Luxembourg, 17th September 2020

Public

Environmental and Social Data Sheet

Overview

Project Name:	*WINDFARM VLASIC*
Project Number:	*20190843*
Country:	*Bosnia & Herzegovina*
Project Description:	*The project consists of the construction and operation of up to 50 MW wind farm on the Vlasic mountain in the region of Travnik, Bosnia and Herzegovina (BIH) and the connection to the nearby national grid.*

EIA required: yes

Project included in Carbon Footprint Exercise[1]: yes

(details for projects included are provided in section: "EIB Carbon Footprint Exercise")

Environmental and Social Assessment

Environmental Assessment

The project concerns the development, implementation and operation of a 50 MW wind farm on the Vlasic mountain in the region of Travnik, Bosnia and Herzegovina (BIH) and the connection to the nearby national grid. The project's turbines and other components are still to be procured and the final design to be made. According to available information, it is expected that in total the project will be equipped with up to 18 turbines with a unit capacity of around 3MW. The project will also include construction of around 6.5 km of the high voltage (HV) transmission network (TS Zenica 1 – TS Travnik 1 110kV transmission line), civil works for access roads and transformer station as well as the provision of installation equipment (cranes) and transportation of turbines.

Once operational, the wind farm will supply electricity to the national transmission grid and thus significantly contribute to achieving national targets of electricity generation from renewable energy sources.

The project falls under Annex II of the EIA-Directive 2011/92/EU, (as amended by Directive 2014/52/EU), requiring the competent authorities to determine whether an EIA is required. Competent authorities, in BIH, screened the Vlasic wind farm in and required an EIA. The environmental assessment work carried out to date has resulted in an overall understanding of the environmental and social risks and mitigation measures needed for a project of this nature. The corresponding ESIA documentation has been submitted to the Ministry of Environment, the national competent authority, at the beginning of 2017 and received final approval in August 2017. However, the environmental permit for its grid connection is still

[1] Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO2e/year absolute (gross) or 20,000 tonnes CO2e/year relative (net) – both increases and savings.

pending. Environmental permit for the grid connection will be obtained in next phase of project. According to Rulebook of the connection to the power grid (Official gazette of BiH no: 95/08, 79/10 i 60/12the permit will be obtained by the national TSO - Elektroprenos BiH.

Both the planning approval procedure and the mandatory EIA involved public consultation with 30-day publication of the ESIA on the website of the Ministry of Environment in line with the local EIA legislation.

In addition, the promoter has organised, in cooperation with the local affected municipality Travnik, a stakeholder round table at which the project was presented . No complaints have been received during the ESIA process. Given that the final wind turbine model has yet to be selected , some modifications of the permit conditions may be required.

The project's ESIA study was carried out with the support of international consultants supported by the EIB through the technical assistance (TA) provided via Western Balkans Investment Framework (WBIF). The environmental and social (E&S) issues associated with the project include: (i) biodiversity (flora, fauna, avifauna), (ii) increased noise pollution, (iii) negative visual impact including shadow flickers,(v) increase of dust emissions during the construction phase, (vi) cultural heritage, (vii) hydrology and hydrogeology and (viii) general workplace and community safety. The ESIA study detailed the baseline conditions, the likely environmental and social impacts (direct, indirect and cumulative), assessed the significance of the impacts through specific studies and modelling and proposed mitigation measures to be put in place in accordance with the mitigation hierarchy. The environmental approval contains requirements to mitigate environmental impacts from noise and shadow flickering. It further entails the requirements for precautionary mitigation measures for works that are to be undertaken close to nesting locations for birds, and the monitoring programme for birds and bats during construction and operation. With the mitigation measures in place, the assessment concluded that the project will not have significant negative residual environmental impacts.

An Environmental and Social Action Plan (ESAP) has been agreed with the promoter which sets out the material E&S measures and actions that are required for the project to achieve compliance with the EIB E&S Standards over an agreed timeframe. The ESAP will form part of the legal documentation.

Noise: During the assessment, noise calculations were made in order to identify whether any areas would experience levels that exceed permitted noise levels. It was determined that there would be no noise exceedances except for the area around the mountain lodge „Devečani", which is used as a tourist base. However, these exceedances relate to the external noise and does not take into account the attenuation that would result from the building itself. It is considered that inside the building, noise levels are unlikely to be exceeded. However, this would need further analysis, including additional noise measurement, and if necessary apply further mitigation measures, as specified in ESAP.

Visual impact: Due to the particular location of the proposed wind farm, wind turbines will be visible for relatively long distances. However, it is considered that the views from settlements such as Turbe and Travnik will not be significant due to the distance and the intervening terrain. Significant effects will be experienced closer to the site on exposed mountain areas such as the plateau, mountain peaks and from valleys and slopes that are closer to the site. No cultural heritage features have been identified on the project site or will be impacted by the project and no significant effects have been determined.

Biodiversity: Given that the Vlasic Nature Reserve (also proposed as potential Natura 2000 site) falls within the direct area assessment of the project, special attention was given to biodiversity and ecosystems aspects. Given the presence of nationally protected species and

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habitats in the greater project area, a specific assessment on the impact on avifauna was carried out.

A full one year, biodiversity baseline field studies were carried out and a number of mitigation measures, such as the selection of the site outside of the main birds' migratory routes, repositioning of some of the turbines, avoiding key habitats (both flora and fauna) were put in place. The field surveys indicate that the project is not on the main bird's migratory routes, as the wind farm site is away from the edges of the rift valley and it is not heavily covered with vegetation.

During construction potential disturbance may be experienced by a number of protected species including the Common Buzzard, Golden Eagle, Common Kestrel and Alpine Chough, even though the nesting sites for these species are over 200m away from the construction activities.

Roads and position of turbines will be located in such a way that they, if possible, do not interfere with conservation areas or protected species (e,g, birds of pray: Common Buzzard, Golden Eagle and Short-toed Eagle..) in the area around Paklarske rocks and cliffs due to the high level of bird flight activity in this area. Special precautions will therefore be taken for birds of prey and bats and the construction work will be planned so as not to occur during breeding periods in specific areas.

Bat inventories have shown the presence of three bat species of the genus: Pipistrellus, Nyctalus and Vespertilio within and around the Vlasic wind farm. The proposed wind farm Vlasic is positioned away from the forest areas which have the highest bat activity (the nearest turbine is located approximately 500m away). Turbines are also positioned away from watering holes, thereby avoiding affecting bats in these areas. Foraging routs (forests) are on the distance approximately 700 m from the concession area. If the operational monitoring results indicate the need to further minimise the impacts on bats, additional mitigation measures may include increase of the wind turbines cut-off speed, as bats activity is decreased at higher wind speeds. All carrion that is found within the project site will be removed in order to prevent carrion eating birds from entering the turbine area. Birds and nests of registered protected birds of prey such as the Golden Eagle and the Common Buzzard will be continuously monitored throughout the life of the wind farm. Where any collisions with turbines occur, these will be recorded. Monitoring information will be passed onto the relevant authorities responsible for environmental monitoring and tracking of biodiversity losses (i.e. the Federal Ministry of Environment and Tourism).

Two years of the birds and bats operational monitoring is mandatory under the environmental permit, which will inform further mitigation and adaptation measures if necessary.

The ESIA has indicated potentially significant adverse impact on sensitive flora communities (alpine and subalpine pasture) during construction which may trigger a Critical Habitat Assessment under the EIB E&S Standards as they are two natural habitats of Community interest. The detailed planning has respected safety distances to surrounding communities, protected habitats and important wetlands and other sites of specific environmental and geologic value. However, some of the areas planned for the placement of the turbines will require special attention as they may have significant impacts on critical habitats for highly threatened or unique species and ecosystems. This will be further assessed before the start of the construction. Additional TA may be provided to carry out a critical habitat assessment and design a mitigation strategy to achieve net gains of those biodiversity values for which the critical habitat was designated.

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EIB Carbon Footprint Exercise

Estimated emissions savings are 125 kt/year of CO2 equivalent emissions, based on the estimated electricity production of 106 GWh/year[2]. Given the intermittent power generation in wind farms in a market with low growth, it is assumed that 75% of generated electricity is replacing power generation in existing fossil fuel-based power plants (operating margin) and 25% of generated electricity is replacing power generation in new combined cycle gas power plants.
For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost'.

Social Assessment

The implementation of the Project will not lead to any involuntary physical nor economic displacementThe current use of the lands is mostly for cattle grazing, and such activity will continue to be carried out in the area with the normal precautionary measures in place and will not be affected by the Project.

The promoter will be engaging with the landowners in order to secure voluntary agreements for the lands required by all Project infrastructures. For some of the land plots required for the wind farm and/or interconnection facilities, if a voluntary agreement cannot be reached, the Promoter intends to avail of the compulsory expropriation, in line with BIH legislation. In BIH, all Projects required for the implementation of activities within the electricity sector, including generation, promoted by public or private companies, are considered public utility, and are subject to compulsory expropriation procedures to be carried out by the competent authority in the interest of the promoters. According to BIH legislation, a proclamation of public interest needs to be in place before any such expropriations can take place. As a precondition for that, the Central Bosnia Canton has to adopt the spatial/physical plan for the Project. This decision is currently pending. A draft of the spatial/physical plan was adopted in December 2019, which envisages the construction of the wind farm at the project location.

Land acquisition for the associated overhead transmission line (OHL) is the responsibility of the transmission company TSO. The Bank has therefore required the promoter to ensure that the process for land acquisition for the OHL follows due process and that all steps are documented. It was agreed with the promoter that a land acquisition and compensation plan (LACP) be developed and the public informed for both the wind farm and OHL before negotiation with land owners start. This LACP needs to be developed to the satisfaction of the Bank. A grievance mechanism will have to be established before the land acquisition process can begin. Furthermore, the promoter is requested to collaborate with the TSO to obtain all the relevant information on the land acquisition process for the overland transmission line to ensure that an equivalent approach is taken for the associated interconnection line by the TSO.

Public Consultation and Stakeholder Engagement

The promoter's stakeholder engagement and public consultation during ESIA process are documented in a Stakeholder Engagement Plan. This document lists all known stakeholder groupings and outlines a set of future engagement activities, a key component of the wide-

[2] P70 estimate, based on the Vestas turbine design option from the Arup Bankability report.

ranging stakeholder engagement planned for the project. The Promoter is required to establish a project-level grievance mechanism.

The promoter, in cooperation with representatives of local government and stakeholders, organised a round table in the municipality of Travnik on topic "Renewable energy sources - wind energy - present and future", in November 2015. The aim of the round table was to inform the local community / stakeholders about the benefits of wind energy, as well as the planned implementation of the WPP Vlašić project. The round table was attended by officials of the Central Bosnia Canton, representatives of the Municipality of Travnik, representatives of companies with experience in wind energy, members of the Association of Cattle Breeders, mountaineering associations and locals who gravitate to the planned WPP Vlasic.

The promoter will continue to engage with affected stakeholders during the project construction and operation and implement partnership programmes in line with ESAP.

The link to the ESIA report has been published on the EIB website as well as on the promoter's website.

Other Environmental and Social Aspects

The capacity and management structures of the promoter to address environmental and social impacts and requirements, in particular related to Health, Safety, Security and Environment and the biodiversity monitoring programmes, is deemed sufficient. The promoter will be supported by a Project Implementation Unit (PIU) staffed with an experienced international PIU consultant and other specialised biodiversity consultants.

The promoter has obtained ISO 14001 accreditation for its generating facilities which will form the basis for the project ESMS. The promoter will submit annual reports that provide details on the implementation of each ESAP requirement and on compliance with the Bank's Requirements. Any mitigation and monitoring measures identified as a result of further surveys will be included in the project Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP).

Conclusions and Recommendations

With the following conditions in place, the project is acceptable for financing in environmental and social terms. The agreed ESAP has been disclosed on the EIB website.

Prior to First Disbursement:

- Obtain the urban permit for the wind farm.
- The promoter shall update the pre-construction biodiversity study covering potential impacts on critical habitats and sensitive birds and bats species to the satisfaction of the Bank.
- Any mitigation and monitoring measures identified as a result of further surveys will be included in the project Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP), to the satisfaction of the Bank.
- The promoter shall prepare/update Land Acquisition and Compensation Plan (LACP), including Entitlement matrix - table of expropriation process is required to guide the

implementation of the expropriation process and ensure that equivalent approach is taken for the associated interconnection line by the TSO.

- Grievance mechanism to be established and implemented accordingly.
- The promoter shall appoint a PIU consultant with international E&S experience to further assist the promoter during the project implementation of in line with ESAP and EIB E&S standards in general.

The Promoter undertakes to:

- Further updates of ESIA and other studies to ensure compliance with all permits and authorisations in line with project implementation schedule for the wind farm, its grid connection and for the roads construction and modifications.
- Implementation of mitigation and monitoring measures identified in ESAP, CEMP and OEMP, including minimum two years of the birds and bats operational monitoring as mandated in the environmental permit, which will inform further mitigation measures if necessary.
- Receipt of the Operations Permit.
- Additional public consultation as a part of its stakeholder engagement plan implementation.