included within the original Zoning Plan that was adopted by the Municipality of Kovačica in 2012.

However, as the K2 windfarm will now use larger turbines than originally predicted, the 2012 Zoning Plan has had to be revised to include the dimensions and output of the new WTGs, a new layout, and revisions to the electricity sub-station. EK2W applied for a variation to the Zoning Plan in July 2018. The revised Zoning Plan was adopted by the municipality in May 2019. The municipal authority decided that the Strategic Environmental Assessment conducted in 2012 was still valid and applicable to the revised Zoning Plan and no additional SEA was conducted.

The Location conditions for the K2 WF was awarded in June 2020.

7 How Does a Wind Turbine Work?

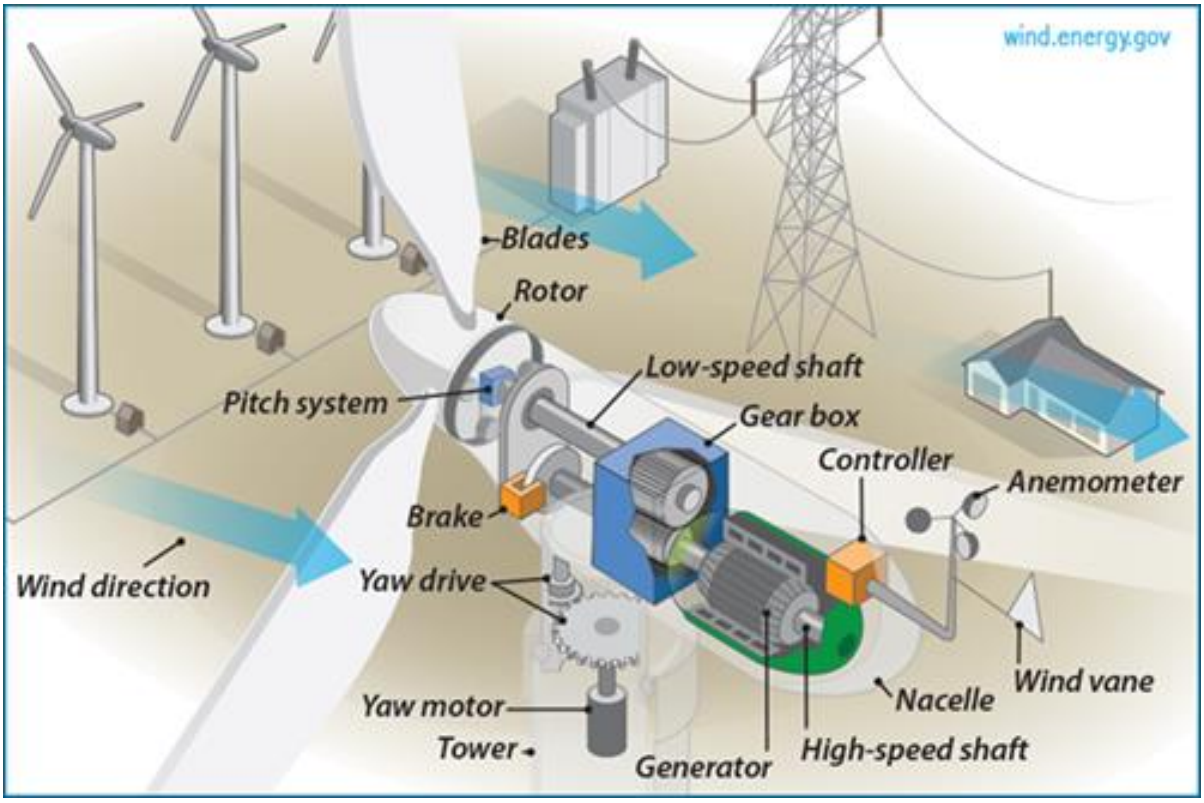
Wind turbines consist of three main elements: a hollow steel tower, the nacelle, and the fibreglass rotor blades (which are attached to a rotor on the front of the nacelle). The nacelle houses the main mechanical components of the turbine including the generator and the gearbox. The turbine transformer and the main control equipment are in the base of the tower (see Figure 7-1).

The five basic steps of electricity production from wind power plants are:

- Wind turbine blades are turned by the power of the wind;
- the blades turn a rotating generator in the nacelle which converts wind energy to electricity;
- a transformer in the base of the turbine tower increases the electricity voltage for transmission to the substation by underground cables;
- the substation increases voltage for transmission over long distances;
- the electricity is transferred to the grid and distributed to the power users.

The turbine nacelle is rotated by a motor so that the rotor points directly towards the wind. This is in the same way that the sails on a boat are oriented towards the wind by the crew. The direction of the wind is sensed by the wind vane and the wind speed is monitored by an anemometer. The WPP also has a tall mast where the meteorological sensors at mounted. This mast is typically much taller than the turbines.

Figure 7-1 Generic Wind Turbine Design



When the wind reaches and maintains constant speeds of over 3 m/s, the turbine blades will start to turn in a clockwise direction. The rotor shaft slowly drives the gearbox that converts the mechanical energy into electrical energy through an electrical generator (which spins at a much higher speed than the rotor).

At a constant wind speed of 3 m/s each turbine will generate about 20kW. At 6 m/s, the output is about 600kW but this rises sharply to the maximum power output at a wind speed of 10 to 12 m/s, when the turbine will generate the design or rated power, 6.1MW in this case.

The pitch control system alters the angle of the blades. This allows the blades to find the best angle, to deliver a safe steady rotation of the blades. The turbine's electronic controller checks the power output of the turbine several times per second and if the power becomes too high, the pitch mechanism will pitch (turn) the blades slightly out of the wind. Conversely, if the power becomes too low, the pitch mechanism will pitch the blades back into the wind.

At wind speeds above 25 m/s, the turbine blades are stopped by the control systems to prevent excessive wear and tear on the mechanisms. The blades are stopped by rotating the blades on the hub. This change of blade angle means that the blades are no longer driven by the wind; a process called "feathering" the blades.

Most of the electricity produced by the wind power plant will be transferred to the grid but a small amount of electricity is used by the turbines (e.g., the yaw motor and pitch controls) and on-site control facilities.

Since the first phase of Kovačica windfarm was designed, turbine technology has progressed quickly and the new generation of turbines are bigger and are more efficient at generating electrical energy. The blades on the K2 turbines will be 85m long as compared to 60m for the existing turbines. However, this means that each turbine will be able to generate almost 6MW of electricity rather than the 2.75MW capacity of the K1 turbines.

8 Description of the K2 Windfarm

The existing K1 windfarm consists of 38 wind turbines with an individual rated capacity of 2.75 MW, giving a total capacity of 104.5 MW. The turbines are connected by 33 kV underground cables to a 33/ 220 kV Substation within the windfarm. The K1 substation houses the switch gear, metering and control equipment, communication equipment and the windfarm control room. The K2 windfarm will be managed from the existing control room.

The K2 windfarm is an extension of the K1 windfarm and the K2 turbines will be connected to the existing K1 substation; a third power transformer will be installed at the substation. The location of this additional transformer was included in the primarily design of the K1 WF. The grid interconnection will be via the existing K1 220 kV switchyard and overhead transmission line.

The proposed K2 windfarm will be located along the northwest boundary of the existing Kovačica windfarm, see Figure 8-1.

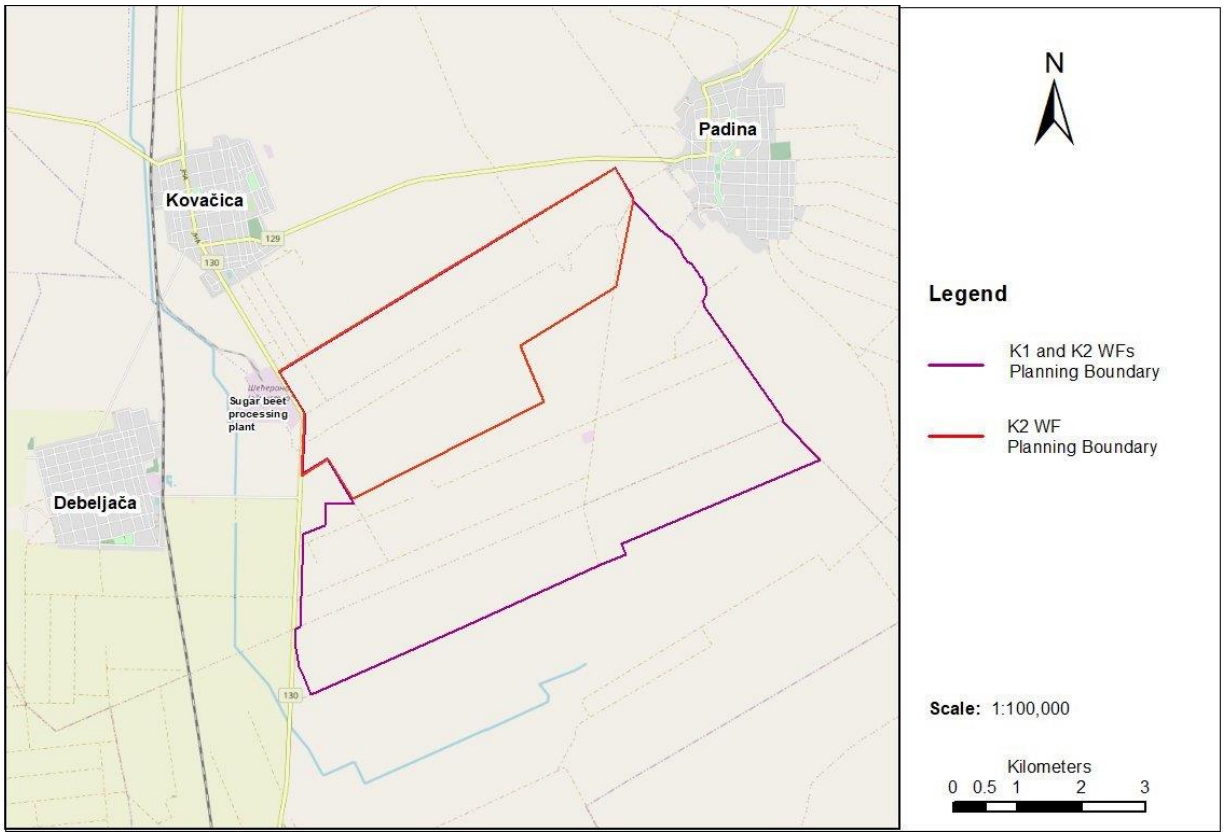


Figure 8-1 Boundary of the Kovačica Windfarms

The K2 windfarm will comprise of 18 WTGs laid out in three parallel lines (7 - 7 - 4), see Figure 8-2. As the preferred turbine model has not yet been selected had not yet been selected at the time of the ESIA, the Zoning Plan for K2 uses the “worst case” dimensions for the WTGs shown in Table 8-1, below.

Item	K2 Turbines	K1 Turbines
Height at rotor tip	Max 200 m	170 m
Rotor Diameter	Max 170 m	120 m
Turbine Output	Max 6 MW	2.75 MW
Maximum Number of Turbines	18	38

Table 8-1 Turbine Dimensions

The approved Zoning Plan provides for the upgrading of three, parallel farm tracks (coloured in red in Figure 8-2) that will provide access to the WTGs.

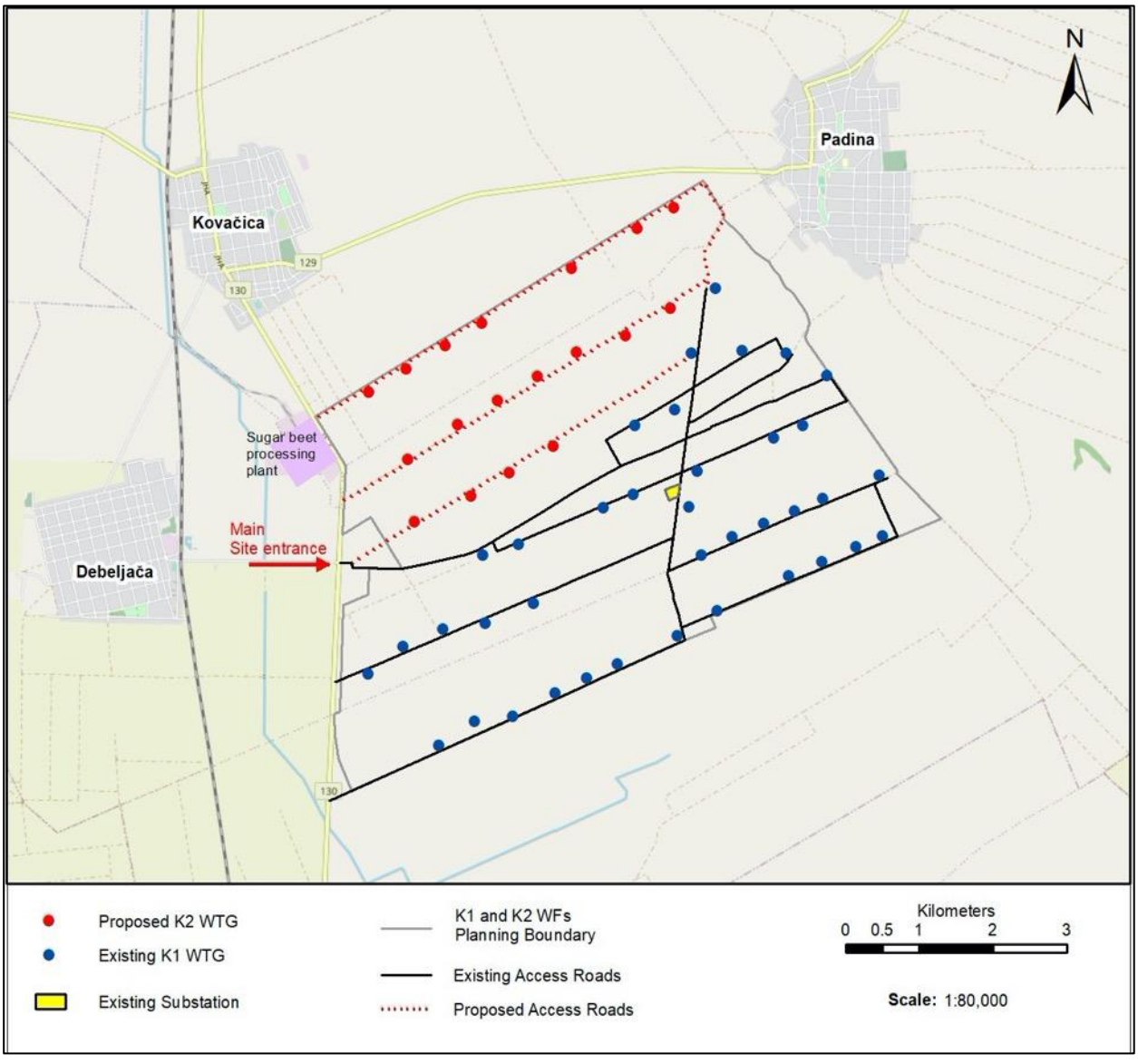


Figure 8-2 Wind Turbine Locations at the Kovačica Windfarm

In addition to the WTGs, the following permanent infrastructure will be constructed:

- Access tracks: A series of access tracks will be required to link the WTGs to the infrastructure on the site. Existing tracks will be upgraded wherever possible.

- Underground cables: The existing K1 underground cabling will be extended to connect the K2 WTGs to the substation. As with the K1 windfarm these cables will be buried in trenches running alongside the site access tracks. Communication links between each wind turbine, the meteorological mast and the control building/ substation will also be buried in trenches alongside the site access tracks.
- Areas of hardstanding: Each turbine would require a work area to accommodate the crane and turbine components during construction.

8.1 Site Access

The main access point to the Kovačica windfarm will be from the State Road No. 130 (category IIA) on the western boundary of the site, see Figure 8-2.

It is likely that the WTG components will be brought to Serbia on the Danube River and off loaded at the port of Pančevo. The components will then be transported by road along the State Road 130 from the town of Pančevo and then via smaller roads to the construction site. This is the same route as was used for the K1 windfarm. The transportation route will be confirmed once the turbine supplier and the overall dimensions of the WTGs have been confirmed.

8.2 Construction

The application for the Zoning Plan describes the approximate location of the WTGs and the access roads but does not consider the positioning of the construction compound, equipment enclosures, or laydown areas. The Building Permit lists the plots for turbines, cabling, access tracks and substation. The selection of the construction contractors and the detailed project design has not yet been undertaken.

It is EK2W's intention to locate the construction compound on open ground next to the existing control building (see **Error! Reference source not found.**). This land is not used for agriculture and is already owned by EK2W. The construction compound is temporary and will be removed following the completion of the construction. This compound will be used for storage of materials and wastes as well as the location for site office and mess facilities. It will also include an area for worker and visitor parking.

Construction activities will include:

- Preparation of the site area for development and creation of the construction compound;
- Fill importing/ exporting and site levelling;
- Foundation piling / excavations and pouring the concrete foundations;
- Installation of the wind turbines;
- Installation of ancillary plant;
- Services connections; and
- Commissioning.

Due to the size of the turbines, it will be necessary to construct substantial foundations. The location of the concrete batch plant has not yet been established but it is likely that it will be off-site.

The WTGs will be manufactured off-site and delivered to site on large road vehicles.

8.3 Operation

The K2 windfarm is expected to have an operational life of 25 years. The operation and performance of the WTGs will be managed by a specialist team provided by the O&M Contractor.

The control room in the existing Kovačica Control Building will be used to manage the operation of both the K1 and K2 turbines. The Building also contains an EK2W administrative office, and welfare facilities for staff and contractors. The on-site control room will be staffed from 08:00 to 16:00 from Monday to Friday. The control room team will also provide an out-of-hours rota system so that they can respond to breakdowns or emergencies. The Energy Permit requires that EK2W employ 7 individuals to manage and operate the K2 WF.

The O&M Contractor will also provide continuous monitoring of the turbines (including any fault or failure conditions) from an off-site Control Room. Should any operational issues arise then the O&M Contractor will try to resolve these from the Control Room and send an information email to their local team in Serbia.

The operation of the sub-station is the responsibility of EK2W, while the Interconnection infrastructure is the responsibility of the Serbian statutory transmission Electricity Supply operator, Elektromreža Srbije ("EMS"). The Interconnection infrastructure includes a High-Voltage Switchyard and Overhead line 220 kV, as well as Interconnection facility (Control building).

8.4 Decommissioning

As the windfarm approaches the last few years of operation EK2W will consider the closure or continued operation of the windfarm, i.e. will the windfarm be decommissioned or the wind turbines replaced. The decommissioning of a windfarm is not a complicated process and largely comprises the dismantling of the turbines and general site clearance.

As the operation of the windfarm does not involve the use of large volumes of hazardous materials it should not be necessary to conduct post operational clean-up. Basic operational control measures will be included in the design to ensure ease of decommissioning. Key difficulties associated with the decommissioning of a windfarm are the removal of foundations (if considered necessary) and the disposal of turbine blades, if they their design does not facilitate ease of recycling.

9 Project Timeline

The graphic in Figure 9-1 outlines the timeline for the K2 project. EK2W successfully obtained approval of the Zoning Plan in August 2019, the Location conditions in June 2020, the Energy Permit was awarded in March 2021, and the Building Permit on 8th June 2021.

It is EK2W intention to start construction towards the end of 2023, once the project financing has been put in place. Windfarm construction will take over a year and EK2W expect to begin commercial operation of the K2 turbines in the second quarter of 2025.

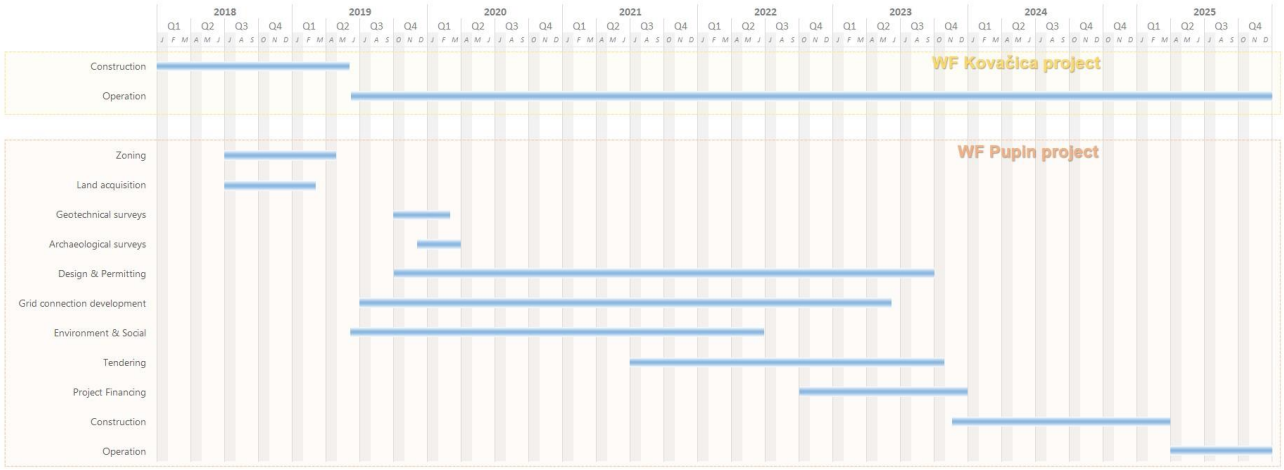


Figure 9-1 Timeline for the Kovačica 2 Windfarm

10 Preparation for the ESIA

An ESIA Scoping Study was prepared in 2019. The purpose of the Scoping Study was to plan the preparation of the ESIA; the surveys that would be needed and analysis that would be completed. The Scoping Study was undertaken in line with IFC standards, and the Study report was published in January 2020.

The Scoping Study indicated that the development of the windfarm could lead to a number of environmental and social impacts, both negative and positive. The ESIA considered each impact and proposed a series of design changes and control measures to mitigate the negative impacts. The bird and bat surveys were undertaken between July 2019 and July 2020. The data analysis and the associated modelling (e.g., the collision impact assessment) was undertaken in the autumn of 2022. The ESIA report was prepared during the first half of 2022.

The impact mitigations and management controls required by this ESIA are summarised in the Environmental and Social Management and Monitoring Plan, or "ESMMP". The delivery of these controls will managed

through the Project Environmental and Social Management System. The ESMMP is very detailed and is included in the main ESIA report.

The Scoping Study concluded that the ESIA should consider the following topics in detail:

- Landscape and Visual;
- Ecology and Nature Conservation (Birds and bats);
- Socio-Economic;
- Shadow Flicker;
- Cumulative impact;
- Traffic and Transport;
- Operational Noise.

In addition, consideration would be given to:

- Noise during construction and decommissioning;
- Archaeology and Cultural Heritage;
- Ecology and Nature Conservation – Species other than Birds and Bats, Habitats;
- Climate change;
- Radio-Communication and Aviation;
- Land and Groundwater Quality;
- Surface Water and Effluent;
- Ecosystem Services;
- Air Quality;
- Community Health, Safety and Security.

The Scoping Study confirmed that there are no Indigenous Peoples within the Area of Influence and this topic has been screened out of the ESIA process.

10.1 Baseline Studies

A series of surveys and studies were recommended by the Scoping Study to obtain the information that would be assessed during the ESIA. A summary of these surveys is provided in Table 10-1, below.

Table 10-1 ESIA Surveys

Key Issues for the ESIA	Assessment Standard or Methodology
Landscape and Visual Impact	The landscape and visual assessment (LVIA) was based upon a desk study and field observations. The LVIA considered the potential effects of the Project on the landscape and visual amenity of the study area; a 30km from the boundary of the WF. Field observations were used to select the relevant viewpoints and take viewpoint photographs. Zone of Theoretical Visibility models were calculated for the worst-case turbine model. Visualisations were created for each viewpoint to illustrate what the turbines might look like within the landscape. Data on the existing landscape and sensitive visual receptors available from the K1 WF LVIA was be updated. This allowed the combined effects of the K1 and K2 WFs on the landscape character and sensitive visual receptors to be assessed. Mitigation measures, to avoid, reduce and compensate for these impacts, was proposed.
Ecology and Nature Conservation – Birds	The bird survey work lasted over a one-year period to ensure that a sufficient impact assessment and mitigation strategy could be developed. The surveys included: • Vantage Point Surveys, • Breeding Raptor Survey (walkover census), • Breeding Farmland Bird Survey (transects sampling), The VP surveys are designed to quantify the level of flight activity and its distribution over the survey area. Data can also be used to provide an overview of bird usage of the site, which will inform the overview of potential disturbance and displacement. The VP surveys will provide input data for the Collision Risk Model.

Key Issues for the ESIA	Assessment Standard or Methodology
	Breeding Bird surveys will allow the evaluation of occurring population numbers, site's importance and help quantify impacts from disturbance and displacement. The ESIA also considered the Critical Habitats Assessment undertaken in 2018 and the surveys undertaken as part of the K1 ESIA, as well as the data collected from the K1 pre-operational and K1 post-construction surveys. The ESIA considered the findings of the IFC sponsored Rapid Cumulative Impact Assessment completed in 2019. Following the analysis of the survey data, an assessment was be carried out to determine the potential impact on birds and their significance. The significance of each impact was based on the relationship between receptor sensitivity and impact magnitude. Cumulative impacts were identified where they are likely to occur. Appropriate mitigation was developed to reduce any adverse impacts and enhance the beneficial.
Ecology and Nature Conservation – Bats	Extensive survey work was undertaken over a one-year period. This was done to ensure that a sufficient impact assessment and mitigation strategy can be developed within the ESIA. The surveys included: • Investigation of roost sites. • Manual bat detector surveys at ground level (transects). • Automated bat detector surveys at WTG locations, • Automated bat detector surveys at height (if mast will be available for installation of the equipment). Following completion of surveys, The ESIA analysis was carried out to determine the potential impacts on bats and their significance. The significance was based on the relationship between receptor sensitivity and impact magnitude. Possible cumulative impacts with K1 were also considered. Appropriate mitigation was developed to reduce any adverse impacts and enhance any beneficial.
Socio-economic	An initial stakeholder analysis was completed. These stakeholders included people farming land in the affected area and local community representatives from Debeljača, Kovačica and Padina. These people invited to stakeholder meetings were asked: • To identify and impacts that occurred during construction of K1 WF and how these were managed. • About the general dependence of the local population on the affected land for livelihood related activities. • If compensation which was provided to affected land owners corresponds to full replacement cost. A land acquisition survey was undertaken with a group of landowners whose land was acquired for the K2 WF and who have suffered damages of crops during the construction of K1 WF. The survey considered if compensation was provided at full replacement cost and if livelihoods were affected and restored.
Shadow Flicker	A Study Area of ten rotor diameters (1,700m) around each proposed turbine was considered. The shadow flicker model was developed using WindPro software. The identification of a 'worst-case' scenario was based on the findings of the K1 ESIA. This means that there is always sunshine, the wind is always blowing, and the wind and the WTG blades track the sun as the sun moves. The significance of the likely impacts was assessed using IFC Wind Environmental Health and Safety guidance. A significant impact is defined as shadow flicker for greater than 30 hours per year or 30 minutes. Any impact greater than this threshold requires further detailed modelling.
Cumulative impact	A Rapid Cumulative Impact Assessment of the three large windfarms in Vojvodina was completed in 2019. The findings of this assessment were considered in the K2 ESIA. Key issues were considered to include the potential impact on the visual landscape of the region, bird and bat populations, community health and safety, as well as socio-economic.
Traffic and Transport	A desk-based assessment of transport and traffic impacts was completed to: • establish the baseline traffic conditions along the route, • estimate the traffic levels likely to be generated during the construction phase, • conduct qualitative assessment of potential impacts, and • propose control and mitigation measures.

Key Issues for the ESIA	Assessment Standard or Methodology
Operational Noise	A two-week baseline noise survey was undertaken at key representative locations of noise sensitive receptors. The survey included a range of wind speeds and wind directions during both daytime and night-time periods. Consideration will be given to the noise emissions from the K1 windfarm and from the following sources of noise: Traffic, Sugar plant, Grain tank Kovačica, Mill Debeljača, Concrete factory Padina, Pančevo – Zrenjanin railway passing Debeljača and Kovačica. The detailed analysis of measurement data, software model calculations and existing input data will provide sufficient information to determine if noise mitigation measures are needed.

11 Potential Benefits and Impact of the K2 Windfarm

The Kovačica WF site was chosen due to the excellent wind resources, agricultural use of the whole site land the proximity of a high-capacity overhead power line. A new connector between the substation and the OHL was constructed in phase 1 and the K2 windfarm will use the existing substation and OHL connections to the national grid. No additional buildings or OHLs will be required.

11.1 Land Take

The land required for the turbines, roads and buildings is very low and only 0.84% of the farm land within the site lost to the windfarm infrastructure. An additional 0.17% will be temporarily disturbed or lost during construction. In total 5.82ha of land will remain permanently unavailable for agriculture after construction.

11.2 Biodiversity and the Potential Impact on Birds and Bats

The ESIA has concluded that there will be no direct impact of the windfarm on designated sites and habitats. The extensive application of intensive, agricultural monocultures in the area means that the ecological value of the area is low.

There a number of bird and bat species in the area that are protected by law but the ESIA has concluded that there will be no significant impact on these species. It was concluded that Saker Falcon nesting might be susceptible to displacement. However, this was considered to be highly unlikely due to the precautionary measures implemented.

The ESIA determined that the operation of the windfarm could have a significant negative impact on local populations of two bat species. As a precautionary measure, a programme of turbine shutdown has been developed. Once implemented, it is expected that this potential impact will be removed.

11.3 Potential Landscape and Visual Impact

The ESIA concluded that the proposed K2 WF layout is consistent with the K1 WF spatial pattern. The two windfarms would appear as one entity, retaining a balance with the surrounding open landscape between them.

The K2 windfarm will have a significant and permanent impact on the character of the landscape immediately to the north of the site. In particular, the K2 turbines may dominate the view from a small number of summer houses south of the village of Kovačica. Whilst these houses are not occupied all year, the K2 turbines will be a prominent feature of the landscape and will constitute a major adverse impact.

Once constructed, the Kovačica windfarm will be highly visible at a distance of up to 5 km. Beyond 5 km, the windfarm will have a minor impact on the landscape of South Banat Region. From the villages of Putnikovo, Kačarevo, and Banatsko Novo Selo the turbines will only be visible from houses on the edges of the towns.

The K2 wind turbines will be clearly visible from a small number of houses on the edges of Kovačica and Padina. From the edges of Debeljača, the K2 turbines will be more prominent than the K1 turbines but due to intervening vegetation but the views will be limited to upper parts of turbines. From the edges of Crepaja, the K2 turbines will add to the developed skyline but the change will not be great.

The turbines will be very visible to travellers on the sections of roads that bound the site, particularly between Debeljača and Kovačica and the No. 129 Road between Padina and Kovačica. With the exception of these areas, the visual effect on road users would be negligible.

There is little that can be done to screen the wind turbines but an off-site mitigation planting is proposed for a number of summer houses south of Kovačica which would have an open view of the K2 windfarm at a distance of less than 2km.

11.4 Potential Impact of Shadow Flicker

There is the potential for the impact of shadow flicker on any residential property to exceed the recommended threshold of 30 hours per year in the area north-east of the WF. A total of 61 properties would be affected of which 15 are periodically occupied summer houses, 2 houses appear to be abandoned and the remaining 44 are agricultural structures. The effect would occur early in the morning with the rising sun. At the majority of summer houses, the effect is not predicted to occur in summer months when their occupancy is the most intense.

The impact assessment was very conservative and took no account of existing screening features and limited summer house occupancy. It is therefore considered that the actual amount of shadow flickering is likely to be much less. EK2W will provide information to occupants of properties that may be effected by shadow flicker and will provide details on the timing and duration of the effect. Consideration will be given to the installation of hard screens, such as fencing, or the planting of scrubs or trees.

11.5 Potential Impact on Birds and Bats

An extensive programme of bird and bat surveys were undertaken between July 2019 and July 2020. A total of 126 bird species was recorded. The populations of 10 bird species are assessed to be of conservation value at the South Banat region level or higher. Of notable importance is the resident pair of Saker Falcon that nest regularly on OHL pylons within the site boundary. A total of at least 16 bat species was recorded; 5 bat species population are assessed to be of conservation value at the South Banat region level or higher.

The data from the bird surveys was also used as the basis for a Collision Risk Assessment. Very low collision risk (<1 collision over 25 years) is predicted for 2 species populations: Great Egret (*Ardea alba*) and Montagu's Harrier (*Circus pygargus*). Although incidental collision fatalities of these species cannot be excluded, such low additional mortality is highly unlikely to effect their populations at local level. Therefore, no impact of collision mortality from the WTGs on these species populations is expected.

The likely effect of collision mortality on the sustainability of the remaining 6 species is considered to be low and will not impact the local population.

The Saker Falcon is the most important bird of prey in the region. This species is known to show a high level of avoidance of turbine blades and collision with a rotating blade is an extremely rare event. Importantly, the Collision Risk Assessment predicts that less than two Saker Falcon will collide with a blade over the entire 25 years of windfarm operation. This is well below the number of Saker Falcon shot or poisoned each year. The operation of the windfarm is extremely unlikely to have a negative impact on the local or regional population.

EK2W are actively involved in a programme to support Saker Falcon Nesting in Western South Banat Region. This Programme should ensure that all possible negative effects (disturbance, displacement and mortality risk) on the most valued bird species population have been completely avoided or minimised.

None of the South Banat WFs can act as a barrier along the only important migration route along the Danube River valley as this more than 10 km away. Therefore, no or negligible, and thus not significant, cumulative impact of displacement (barrier effect) due to operation is assessed on populations migrating across the region, including priority VEC White Stork migrating population.

11.6 Potential Socio-Economic Benefit and Impact

The development of Kovačica windfarm will have a positive benefit on the local economy. Whilst any windfarm does not employ large numbers of people there will be some employment opportunities for local residents.

In addition, EK2W will provide a revenue stream for local government and communities through taxation. Regular payments into the municipal budget will provide some stability in the long term and will enable the municipality to make more significant investments for the benefit of local residents.

EK2W will continue to provide local organisations with sustainable financing opportunities which will enable them to plan and implement more sustainable projects.

12 Stakeholder Engagement Plan

A Stakeholder Engagement Plan ("SEP") has been developed for the K2 Project. Interested Stakeholders can request a copy from EK2W. The purpose of the SEP is to identify key stakeholders so that they can contribute their views and provide relevant information to the ESIA. The SEP will be reviewed and updated on a regular basis. If activities change or new activities relating to stakeholder engagement commence, the SEP will be brought up to date. The SEP will also be reviewed periodically during project implementation and updated as necessary. The SEP includes the following:

- Public consultations and information disclosure requirements;
- Identification of stakeholders and other affected parties;
- Overview of previous engagement activities;
- Stakeholder engagement programme including methods of engagement and resources; and
- A community grievance mechanism that can be used by stakeholders to record and manage complaints, concerns, queries and comments.

Stakeholders could 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. The initial Stakeholder Engagement Plan identified the stakeholder groups that may be affected by and/ or interested in the Project, as well as proposed communication methods and media for each group. The identification of Stakeholders was greatly influenced by experience gained from the K1 windfarm project. The SEP identified the following external stakeholders:

- Residents of Kovačica, Padina and Debeljača.
- The general public, including interested NGOs or other organisations.
- Hunting organisations active in the project area.
- Owners and users of land affected by the Project during construction, by transport or in any other way (i.e. for crop damage and losses).
- Municipality and local community representatives from Kovačica, Debeljača and Padina.
- Relevant national and provincial level authorities (who will be statutory consultees to the Serbian regulatory processes), including but not limited to:
  - Ministry of Mining and Energy;
  - Ministry of Construction, Transport and Infrastructure;
  - Ministry of Interior;
  - Provincial Secretariat for Urbanism and Environment;
  - Provincial Institute for Nature Conservation;
  - Institute for the Protection of Cultural Monuments in Pančevo;
  - Roads of Serbia;
  - Telekom Serbia;
  - Serbia Gas;
  - Directorate for Civil Aviation.

The SEP identified the proposed mechanism for communicating with these Stakeholders.

During the ESIA scoping phase, a meeting was held by the Company E&S Manager and the social consultants with the Deputy Mayor of Kovačica Municipality, who praised the K1 windfarm project and stated that the municipality is fully supportive of phase II, i.e. K2 windfarm. More meetings with various stakeholders were held during the ESIA development stage.

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