

# KOVAČICA WIND FARM, SERBIA

Gap Analysis - EBRD Environmental & Social Policy

March 2017



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## 1. Gap Analysis Summary

### Overview

The Auditor considers that the Kovačica Windfarm Project has been located and designed to minimise environmental and social impact. The 2014 ESIA Report is a good quality document and the general findings and mitigations remain valid in February 2017. The Project has been developed in compliance with local regulations and, with the careful application of the revised ESAP, the Project will meet the requirements of the EBRD ESP. The potential impact on birds and bats is expected to be low but this must be confirmed by careful monitoring. There is no need for any additional environmental or social impact studies prior to Financial Close.

The Project will be a key element of the national target to generate 500MW of electricity from wind power and is central to the government's target of generating 27% of the country's overall energy requirements from newly developed wind power by 2020. Of local benefit will be a tax revenue to the Municipality. The number of new jobs created is not expected to be high but local people will be able to continue farming the land.

The progression to construction and operation means that the developers' focus will necessarily move to the preparation and delivery of appropriate management programmes. This must now be the primary objective of the ESAP.

### Key Issues

The ESIA for the Kovačica WF was prepared by independent consultants (WSP) in 2013-2014. The ESIA was completed in compliance with Serbian national standards and relevant EU Directives. In summary:

1. The Assessment methodologies were in line with international best practice. Of particular relevance is the use of the SNH methodologies for bird surveys and Collision Risk Assessment (CRA).
2. The layout and basic design of the WF is unchanged and the Wind Turbine Generator (WTG) model has been confirmed as the GE 2.75MW-120. This unit is an evolution of the GE 2.5MW-120 model used as the basis of the ESIA. The 2.75MW-120 WTG will be slightly smaller than the candidate unit; the new hub height is 110m and the new tip height of 170m (these were 130m and 190m respectively) and the noise generation will be the same as the 2.5MW unit.
3. Whilst the bird survey data is now almost three years old the Auditor does not consider that additional survey work would be required prior to FC. The original

work was done very carefully by local specialists and was checked/ reviewed by WSP staff. The ESIA predicts that the impact of the WF on birds and bats will be low to medium and there is no evidence to suggest that the species list or likely range of movement will have changed substantially during the intervening period. It is noted that the new WTGs have lower hub and tip heights than used within the ESIA. However, the new heights are within the Potential Collision Risk Height of 70-190m used within the original CRA. The ESAP contains specific requirements for survey and monitoring work prior to construction, during construction and during operation and these requirements are considered to be adequate and appropriate.

4. There is no direct or indirect impact on any designated or identified nature conservation areas within 50 km.
5. The Project NTS is a good document but requires an update to reflect the current status of the Project. It would be beneficial to edit the text so that is less technical.

The Project is currently in compliance with National permitting and regulatory requirements. Whilst a number of the Project permits have expired (due to programme delays), e.g. construction should have started within 2 years of the formal approval of the local EIA, EWK have obtained the necessary permit extensions. In addition, the regulator (Vojvodina General Secretariat for Urbanism, Building, and Environmental Protection) was formally notified of the change of WTG model and EWK have obtained the necessary No Objection letter from the regulator.

The WF is being developed on land entirely used for agricultural production. EWK obtained easement agreements for the land needed for the development in compliance with national law and EBRD PR5. There was no requirement for voluntary or involuntary resettlement or economic displacement. New Energy Solutions (NES) have in place all the necessary agreements with landowners to allow the Project to be constructed. The farmers currently working the land will be able to continue doing so.

The land required for the electrical substation and the construction compound has been purchased by Electravinds K-Wind (EWK) on a willing-buyer, willing-seller basis. The location of this substation (in the centre of the WF) was, in large part, dictated by the availability of a big enough land parcel from a single owner. NES took a similarly pragmatic approach to the micro-siting of the WTGs; the final locations were determined by which landowners were willing to sign the proposed easement agreement. These

easements are not time limited (in contrast to a lease agreement). The financial compensation paid by NES is considered by the Auditor to be equitable and in line with national land/ agricultural production valuations. The landowners were given a choice of receiving either an annual payment of €1,000 per WTG for the 25 year life of the WF or a one-off payment of €12,500 in year one. The majority of landowners have accepted the one-off payment and no grievances have been raised over this matter.

It is noted that the proposed WTGs are located in the southern half of the red line boundary of the WF. This would mean that EWK have sufficient space to almost double the capacity of the WF in the future. However, this could only take place if the Serbian cap on windfarms (500MW) is increased after 2020. If such an extension was proposed then it would be subject to detailed ESIA at the time and careful consideration of any cumulative impact with other windfarms that have been built.

Whilst the turbine supplier has been selected (GE will supply and install the WTGs as well as provide the FSA for their long term operation) the invitations to tender for the BoP contract were only issued in late December 2016. This means that at the time of Gap Analysis there are no detailed policies, procedures or management plans for either construction or operation of the WF. The ESAP contains a number of requirements relating to construction management and it will be necessary to ensure that the BoP contractor is contractually bound to help meet these requirements. The ESAP has been amended to reflect the proposed contractual structure for the Project.

The SEP provides a good framework for stakeholder engagement but it lacks detail and appears not to have been used to guide stakeholder engagement activities or record feedback from these activities. NES have employed a local individual (with a legal background) to act as community liaison manager. This individual works from a small office in Kovačica and knows the district and many of its inhabitants well. It is clear to the Auditor that engagement activities have been wide ranging and frequent but the output must be more readily available to the Lenders. It will be necessary for NES to use the SEP to help plan the communication and engagement activities in preparation for, and throughout the construction period.

During the Gap Analysis site visit, meetings were held with elected representatives of the Kovačica municipality and the communities of Padina, Crepaja, and Debeljaca. The responses were very positive and there seemed to be no sense of disillusionment with Project delays. The local expectations for the Project were not excessive, e.g. the Mayor of Kovačica considered that it would be good if the Project could generate 10 to 15 jobs for local people. Each group stated that the expected benefits of the Project would be tax revenues for the municipality, improved infrastructure that would benefit local farmers, local procurement and employment. Careful consideration must be given to how these jobs might be realised (and possibly a specific, contractual responsibility placed upon the BoP and FSA

contractors for the creation of local jobs). Creating and developing educational links with local schools and colleges would be of benefit to the long term acceptance of the Project and to help develop a broader interest in engineering.

NES has made no specific progress with the ESAP that was prepared in December 2013. This is not wholly surprising as many of the Actions relate to the construction or operation of the WF which will not start until the third quarter of 2017 (at the earliest). The Auditor has provided suggested updates/ edits to the ESAP (see Section 13 of this report) to make the Actions/ deliverables more specific and to assist in the development of responsibilities that might be placed on the BoP and the FSA contractors.

There are 7 windfarms planned for development within the municipality of Vojvodina. This is due in very large part to the geography of the region and the prevailing wind conditions. In April 2016 the Ministry of Mining and Energy confirmed that the following projects would be included within the national 500MW capacity target for electricity generated from wind turbines: 158.4MW Čibuk 1; 104.5MW for Kovačica; 102MW for Plandište 1; and the Elicio projects at Alibunar and Malibunar of 42MW and 8MW, respectively (416MW in total). Local intelligence suggests that Kovačica and Čibuk will be the first WFs to be built in the region. The Plandište developers are thought to be requesting changes to their construction permit and may also change the WTG supplier. The other large WF planned for Vojvodina is Alibunar 1 (174 MW). The Alibunar 1 WF does not appear on the Ministry list and it is understood that development has been sold to a German company and some basic design changes are expected.

### Overview of Compliance with the EBRD E&S Policy

Despite the long lead time for this Project it remains in the early stage of development. As such, the preparation and delivery of management controls will only take place once the Project contractors are in place (i.e. the WTG supply, the Balance of Plant and Full Service Agreement). The Auditors' view of compliance with the EBRD Performance Requirements as described within the ESP 2014 is:

- **PR1 - Partial Compliance.** A good quality ESIA has been prepared but there is no ESMS in place. EWK do not yet have an environmental policy or a basic framework of a workable environmental and social management system. Simple but robust environmental and social management plans must be developed on the basis of the ESIA findings. Monitoring and reporting mechanisms must be created for both construction and operation (including a formal ESMP). The staffing of the developer organisation must be increased to ensure EWK have the necessary organisational capacity (environmental, social and occupational health and safety).

- **PR2 - Partial Compliance.** EWK and its sub-contractors must develop policies and procedures that ensures that they comply with Labour Law which broadly conforms to PR 2 requirements.
- **PR3 - Partial Compliance.** The Project will implement pollution prevention and control techniques in line with national and EU standards and sector's best practice. Plans for management of specific issues during construction and operation of the project (waste, earthen materials, spill response, etc.) will need to be developed.
- **PR4 - Partial Compliance.** EWK and its sub-contractors must develop policies and procedures that ensure that they comply with Labour Law which broadly conforms to PR 4 requirements. The ESAP places emphasis on communication with stakeholders and includes a specific requirement to prepare a Traffic Management Plan.
- **PR5 – Compliant.** The WF will be developed on land entirely used for agricultural production. EWK obtained easement agreements for the land needed for the development in compliance with national law and EBRD PR5 and there is no requirement for voluntary or involuntary resettlement or economic displacement. Current farming practices will continue.
- **PR6 - Partial compliance.** EWK must employ (either as a member of staff or a contractor) a suitably qualified Ecological Clerk of Works at least two months before construction begins. Additional bird survey work must be undertaken prior to construction to provide a baseline for the surveys to be undertaken during construction and operation.
- **PR7 - Not Applicable.** There are no Indigenous Peoples or communities in the area.
- **PR8 - Partial compliance.** The project developer has a system in place for management of impacts on cultural heritage, including the close cooperation with competent authorities. A chance finds procedure must be developed and implemented for the project.
- **PR10 - Partial Compliance.** The SEP must be developed (to include greater detail) and maintained. The ESAP places specific emphasis on communication with affected people prior to, and during construction.

### Potential Project Risks

The Auditor considers that there are no 'High' Risks associated with the proposed Project. The following risks have been identified:

1. It is likely that the construction periods for a number of the shortlisted windfarms will overlap. These overlaps may cause operational risks (Medium Risk) which could potentially result in environmental and social risks. The main operational issues are:
  - a. The port at Pančevo will be used by a number of WF developers. The port has limited capacity to off-load very large components and could only provide temporary storage for a small number of WTGs.
  - b. The transportation routes for the WFs separate just to the north of Pančevo town but the highway department and police force are likely to impose restrictions on the timing and duration of heavy vehicle movements through Pančevo itself. Each WTG will require a convoy of six, very large, slow moving trucks. Traffic congestion/ nuisance is highly likely as the national highway is very busy. A police escort will be required for each convoy. It is not yet known if the convoys will be expected to travel during the day or at night. However, it is likely that only one or two convoys could be moved within a 24 hour period. If it is assumed that the police allow the movement of two convoys during two, 24 hour periods each week it might take 35 weeks to deliver the WTGs for the four largest WFs alone (a total of 140 WTGs; 38 for Kovačica, 25 for Alibunar, 20 for Kosava and 57 for Čibuk). The current Kovačica programme allows 22 weeks for turbine erection and cold commissioning. Poor transport planning and coordination could pose a reputational and a programme risk to the EBRD.
  - c. It is understood that GE plan to erect the WTGs directly from the delivery trucks and that they expect that each crane will be able to erect 1.2 WTGs during a six day working week (daylight hours only). Assuming a worst case scenario that Kovačica, Alibunar and Čibuk will be constructed in parallel then the WTG installers are likely to need a total of 6 cranes and 6 sets of specialist delivery trucks. The availability of cranes and specialist trucks could cause a programme risk.
2. The delivery of large numbers of WTG elements over a protracted period of time will pose a community health & safety risk. The transportation route passes through Crepaja village and it is important that careful consideration is given to the increased risk of road traffic accidents. This is considered to be a Low Risk to the Project but it is recommended that the ESAP include a requirement to prepare a Traffic Impact Assessment.

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3. The Kovačica WF will have an adverse impact on avifauna (Low to Medium Risk) related to potential mortality of birds moving across the site; this may include small numbers of endangered bird species (e.g. the ESIA modelling predicts that “2.88” Saker Falcons will be killed over 25 years of WF operation). Whilst this predicted mortality is a low it is important to implement and maintain suitable monitoring processes and procedures to protect local raptors and migratory species. The potential reputational risk for the EBRD should continue to be managed via the ESAP. In addition, several wind farms in the project area are under development, increasing the risk of cumulative impacts on birds (due to barrier effect or displacement).
    - a. The Institute for Nature Conservation of Vojvodina Province requirement for “*continuous monitoring of bird movement*” is likely to be best met by the employment of a trained observer rather than the installation of a radar system. This individual will be able to talk directly to WF control room and describe/ confirm which WTGs need to be feathered to prevent bird loss.
  4. The Institute for Nature Conservation of Vojvodina Province require that a series of Species Protection Plans (SPP) be prepared for the Saker falcon, common buzzard, Eurasian sparrow hawk, common kestrel and all bats species. The Institute require that the SPP for the Saker requires construction to be avoided during the Saker Falcon breeding season if nesting sites are observed within the local area. This could impact upon the construction programme but the risk is considered to be Low. The developer must ensure that the SPP has a direct link to the Construction Environmental Management Plan (CEMP). Its implementation will require involve close cooperation between the BoP contractor and the Ecological Specialist employed by EWK. The planned pre-construction bird survey should establish the presence of breeding birds and their nesting site.
  5. Management Capacity: It would appear that the developer intends to keep the staffing levels within EWK low and to obtain direct support from the Owners Engineer and other professionals. It is important that EWK have sufficient internal capability to ensure that the Project is delivered in line with the requirements of the ESAP. This is considered to be a Low level Risk. It is therefore important that:
    - a. EWK employ a small team to take internal responsibility for the management of ESHS matters. This service could be provided by New Energy Solutions (NES), the original developer, who do have a small, knowledgeable team in Belgrade. NES would need to recruit an H&S specialist (at least during the construction period) and an ecologist/ ornithologist for the long term. This NES team would need to be responsible for the preparation and maintenance of the ESMS (currently, there is no management system in place), drafting the basic EMP (including the CEMP and OEMP), data collection from the BoP and FSA contractors, liaison with the regulators, community engagement and preparation of the annual reports to the EBRD.
    - b. The final contracts with the BoP and FSA contractors must include clear allocation of roles and responsibilities to ensure compliance with requirements of the ESP (2014) and the agreed ESAP.

## 2. Context of the Gap Analysis

### Background

The European Bank for Reconstruction and Development (the “EBRD” or the “Bank”) and Erste Bank (“Erste”, and together with EBRD the “Lenders”) are considering providing finance to the Kovačica Wind Farm (“the Project”) in Serbia. The Project is being developed by Electrawinds K-Wind d.o.o (EWK) and will entail construction and operation of 38 wind turbines, each with capacity of 2.75 MW, plus a 220/33 KV substation. The site covers an area of about 3,700 hectares and is located on farmland near the town of Kovačica in the province of Vojvodina, about 50km northeast of Belgrade.

As this Project involves the development of a greenfield, EBRD has assigned it a Category A, which means that a comprehensive Environmental and Social Impact Assessment (“ESIA”) and review of associated documents must be carried out, followed by their public disclosure for a minimum period of 60 days. A detailed ESIA has been prepared by WSP for this Project and approved by local environmental authorities in March 2014. WSP have also prepared a draft Non-Technical Summary (“NTS”), a Stakeholder Engagement Plan (“SEP”) and an Environmental and Social Action Plan (“ESAP”).

In-line with the Lenders’ requirements, the Gap Analysis:

1. Analysed the Project documentation and information gathered to assess compliance with:
  - National requirements for environmental, social, health and safety, and public consultation issues;
  - All relevant EU substantive environmental standards; and,
  - EBRD requirements (2014 ESP and PRs).
2. Reviewed the environmental, health and safety and social mitigation measures proposed for adequacy.
3. Assessed if public consultation and stakeholder engagement had been tailored for the Project, is meaningful and will allow for disclosure of information and public participation in decision-making.
4. Assessed if the Project will include all reasonable measures to avoid, minimise or mitigate any adverse change in environmental and social conditions and impacts on public health and safety, especially with respect to any disproportionate impacts on any group of people.

5. Identified requirements for any further investigations and supplementary documentation that will need to be prepared as well as additional procedures and activities that will need to be undertaken so as to meet the EBRD’s PRs.

### Project Description

The Kovačica Wind Farm is to be located on a 3,711 ha land plot between the settlements of Kovačica, Padina and Debeljaca (see Figures 1 and 2, below). The Project consists of 38 WTGs with an individual rated capacity of up to 2.75MW, giving a total capacity of 104MW. The turbines would be three-bladed downwind, horizontal axis wind turbines that will be 110 m to the hub and 169 m to the blade tip. The turbines are connected via 33kV underground cables and junction stations which are connected to a Substation within the wind farm.



Figure 1 – General location and extent of the Kovačica WF

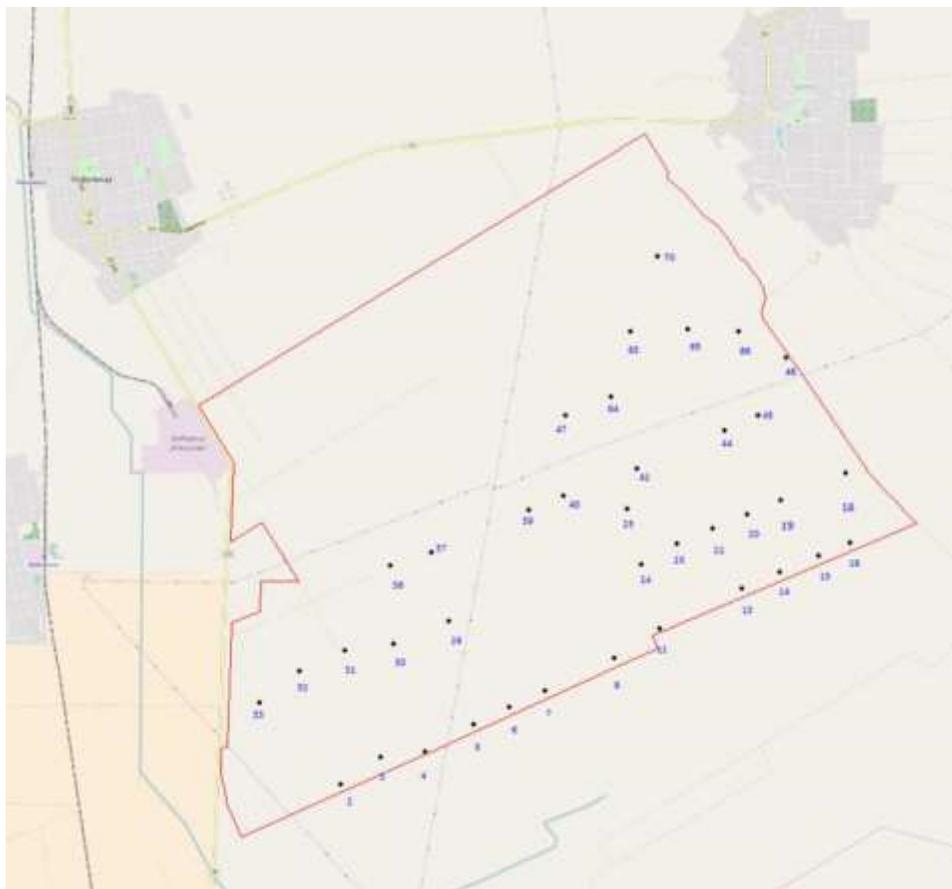


Figure 2 – Drawing of the KWF showing the location of the WTGs

The site is currently crossed by a number of overhead transmission lines:

- 110 kV high voltage overhead electricity transmission line in the direction east-west; and
- 220 kV high voltage overhead electricity transmission line in the direction north-south. The substation will connect to this 220kV OHL.

There are no residential properties within the proposed boundary of the WF. There is one structure within the site boundary, which is a small vineyard located in the east-central part

of the site. A disused and dilapidated two-storey house and associated outbuildings, with a small area of planted trees and vineyard.

The original design of the WF used the GE 2.5MW-120 WTG. GE have improved the operational design of this series of WTGs and EWK now propose to use the newer GE 2.75MW-120 WTG model. A higher power output has been achieved by increasing the torque. The ESIA was based on the 2.5MW unit but is unit but the change of WTG is not considered to be material (see the discussion below).

The Project will include the following infrastructure during construction and operation:

- Wind turbines and associated infrastructure;
- Crane hardstandings;
- Site entrance and access tracks;
- On-site access tracks between turbines including passing bays and corners;
- Underground cabling, both electrical and fibre optic, between the turbines;
- An on-site substation and maintenance building with welfare facility (c. 4 ha);
- Overhead power lines from the on-site substation to the existing 220kV overhead power lines;
- Temporary construction compound;
- Potential excavations/borrow workings, to provide materials for access roads and turbine
- Foundations; and
- Permanent meteorological mast(s)

### GA Reporting

The Gap Analysis was undertaken during February 2017. The Audit team comprised Mr Tony Iles (an experienced, independent E&S consultant from the UK), and Ms Maja Simov (a local E&S specialist working for InSitu, Belgrade).

The site visit was undertaken during week commencing 6<sup>th</sup> February. A site inspection was undertaken in order to obtain an understanding of the Project setting. As part of the inspection, meetings were held with elected representatives of the four local communities that will be effected by the Project:

- **Kovacica:** Milan Garasevic, Mayor of the Municipality.

- **Debeljaca:** Laslo Horti, Secretary of the local community council.
- **Crepača:** Dragan Jovanov, member of the local community council in charge for agriculture; Mirjana Kostic, member of the local community council; Milan Djukic, Secretary of the local community council.
- **Padina:** Jarmila Trnovski, Secretary of the local community council

The Gap Analysis is based upon discussions with the EWK management team as well as a review of:

- The Disclosure Package prepared in 2014 by WSP, i.e. the ESIA report, the NTS, SEP and ESAP.
- A technical DD audit undertaken by WSP/ Parson Brinkerhoff in December 2015.
- Information on land ownership and easements agreements.
- Information on the outcome of public consultation meetings held by EWK.
- Permitting documentation issued by the Serbian authorities.

The majority of this information was provided by EWK. It was not possible within the timeframe and agreed resource allocation to verify any of this information first hand.

The body of this report is structured around the Performance Requirements listed within the EBRD Environmental and Social Policy (2014). A Gap Analysis summary table is presented in the pages following the descriptive text. The Gap Analysis identified a number of issues that require higher levels of control and the 2014 ESAP was amended accordingly. The revised ESAP is presented in the last section of the report.

### Disclaimer

This report has been prepared by Mr AG Iles with all reasonable, skill, care and diligence within the terms of Contract with the EBRD (the Client) and is addressed to the Client. It takes into account the information made available by the Client and the developer, as well as the staff resources devoted to it by agreement with the Client. Mr AG Iles disclaims any responsibility to the client and others in respect of any matters outside the scope of the Contract. This report is confidential to the client and their assigns and Mr AG Iles accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known other than as allowed under this Contract.

## 3. PR 1 - Assessment and Management of Environmental and Social Impacts and Issues

### ESIA Process

EWK has successfully completed the local EIA procedure for the project. Prior to preparation of the EIA the municipality prepares the Detailed Regulation Plan of the wind farm. This was followed by the preparation of the Strategic EIA of that Plan. Both the Plan and the Strategic EIA are prerequisites for the Location Permit. Serbian EIA regulations require the preparation of, and acceptance of a Screening Application before the main EIA is undertaken.

The Location Permit allows for the construction of 38 wind generator towers, with a total maximum installed capacity up to 125 MW (i.e. WTGs up to 3.2 MW), with the maximum rotor blade length up to 60m and maximum total height of up to 190m, along with ancillary infrastructure and access roads to the existing local roads. The Permit also contains the technical specifications for the turbines and all ancillary structures as well as outlining planning.

Serbian regulatory framework relevant for the ESIA process has been harmonised with the EIA Directive (2014/52/EU), the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC). The authority in charge for the EIA has been the Provincial Secretary of Urbanism, Construction and Environment based in Novi Sad. The EIA prepared by WSP covered the wind farm (38 turbines with capacity up to 125 MW) and the substation.

The Screening Application was submitted in September 2013 and resulted in the Scoping Decision issued in October 2013, requiring the EIA<sup>1</sup>. The final EIA was submitted to the authority in December 2013. After the public disclosure (explained in more detail in the section on PR 10, below) and review by the appointed Technical Committee, the EIA was approved in March 2014. The Consent Decision specified that the mitigation measures and monitoring requirements set in the EIA must be implemented throughout the project life.

It is noted that the development of the strategic and regulatory framework for wind power projects in Serbia has not been supported by regional or strategic environmental and social assessments. The general integration of regional development plans is rather weak with Strategic EIA serving primarily as a master planning tool in land development. Among the environmental studies that were conducted, the one that effects the EWK is *Establishing of Ecological Network in the Province of Vojvodina* published in 2009 by the

<sup>1</sup> In Serbia, an EIA authority is allowed to carry out the screening and scoping procedures at the same time in order to shorten the administrative duration of the process

Provincial Institute for Nature Conservation. In the chapter titled *Wind Farms and Biodiversity Protection*, the Study indicates areas in Vojvodina Province with high nature conservation value and high bird vulnerability as well as areas where birds are considered to be low vulnerability to wind farms. Based on the assessment, the EWK site and its wider surroundings lie in the area of low bird vulnerability.

Under Serbian regulation, once an EIA consent is issued, it is valid for two years during which time the developer must start the construction. Given that construction of the Kovačica WF was not started within this two year window, EWK made a formal application to the authority (in March 2016), requesting a formal opinion on need to update the EIA. Considering that the Preliminary Design of the project (that was the subject to the EIA) had remained unchanged, the authority decided that no update was needed and in May 2016 formally confirmed the validity of the existing EIA for the next two years. This means that construction must start before 11<sup>th</sup> May 2018.

The Construction permit for the WF allows for the construction of 38 wind generator turbines, 33kV interconnection cables and connecting substation 33/220kV. The Construction permit for road allows for the construction of 40.052km of access tracks between the wind turbines.

A separate EIA process was conducted in relation to the associated 1.6 km overhead power line (220 kV) and the transmission switchgear. The public company for transmission “Elektromreža Srbije” (the owner of this project element) formally submitted the Screening Application for the OHL in December 2015. After the public disclosure, the authority issued the Screening Decision in January 2016 deciding that no EIA is required and officially closed the procedure.

The Kovačica WF is in compliance with Serbian regulatory requirements for environmental, social, health and safety and public consultation issues. All the permits and licences required by national legislation have been obtained with the exception of the construction permit for OHL and switchgear which is due to be obtained by mid-April 2017<sup>2</sup>. An overview of key permits and their approval status is provided in Table 1, below.

<sup>2</sup> The Construction Permit application was submitted on 03.02.2017. The statutory period is 15 days.

Project Element	EIA Screening / Scoping Decision	Location permit	EIA Consent Decision	Construction permit
Wind farm and substation	Issued in October 2013	Issued in September 2013	Approved in March 2014. Approval renewed in May 2016	Issued in December 2014, updated in April 2015
OHL and switchgear	Issued in January 2016	Issued in February 2016	Not required	Pending. Application submitted in February 2017

Table 1- Status of key permits and approvals for the project

### Design Changes

The original WSP ESIA for Kovačica was undertaken on the basis of the GE 2.5-120 turbines with a potential hub height of up to 130m and tip height of 190m. The developer has now agreed that the final unit will be the GE 2.75 -120 unit with a hub height of 110m and tip height of 170m. This WTG will generate more electricity and is slightly smaller than the candidate unit. This change of WTG was notified to the regulator in a formal Statement of Conformity (SoC) in December 2015. The SoC stated that the original assessment was based on a ‘worst case scenario’ and therefore this change in WTG would not affect the findings of the ESIA. NES has received formal notification from the Municipality in May 2016 that no amendment to the original ESIA would be required.

### Landscape

The landscape of the Kovačica site and its surroundings is typical of South Banat District. It is composed of large strip fields with no enclosure, in a semi-regular pattern across an area of almost flat topography. The wind park layout has been driven primarily by this grid-like nature of the strip field pattern and network of existing access tracks, with the aim of minimising the extent of additional tracks and loss of productive land. There are few trees and little woodland, and the main vertical elements are the pylons of the various overhead electricity lines that cross-cross the area. Settlement is almost entirely limited to within the villages and towns.

The ESIA considers the local landscape to be of low sensitivity and concludes that the proposed development would have a minor adverse effect. The wind turbines will be clearly visible and prominent in the view from a small number of houses on the edges of Kovačica, Padina, Debeljača and Crepača, and from some of the few houses in the countryside around Kovačica and Crepača. Where there is a view, the development would give rise to a major adverse effect. However, from the towns as a whole there would be

little or no view, and thus a negligible effect. Considering the wider landscape of South Banat District, the impact is expected to be minor to negligible.

Painting the turbines a uniform colour matching the typical sky colour, can be very valuable in reducing both landscape and visual impacts. However, the Decision on Nature Protection Conditions from the Institute for Nature Conservation of Vojvodina Province (26.02.2014, No: 03-908/9) requires the tip of the turbine blades to be painted in red.

### Potential Cumulative Impact

The local EIA process has adequately assessed the potential cumulative effects of the KWF operation combined with other proposed wind farms, particularly the effects on ecology and nature conservation, landscape and visual receptors, noise, and shadow flicker. However, the EIA did not consider the likelihood that construction periods for some of the wind farms might overlap, and indicated that no potential cumulative effects during construction were anticipated. At the time of developing the EIA (2013) the construction schedules for wind farms had not been determined given that the major legislative acts had still been under development. However, it is very likely that construction periods for the KWF and at least one other wind farm will overlap to some extent which might create a significant impact on the port of Pančevo and the road E-70 through the eastern outskirts of the city before the turn to Alibunar. The KWF will need to establish and maintain a collaborative relationship with other developers and local authorities to understand the in-combination effects from the concurrent construction of the KWF and other wind farms in the area, particularly on traffic and transport, local infrastructure and public safety.

It is inevitable that the construction and operation of a combination of WFs will have a cumulative environmental and social impact; some beneficial and some detrimental. It would be very sensible, and indeed desirable, for a Cumulative Impact Assessment (CIA) to be completed. However, for a CIA to be meaningful it must be based upon good, reliable information. The gathering of the information necessary to complete a CIA would therefore require the cooperation of all of the developers. Even then it may be impossible for a number of developers to provide reliable information on design details and programme. Some developments may require new EIAs to be completed. The use of speculative assumptions relating to possible projects must not be seen by Project stakeholders as true or inevitable and a poor CIA is highly likely to have a detrimental effect on local stakeholders as well as national and international NGOs.

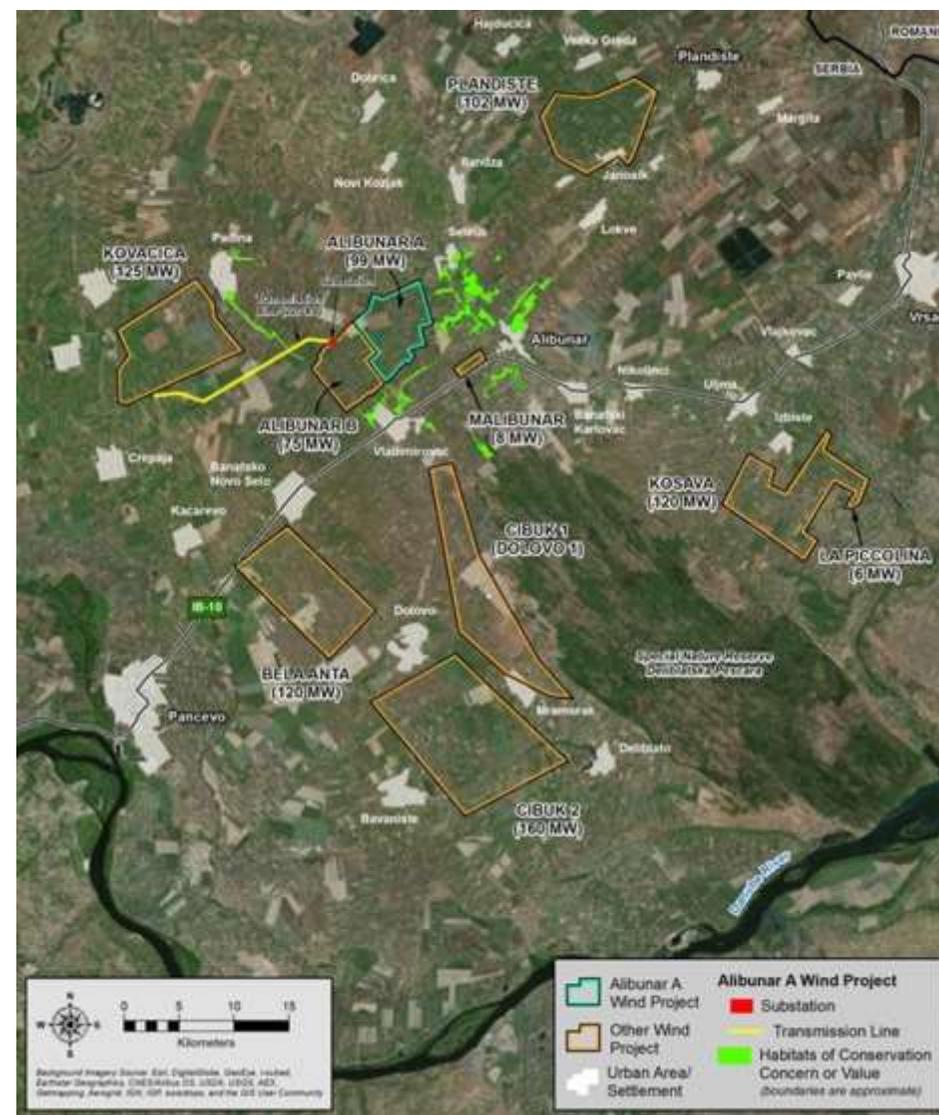


Figure 3 – Satellite image showing the location of proposed wind farms (reproduced from the Alibunar WF RCIA)

## Management Capacity and Capability

As the formal structure of the Project Blacksmith SPV (currently referred to as EWK) is yet to be established it is not possible to provide an assessment of management capacity of the delivery team. It would appear that the Developers' intention is to keep the staffing levels within EWK low and to obtain direct support from the Owners Engineer and other professionals (both local and international) during construction.

## Management Systems

EWK is a development SPV and does not yet have a confirmed management structure, staffing or management systems. The ESAP contains a number of Actions to address this short-fall. Some of these Actions will be the primary responsibility of the sub-contractors and it is intended that the EWK Environmental and Social Management System (ESMS) will provide the framework for the sub-contractors' systems.

It is important that the contractual relationships between the developer, NES, WTG supply, BoP and FSA contractors is clear and that management system obligations are part of the contracts.

## 4. PR2 - Labour and Working Conditions

EWK is a development SPV and staffing levels have not yet been agreed. It would appear that the Developer intends to keep the staffing levels within EWK low and to obtain support from an Owners Engineer and other professionals. It is not thought likely that there would be any issues with working conditions within EWK as they must comply with Serbian national standards. It will be important to ensure that the appointed construction contractors and their suppliers abide with Serbian Law as well as the EBRD's labour related requirements contained in PR 2.

Specifically, the ESIA states: *The project will create some direct employment opportunities, however approx. 40% of the opportunities will be for semi-skilled and skilled labour, expected to be largely national and international staff and thus this impact may not be significant for local communities. The engagement of all non-employee workers will follow international best practice, with the main measures comprising the following:*

- *Implement transparent and fair recruitment procedures*
- *Ensure that all non-employee workers are engaged in line with both national legislation and applicable international (ILO) standards and recommendations.*

As with the EMS, it is important that the contractual relationships between the developer, NES, WTG supply, BoP and FSA contractors is clear and that EWKs obligations under PR2 are part of the contracts.

## 5. PR3 - Resource Efficiency and Pollution Prevention and Control

As with other PRs, the majority the necessary management controls will developed within the Construction Environmental Management Plan (CEMP) and the Operational Management Plan (OEMP). The updated ESAP contains recommendations for the preparation of EMS Operational Control Procedures for Resource Efficiency, Pollution Prevention and Control, and management of Water, Waste, Hazardous Materials.

## 6. PR4 - Health and Safety

### Occupational Health and Safety

Appointed construction contractors and suppliers will have to abide by the Serbian Law on OH&S, which is largely in agreement with EBRD's requirements contained in PR 4. The ESAP contains a number of Actions intended to ensure compliance with PR4.

### Community Health and Safety

The ESIA considered a wide range of potential community H&S issues including electromagnetic fields, blade failure/ release, ice throw, lightning strike and aviation impact. The risks were found to be negligible (noting that the closest residential property is located approximately 1.5 km from the nearest WTG) and the ESIA concludes:

- *Whilst several health and safety risks are associated with the construction and operation of the proposed development it is expected that through design management and implementation of appropriate health and safety management systems, the potential for effects are negligible.*

Radar studies were undertaken for Civil and Meteorological radar and concluded that the WF would not impact on any radar assets.

### Noise and Vibration

The Serbian Law on Environmental Noise stipulates that an individual or a company which is the owner or the user of a noise source is obliged to have noise measurements with related noise measurement reports, performed by authorised institutions. The IFC has produced Environmental, Health, and Safety Guidelines for Wind Energy (April 2007)

states that noise impacts should not result in a maximum increase in background levels of 3 dB at the nearest receptor location.

The ESIA conclude that:

- *At the closest noise sensitive receptors, construction noise levels will fall below appropriate criteria by substantial margins. The significance of effect associated with construction noise has therefore been identified as 'Negligible'. Such impacts would be local, short term and temporary in nature.*
- *For the vast majority of locations and periods of the day, operational turbine noise levels would not exceed the prevailing background noise levels, or that the prevailing background noise level would not be subject to significant increase. At Location 5, it has been identified that the operational turbine noise levels would be notably above the evening and night time background noise levels. However, this must be viewed in the context that appropriate absolute noise level criteria would be complied with and that the resulting turbine noise levels are low.*
- *The significance of effect associated with operational turbine noise has therefore been identified to be 'Negligible' to 'Minor' at worst.*

The developer has now agreed with GE that they will supply the GE 2.75 -120 unit. This WTG will generate more electricity but is slightly smaller than the candidate unit. Noise data provided by GE confirms that the noise levels generated by the 2.75MW unit will be the same as the candidate 2.5MW WTG. This change of WTG was notified to the regulator in a formal Statement of Conformity in December 2015. DNV GL confirm that the 2.75MW unit will generate the same levels of noise as the 2.5MW WTG (they are both within the same type certificate), and it will not be necessary to re-assess the noise impact of the WF.

### Shadow Flicker

Shadow flicker is caused where the light from the sun passes through the blades of a moving turbine. It may become a problem for those people who live near, or have a specific orientation to, the wind farm. Serbian regulations state that the distance from the turbines to the nearest residential properties must be greater than 500m. This is considered to be the maximum area over which shadow flicker is experienced. However, international best practice, states that the minimum distance from the turbine to a residential property must be at least ten times the rotor diameter to ensure shadow flicker is eliminated, i.e. 1,260m.

The Kovačica ES states that the assessment for shadow flicker was carried out for 38 turbines with dimensions of a hub height of 120m and a rotor diameter of 120m. There were no properties identified within the 1,200m study area but two receptors were located at 1,314m and 1,318m away were considered within the ESIA. WSP concluded that these

properties would not be affected by shadow flicker. No mitigation measures were recommended.

### Traffic and Road Safety

The socio-economic section of the ESIA recognises the potential impact of high levels of construction traffic on local communities. This can range from road closures, noise and dust nuisance, and an increased risk of traffic accidents. The transport route passes through only one inhabited area, in the local community Crepaja. The ESIA suggests that these impacts can be managed with the implementation of the following measures:

- *Provide timely information to people/households located along the transport route that there will be increased transport activity in their area*
- *Develop and implement a traffic management plan*
- *Workers code of conduct (guidance on safe driving)*
- *Cooperate and coordinate with local health and safety – security facilities.*

The WTG suppliers have undertaken a traffic routing study. This study is useful in that it describes the changes to transportation curves or the temporary removal of road furniture required for successful delivery of the WTG elements. However, the study does not include any consideration of road safety or the timings of vehicle movements. Due to the nature and extent of the construction traffic the ESAP includes a recommendation to prepare a formal Traffic Management Plan. This Plan should include a detailed accident risk assessment.

## 7. PR5 - Land Acquisition, Involuntary Resettlement and Economic Displacement

The ESIA includes a socio-economic assessment undertaken by local specialist consultants (Link011). The 2012 assessment concludes that:

- *During construction, the proposed development could have minor to moderate impacts on livelihoods resulting from crop damage, depending on the amount of land affected and number of users who will be impacted.*
- *The proposed development will have negligible or minor negative effect due to loss of agricultural land or access to land, as well as in terms of impacts on community health, safety and security, accidents and nuisances associated with transport.*

- *All negative impacts can be successfully mitigated through implementation of appropriate measures, primarily compensation of any losses and full reinstatement of affected land, as well as provision of timely information to affected people, grievance management, etc.*
- *The project will have some minor positive impacts related to creation of direct and indirect employment opportunities and associated positive impacts on livelihoods. To further enhance these impacts, it will be important to foster local hiring and local procurement of goods and services.*

The Auditor considers that these key issues have already been addressed by NES and that the ESAP will ensure delivery of best practice in the longer term. The public consultation exercise appears to have been effective so far (also see Section 11 of this report) and a grievance mechanism is in place.

In total, 7ha of agricultural land (corn, sunflower, wheat, etc.) will be occupied during construction and remain permanently occupied during the operations phase. This translates to 0.18% of the Project site and 0.01% of the total agricultural land in the Kovačica municipality.

Land required for the project was acquired on a willing buyer/ willing seller basis and the process is compliant with the requirements of the PR5 Article 69 of the Law of Planning and Construction. The majority of land was acquired through permanent easement contracts and only the area of 4.5ha in total (for the control building and the electrical substation) was acquired through the sale purchase agreements. At present, all land is acquired except the land for the construction compound whose site has not been determined yet but is planned to be acquired through permanent easement contracts.

The Law of Planning and Construction (Official Journal of the RS No. 72/2009, 81/2009, 64/2010, 24/2011, 121/2012, 42/2013, 50/2013, 98/2013, 132/2014, 145/2014) provides for certain statutory easements in relation to wind farms and other energy objects. These include over-sailing of wind turbine blades and power lines over adjacent land as well as the right of way through neighbouring land during construction. Affected users of land are to be compensated at market prices for any lost crops and damages.

A copy of the easement contract has been viewed by the Auditor and it is considered to be clear in its intentions and the levels of payments being made. The key clauses are:

- *The Land Owner hereby allows to the company New Energy Solutions doo Beograd to permanently place a wind turbine no. [2] on the Land that shall occupy the area of [3500] m<sup>2</sup>, all in compliance with the technical documentation, and to pass through i.e. transport across the Land during construction phase and thereafter, for the purpose of maintenance thereof, thus granting a permanent and*

*transferable right of easement for the installation and maintenance of the tower of wind turbine as well as the right of access to Easement Holder and ant third party to which such easement may be transferred in compliance with this Agreement (hereinafter referred to as the "Easement");*

- *The Easement Holder also undertakes to, after obtaining of the building permit for the wind power plant, offer to the Land Owner the option of one time compensation for damage, which Land Owner may suffer during the operation of the wind power plant for the first 25 year period, in the amount of €12,500 (twelve thousand five hundred Euros), and which option the Land Owner may use until the payment of the Compensation for the first year at latest.*
- *The Easement Holder undertakes to pay to the Land Owner a special fee for potential damage (separately from the above defined Compensation), which may occur during the preparatory and exploratory works prior to 2015, in the amount of €1,000 (one thousand Euros) in dinar counter value calculated at the average exchange rate set by the National Bank of Serbia on the payment date, to the Land Owner's bank account no. [205-1001527699201-45] held with [Komercijalna Banka ], within 3 (three) working days as of the court notarization of this Agreement Parties.*
- *The Land Owner hereby acknowledges that the above described amounts of Compensation (both alternatives, either one-time or per year), together with the special compensation to be paid at the conclusion of this Agreement, exceed the average market price paid for one hectare of agricultural land in the same or materially the same location or for the same or materially the same quality of land on the territory of the said municipality at the time of conclusion of this Agreement.*
- *In addition to the Compensation, the Easement Holder or the third party to which the Easement Holder may transfer the rights to the project, shall pay to the Land Owner an additional compensation for crops lost during the construction period, if the Land which was used and dug through was farmed, as well as for any possible damage incurred after the construction if such damage was caused by the removal of malfunctions and repair works, being understood that the damage must be determined by an independent court expert witness's findings, based on market prices.*

The contract covers an initial period of 25 years and allows for the re-evaluation of the land value at that time.

The financial compensation is considered by the Auditor to be equitable and in line with national land/ agricultural production valuations. The landowners were given a choice of receiving an annual payment of €1,000 per WTG or a one-off payment of €12,500 for the first 25 years.

The owners of land acquired through easement were given a one-off payment upon signing contracts, for any damages incurred in connection to preliminary works and explorations until 2015. In 2015, another one-off payment was made to all owners given that the construction had not been started that year as was previously planned. Starting from 2017, each affected owner will receive an annual compensation payment for a period of 25 years. The first annual instalment is planned to be made in spring 2017 and owners will have to decide if they would like to receive annual instalments or a one off payment for the full period of 25 years (half of the total amount received in annual instalments). The easement contracts also specify that any damages that occur to crops or the land during construction or operation will be compensated at full market value.

## 8. PR6 - Biodiversity and Living Natural Resources

The Kovačica WF will be located on agricultural land (largely cereals) there will be no direct impact on natural habitat or other natural resources. The land beneath the WTGS will remain in agricultural use. As with many windfarms, the greatest impact is likely to be the potential impact of birds and bats and this is described in the following sections.

The local EIA established that there are no areas of nature conservation value that might be impacted by the WF. The closest nature conservation area to the KWF site is Srednje Potamišje which lies about 10 km to the north-west. It is designated as a special nature reserve and an internationally important bird area. The area is not considered to be affected by the KWF. Along the eastern site boundary there is a small locally designated ecological network Dolina. Early in the layout development process, the KWF moved the three closest turbines 500 m away from the ecological network, as per the request of the Provincial Institute for Nature Protection. No adverse effects to this ecological network are expected.

### Likely Impact on Birds and Bats

The WSP ESIA finds:

- *The ornithological studies did not indicate that the site is along the route of any habitually used migration pathway for any birds including migratory raptors, wild fowl, water fowl and storks.*
- *Forty-nine different species of common wader, farmland and woodland birds are thought to have bred within the site including lapwing, skylark, siskin, pipits, turtle*

*dove, corn bunting, hooded crow and goldfinch. In total, 16 raptor species were recorded, including species of national and international conservation concern including Saker falcon, white-tailed eagle, common kestrel, red-footed kestrel, hen harrier and Montagu's harrier. The surveys indicated that the site is used for breeding by the common kestrel, Eurasian sparrow hawk, common buzzard, long-eared owl and little owl.*

- *All bat species recorded within the site are strictly protected in Serbia and at a European level. Of the species recorded, at least 8 species or species groups' populations are known to be stable in Serbia with only two species or groups thought to be in decline. The surveys did not indicate that there are any bat roosts within the site. In relation to bats, potential effects include habitat loss and disturbance and displacement during construction/ decommissioning along with the risk of direct mortality during the operation phase of the project. These effects are considered to be of moderate to minor significance in the absence of mitigation.*
- *Potential impacts of the proposed development on birds and bats include habitat loss, habitat fragmentation, disturbance and displacement and direct mortality during the construction, operation and decommissioning of the wind farm. It is considered that habitat loss and fragmentation along with disturbance and displacement as a result of construction and operation of the windfarm is likely to arise for raptor species including Saker falcon, common buzzard, common kestrel and sparrow hawk along with the wader and farmland and woodland bird species. During construction these effects are considered to be temporary. With specific regard to Saker falcon it is considered that these effects will be moderate significance.*
- *During the operational phase of the project it is possible that direct mortality will occur for waders, farmland and woodland birds and Saker falcon. No other species including raptors, geese and swans had significant flights at Potential Collision Risk Height (PCH). The effect of direct mortality is uncertain for Saker falcon as there were limited flights at PCH indicating that this species at the site tends to fly at lower altitudes. Nevertheless the effect of any collision would be of major significance in the absence of mitigation.*
- *Overall residual effects of minor significance will remain in respect to direct mortality and habitat loss and disturbance for Saker falcon, common kestrel, common buzzard, Eurasian sparrow hawk, wader, woodland and farmland birds and bats.*

Whilst the ESIA surveys did not find Saker falcon nesting sites within the boundary of the WF, WSP have taken a precautionary approach to the management of the potential impact on this species. It is advised that construction works will be undertaken outside the recognised breeding season. As it is highly likely that construction will take place during the breeding season the CEMP must include consideration of the establishment of suitable buffer zones around any nesting sites. It is also noted that all construction works should avoid any damage to existing vegetation.

The ESIA includes a Collision Risk Assessment carried out in compliance with SNH Guidelines. The modelling predicts mortality following collision with a rotor blade for the common buzzard, the common kestrel and the Saker falcon. These were the only three species of raptor that were found to fly at PCH level within the survey boundary (see Table 2). Whilst any loss of individuals from a protected species is not welcome, these figures are low.

Species	Annual Collision Risk (98% avoidance)	Collision Risk over 25 years (98% avoidance)
Common buzzard	0.03	0.81
Saker falcon	0.12	2.88
Common kestrel	0.05	1.44

**Table 2 – Collision Risk for Key Raptor Species**

The employment of an suitably qualified ecologist/ ornithologist (the Ecological Clerk of Works or ECoW) by EWK is important and the appointment should be made at least two months before construction begins. The ECoW will be responsible for preparing the SPPs, undertaking the pre-construction surveys and monitoring the impact of the WF on bird and bat populations.

Importantly, the ESIA and the Institute for Nature Conservation of Vojvodina Province recommend/ require that:

1. A series of Species Protection Plans (SPP) be prepared for the Saker falcon, common buzzard, Eurasian sparrow hawk, common kestrel and all bats species. The SPPs are expected to include controls to prevent habitat loss and to establish buffer zones (of varying radius depending upon species) during the breeding season to ensure disturbance to birds is minimised. Detailed surveys of areas earmarked for clearance will be undertaken. Should a nest be discovered then a suitable buffer will be established by the ECoW and no work will be undertaken until the areas is deemed to be no longer in use by the nesting birds.

2. The Saker falcon SPP will require continuous monitoring of individuals during WF operation (by day to day observation and during critical periods of the birds' life cycle, e.g. fledging). Should an individual be at risk of strike then the operators must stop the individual WTG until the bird has moved on. Monitoring data can be used to indicate the extent to which the construction works have affected the behaviour of this species and whether its members have abandoned their habitats due to disturbance. Further mitigation for Saker falcon to reduce the potential effect of habitat loss will include the consideration of off-site mitigation by the developer. This will include the commitment to investigate the feasibility of provision of artificial nesting sites in the wider region.
3. The removal of woodland in the valley and along the rough tracks must be avoided unless this is essential for safe construction of wind turbines and tracks. Consideration should be given to the provision of new woodland edge habitats in areas not to be developed to enhance existing linear habitat (foraging and commuting resource for bats).
4. In order to protect migratory species, wind power plants exceeding 50 MW of installed capacity *should be equipped in a manner which ensures the continuous monitoring of birds and bats crossing over the territory occupied by the wind power plant*. The "manner" is not described but this could refer to the installation of bird radar system or the use of a trained observer who can make direct requests to the WF control room to feather WTG blades. As the numbers of birds passing through the WF (both raptors and migratory species) it is suggested that a trained ornithologist will provide high levels of control than a radar system. It will however, be necessary to review monitoring and mortality data from the first three years of operation to confirm the effectiveness of the ornithologist.

In common with other development projects, these management requirements are often caveated with the words "where possible". This could be seen by the developers as justification to place less effort on these issues. It is therefore important that the SPPs are of high quality and are adhered to. The ESAP includes action points intended to ensure delivery of the ESIA recommendations. Due to the nature of the contractual structure of the development company it will be important to ensure that the BoP contractor is legally bound by the requirements of the ESAP.

## 9. PR7 – Indigenous Peoples

Not applicable to this Project.

## 10. PR8 - Cultural Heritage

Whilst the KWF site is not considered to be rich in cultural heritage, the ESIA identified a number of sites where archaeologically important items might be found and the actions that must be taken to protect them:

- *Zone of Protection I – the area which includes the wind turbines No. 5 and 32, where archaeological excavations should be undertaken prior to any type of groundworks, earthworks or other activity which might potentially disturb sub-ground archaeological remains;*
- *Zone of Protection II – the area which includes the wind turbines No. 4, 9, 19, 20, 21, 44, 46, and 70 where there must be archaeological supervision of earthworks during construction of wind turbines, routes of installations and other infrastructure. Should the supervisor identify any potentially interesting or valuable “chance finds” then a detailed archaeological excavations must be undertaken (as for Zone I);*
- *Zone of Protection III – the remaining area of the windfarm where the contractor should immediately stop the works in case of finding archaeological sites or archaeological objects. Should this happen then the contractor must immediately notify the Institute for the Protection of Cultural Monuments in Pančevo, and take measures to prevent destruction or damage to the findings and to keep them at the exact place and in the position in which they were found.*

These requirements must form part of the Construction Environmental Management Plan.

## 11. PR10 - Information Disclosure and Stakeholder Engagement

The KWF has been present in the area for more than four years during which a variety of meetings, public presentations and consultations have been organised with the affected communities, local authorities and provincial institutions. NES stated that they used the IFC publication on Public Disclosure as their guide during the consultation process.

The initial stakeholder meetings were held with landowners of the plots that would be required to meet the requirements of the project preliminary design. NES did this to ensure that the potentially impacted individual would have a common understanding of the basic terms and conditions that would be proposed for land purchase or easements. This joint meeting was then followed by a series of one to one meetings with the landowners (at their own homes) so their families would understand the specific requests and to help ensure the

involvement of the whole family. NES stated that (in some cases), they actively sought consent from the landowners' spouse as well.

These land 'acquisition' discussions were then followed by broader, public meetings as part of the local EIA process. In addition to the open meetings, NES placed information on public notice boards at each Community Hall, Church, and shops. NES also state that they specifically invited the owners of the plots either side of those that would be used for the WTG bases. Table 3 (below) lists the public meetings that were held.

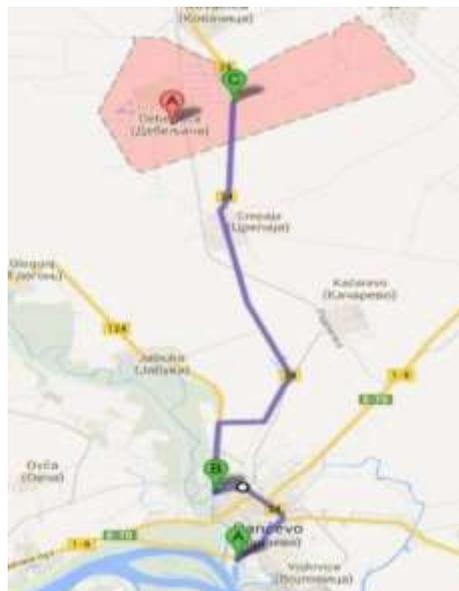
Public Presentations	Date	Place	Time
Land Acquisition Plan presentation to Communities	07/11/2012	Padina	20:00
	08/10/2012	Crepaja	12:00
	16/08/2012	Padina	12:00
	13/11/2012	Debeljaca	14:00
Wind Farm and associated impact (transportation, construction, visual, operation etc.)	21/10/2013	Crepaja	17:00
	21/10/2013	Debeljaca	19:00
	22/10/2013	Kovacica	17:00
	22/10/2013	Padina	19:00
Transportation curves presentation	11/10/2016	Debeljaca	19:00
Transportation curves presentation	11/11/2016	Padina	19:00

**Table 3 – List of Public Consultation Meetings**

A copy of the presentation given by NES at the public meetings is clear about the nature of the likely impacts during construction and operation. The images shown in Figure 4 (below) were taken from this presentation. The images show the transportation route, a picture of HGVs going through (a UK) village and the expected view of the WF from Padina.

Stakeholders were made aware of the Grievance Mechanism established by NES and four complaints were submitted under the Mechanism. All four complaints related to damage caused to crops during earth excavation associated with the geotechnical investigations. These complaints were resolved by the payment of financial compensation. Following each complaint, NES staff would visit the site and they would obtain a valuation of

damage/ compensation from an independent valuer. NES consider the sums paid to be “very fair and generous” and were settled without recourse to a complaint through the Court. The Auditor confirms that the settlements were above local market rates.



**Figure 4 – Images used in the Stakeholder meetings**

Serbian regulatory requirements provide early engagement of relevant and interested stakeholders to participate in the decision making, both during the spatial planning process

and later during the EIA procedure<sup>3</sup>. The EIA public consultation process was under the control of the authority (Provincial Secretary). It started after submission of the Screening application in September 2013 when the application had been publicly disclosed for 10 days. Once the EIA was submitted, its disclosure and the date of public hearing were timely advertised in local newspapers in all four local languages (Serbian, Hungarian, Romanian, and Slovak). The EIA had been publicly disclosed for 30 days in the Provincial Secretary’ office and on their website, and in the Project Developer’s office. During that period no written comments or concerns had been submitted. The public hearing was held in the Provincial Secretary premises in Novi Sad on 24th January 2014 when the Developer presented the project, the main outputs of the bird and bat monitoring and the proposed mitigation measures. Institutional stakeholders attended the meeting, but no members of the public or civil sector were present. No concerns had been issued during the meeting. Currently, only the Non-Technical Summary of the local EIA is published on the KWF website.

The local community acceptance of the KWF appears to be rather positive and during the interviews with members of the local councils (Padina, Crepača and Debeljača) no specific concerns or issues were raised. The local representatives commented the land acquisition process as appropriate and the compensation price as fair. They appeared cooperative, understanding the anticipated disruption and nuisance issues during construction and asked to be timely informed on the construction and transport programme. They seemed to have realistic expectations from the project, realising that its primary benefits will be long-term. Among the short term benefits, they recognized the improvements of access roads and willingness of the KWF to use the local workforce as much as possible during construction. The mayor of Kovačica expressed his appreciation of the profit sharing agreement that will provide 2% of the project net income to the municipality and the tax/ VAT revenues from the locally registered project office.

The media search conducted to determine the overall public perception of the KFW and wind power sector in Serbia has not found any significant socio-economic or environmental issues raised by the public. The search involved Serbian news coverage<sup>4</sup>, activities of local and national NGOs<sup>5</sup> and reports from environmental and energy conferences<sup>6</sup>. The KWF has been occasionally present in the media with information on the project progress or

<sup>3</sup> The Law on Planning and Construction (Off. Journal of RS, No. 72/2009, 81/2009, 64/2010, 24/2011, 121/2012, 42/2013, 50/2013, 98/2013, 132/2014, 145/2014), The Law on Environmental Impact Assessment (Off. Journal of RS, No. 135/2004, 36/2009)

<sup>4</sup> Radio-Television of Vojvodina; Radio-Television of Serbia; newspapers Politika, Blic, Novosti; web portal [www.nadlanu.com](http://www.nadlanu.com)

<sup>5</sup> Ecological movement Padina, Ecological movement Kovačica, ESIASEE NGO Network, NGO CEKOR.

<sup>6</sup> Conference Serbia Goes Green [www.color.rs/serbiagoesgreen](http://www.color.rs/serbiagoesgreen), Danas Conference Centre [www.danas.tv](http://www.danas.tv)

environmental and socio-economic benefits of wind power. The media coverage of the sector has been generally favourable, stressing the significance of achieving the national targets for final energy consumption from renewable sources (27% in 2020) and the economic benefits of this kind of foreign investment for the country.

## 12. Compliance with EBRD’s Performance Requirements

The following Compliance Summary provides a systematic review of project compliance with the EBRD Environmental and Social Policy, as defined through the applicable Performance Requirements (PRs). The review is intended to provide a baseline against which to judge future performance of projects through the annual environmental and social reporting process.

Compliance with each PR has been scored using the following protocol:

<b>EC</b>	<i>Exceeding Compliance:</i> The Project has gone beyond the expectations of EBRD’s PR requirements. EBRD should be able to use projects rated EC as a role model for positive Environmental and Social effects.
<b>FC</b>	<i>Fully Compliant:</i> The Project is fully in compliance with EBRD’s requirements, and EU and local environmental, health and safety policies and guidelines.
<b>PC</b>	<i>Partial Compliance:</i> The Project is not in full compliance with EBRD’s requirements, but has systems, processes or mitigation measure in place which are working towards addressing the deficiencies.
<b>MN</b>	<i>Material Non-compliance:</i> The Project is not in material compliance with EBRD’s requirements, and the systems, processes and mitigation measures in place are not working towards addressing the deficiencies. This score considers the level of residual (post-approval) risk and the level of confidence that the Project can successfully bring the issue into compliance with the Policy through the ESAP.
<b>NA</b>	<i>Not Applicable:</i> A brief reason for this score is noted.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
<b>1</b>	<b>Assessment and Management of Environmental and Social Impacts and Issues</b>				
	<b>Summary:</b> A good quality ESIA has been prepared but there is no ESMS in place. EWK do not yet have an environmental policy or a basic framework of a workable environmental and social management system. Simple but robust environmental and social management plans must be developed on the basis of the ESIA findings. Monitoring and reporting mechanisms must be created for both construction and operation (including a formal ESMP). The staffing of the developer organisation must be increased to ensure EWK have the necessary organisational capacity (environmental, social and occupational health and safety).				
1.1	Environmental and Social Assessment	<b>FC</b>	The local EIA procedure has been successfully completed in compliance with the Serbian regulatory requirements, harmonised with the EU EIA Directive (2014/52/EU). The EIA Consent Decision is valid.	Implement the mitigation measures and monitoring required by the EIA Consent Decision throughout the project life.  Establish and maintain a collaborative relationship with other developers and local authorities to understand and mitigate the in-combination effects from the overlapping construction period of the KWF and other wind farms in the area, particularly on traffic and transport, local infrastructure and public safety.	1  1, 1.5
1.2	Environmental and Social Management Systems	<b>PC</b>	EWK is a development SPV and does not yet have a confirmed management structure, staffing or management systems. EWK do not yet have a basic framework of a workable environmental and social management system.	Develop an integrated environmental, social, health and safety management system (ESHS MS) that includes for occupational health and safety.  Design a framework for defining the organisational structure of the EWK Project Management Team, with all key roles represented in an organogram. Appoint and maintain person(s) to be responsible for environmental, social, and occupational health and safety for the project, to report directly to the project manager, and subsequently to the EWK management board.	1.1, 1.3
1.3	Environmental and Social Policy	<b>PC</b>	EWK do not yet have an environmental and social policy.	Establish and implement corporate policy for environmental, social and occupational health & safety (ESHS) performance, to include (at a minimum):	1.2
1.4	Environmental and Social Management Plan	<b>PC</b>	EWK do not yet have an Environmental and Social Management Plan.	Establish and implement a MS framework and procedures for environmental, social and occupational health & safety (ESHS) performance. Develop an Environmental and Social Management Plan (ESMP) for the project comprising full details of environmental, social, health and safety performance requirements and obligations for construction, operation and decommissioning of the project. To include detailed timelines for implementation of specific mitigation measures and monitoring activities. ESMP to require detailed construction environmental management plan (CEMP) and associated sub-plans, including those recommended within the ESAP.	1.2, 1.5
1.5	Organisational Capacity and Commitment	<b>PC</b>	The formal structure of EWK is yet to be established.	Appoint and maintain on-site a person to be responsible for ESHS compliance, to report directly to the project manager, and to Electrawinds management.	1.4

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
1.6	Supply Chain Management	PC	The primary supply contracts are currently being agreed. No further discussions on supply chain management have taken place.	Develop and implement Contractor/ Subcontractor Management Plan to manage ESHS planning and performance of construction and other contractors	NEW
1.7	Project Monitoring and Reporting	PC	Noting is yet in place.	Submit report to the Bank on environmental, health, safety and social performance (EHSS), including status of each ESAP element and other agreed activities including resolution of grievances associated with the project	0
<b>2</b>	<b>Labour and Working Conditions</b>				
	<b>Summary:</b> EWK and its sub-contractors must develop policies and procedures that ensures that they comply with Labour Law which broadly conforms to PR 2 requirements.				
2.1	Management of worker relationships: Human Resource Policies Working Relationships Child and Forced Labour Non-Discrimination and Equal Opportunity Workers Organizations Wages, benefits, and conditions of work Grievance mechanism	PC	EWK is a development SPV and staffing levels and employment conditions have not yet been agreed. Nothing is yet in place.  It will be important to ensure that the appointed construction contractors and suppliers abide with Serbian Law as well as the EBRD's labour related requirements contained in PR 2.	Develop and implement an occupational health and safety (OHS) plan to guide all activities on project site during site preparation, construction, and operation. Also require contractor plan/compliance  Develop a formal grievance mechanism for employees and contractors and disseminate information about its uses to the workforce, in the language(s) of the workers.  Develop and implement labour and social policies and incorporate into contractual arrangements with employees and contractors – to include terms of employment, skills, dismissal, discrimination, harassment, violations, human rights, forced and child labour, wages and social leave/benefits, health & safety and bribery and corruption	2.1, 2.2, 2.3
2.2	Worker accommodation	N/A	Construction worker numbers are low and they are expected to use local guest houses and hotels.	-	
2.3	Non-Employee Workers and Supply Chain	PC	Yet to be established.	Develop and implement an occupational health and safety (OHS) plan to guide all activities on project site during site preparation, construction, and operation. Also require contractor plan/compliance.	2.2
2.4	Security Personnel Requirements	PC	Very limited site security is expected to be required and these individuals will be recruited locally.	-	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
3	<b>Resource Efficiency and Pollution Prevention and Control</b> <b>NB. Appraisal should carefully consider (and state) what regulations or standards have been applied to compliance assessment (e.g. EU, National, Sector Best Practice). Assessments should address consideration of the performance of alternative techniques.</b>				
	<b>Summary:</b> The Project will implement pollution prevention and control techniques in line with national and EU standards and sector's best practice. Plans for management of specific issues during construction and operation of the project (waste, earthen materials, spill response, etc.) will need to be developed.				
3.1	Resource Efficiency	PC	These PR3 issues will form part of the contractual framework with the WTG Supplier, BoP and FSA contracts.  The Protect will displace electricity generated from fossil fuels. The level of reduction at a national is to be calculated by the EBRD.	Implement management practices for dust abatement as part of the CEMP: <ul style="list-style-type: none"> <li>Watering of roads during dry periods, with priority and increased frequency for road sections nearby residential areas;</li> <li>Define and enforce maintaining speed limits by construction traffic; and</li> <li>Cover loads on trucks to prevent dust generation.</li> </ul> Develop and implement a comprehensive waste and hazardous materials management plans to include: <ul style="list-style-type: none"> <li>Procedures for proper handling of all waste generated;</li> <li>Methods to verify proper off-site management of related wastes by contractors;</li> <li>Measures to minimise waste generation and maximise reuse and recycling; and</li> <li>Waste segregation and designated storage locations.</li> </ul> Develop and implement emissions control plan for the concrete batch plant (air and water). If this batch plant is operated for the specific purpose of providing concrete to the Kovačica WF then controlled measures will be required irrespective of its location.	3.1, 3.2, 3.3
3.2	Pollution Prevention and Control - Air Emissions	PC			
3.3	Pollution Prevention and Control – Wastewater	PC			
3.4	Greenhouse Gases	FC			
3.5	Water	PC			
3.6	Wastes	PC			
3.7	Hazardous Substances and Materials	PC			
4	<b>Health and Safety</b>				
	<b>Summary:</b> EWK and its sub-contractors must develop policies and procedures that ensures that they comply with Labour Law which broadly conforms to PR 4 requirements. The ESAP places emphasis on communication with stakeholders and includes a specific requirement to prepare a Traffic Management Plan.				
4.1	Occupational Health and Safety	PC	Yet to be established. Appointed construction contractors and suppliers will have to abide by the Serbian Law on OH&S, which is mostly in agreement with EBRD's requirements contained in PR 4.		

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
4.2	Community Health and Safety	PC	The socio-economic section of the ESIA recognises the potential impact of high levels of construction traffic on local communities. The WTG suppliers have undertaken a traffic routing study. However, the study does not include any consideration of road safety or the timings of vehicle movements.	<p>Develop and enforce implementation by contractors of procedures to protect public health and safety. These Plans may be prepared by sub-contractors but EKW must ensure that the Plans are complied with.</p> <p>Procedures to include (but not to be limited to):</p> <ul style="list-style-type: none"> <li>Traffic management plan for contractors (speed limits, training, traffic routes, avoidance of sensitive areas) – the plan must cover transport of turbines, rock/ stone, and other materials to be brought to or removed from the site;</li> <li>Public notice of construction operations in areas open to the public;</li> <li>Security as needed to prevent unauthorized access to project locations, with appropriate training for security personnel;</li> <li>Measures to minimize disruption and closures of public access to grazing areas;</li> <li>Hazard notices/signs/barriers to prevent access to hazardous project areas; and</li> <li>Notice to nearby residents and local authorities before major activities and traffic.</li> </ul>	N/A
4.3	Infrastructure, Building, and Equipment Design and Safety	PC			N/A
4.4	Hazardous Materials Safety	N/A	-		N/A
4.7	Natural Hazards	N/A	-		N/A
4.8	Influx of Workers and Exposure to Disease	N/A	-		N/A
4.9	Emergency Preparedness and Response	PC			N/A
<b>5</b>	<b>Land Acquisition, Involuntary Resettlement and Economic Displacement</b>				
	<b>Summary:</b> The WF will be developed on land entirely used for agricultural production. EWK obtained easement agreements for the land needed for the development in compliance with national law and EBRD PR5 and there is no requirement for voluntary or involuntary resettlement or economic displacement. Current farming practices will continue.				
5.1	Avoid or minimise displacement	PC	Land was acquired on a willing buyer/willing seller principle (easement contracts or sale purchase contracts). Currently all land is acquired except the land for construction compound (yet to be determined).	Continue to acquire land for the project on a voluntary basis.	-

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
5.2	Consultation	PC	Since 2012 consultations with directly and indirectly affected landowners have been carried out, before and after the land acquisition began.	Continue to carry out consultation to monitor and evaluate the compensation payment.	-
5.3	Displacement and eligibility, and compensation for displaced persons	PC	One off payments were made to the affected landowners upon signing easement contracts and again in 2015 after the construction was delayed. Annual compensation payments will start in 2017.	Continue to provide compensation payments and compensation at replacement cost to any person who suffers economic losses caused by loss of use of land, damage to crops, loss of access to fields, etc.	-
5.4	Grievance mechanism	PC	The SEP contains a Grievance Mechanism. Stakeholders have been informed and the GM has been used.	-	-
5.5	RAP/LRP documentation	N/A	-	-	-
5.6	RAP/LRP implementation	N/A	-	-	-
5.7	Monitoring	PC	GM log to be maintained.	-	-
<b>6</b>	<b>Biodiversity and Living Natural Resources</b>				
	<b>Summary:</b> EWK must employ (either as a member of staff or a contractor) a suitably qualified Ecological Clerk of Works at least two months before construction begins. Additional bird survey work must be undertaken prior to construction to provide a baseline for the surveys to be undertaken during construction and operation.				
6.1	Assessment of Biodiversity and Living Natural Resources	PC	The Kovačica WF will be located on agricultural land (largely cereals) there will be no direct impact on natural habitat or other natural resources. The local EIA established that there are no areas of nature conservation value that might be impacted by the WF. Initial surveys undertaken as part of the ESIA. No additional work is required prior to FC but pre-construction and construction survey will need to be completed.	Develop and implement a monitoring programme to ensure mitigation measures remain acceptable prior to construction and to assess the impacts to birds and bats that may be occurring during the operational phase of the wind farm.	6.1
6.2	Conservation of Biodiversity		The closest nature conservation area to the KWF site is a Special Nature Reserve and IBA site Srednje Potamišje, 10 km to the north-west. The area is not considered to be affected by the KWF. A 500m buffer zone was established between the turbines and the locally designated ecological network.	Manage and maintain as part of the project monitoring programme during construction and operation.  The Institute for Nature Conservation of Vojvodina Province has required a number of Species Protection Plans to be prepared. These SPPs must include for field surveys and monitoring of birds and bats for a minimum of three years. The Institute is vague about the mitigation actions should any protected species be identified during the survey work; they simply require EWK to "define appropriate mitigation measures during construction and operation". Due to the potentially low impact on birds it does not seem reasonable that "appropriate measures" would include the installation of a radar system. The use of field observers who, in conjunction with the windfarm control room, could selectively turn off WTGs seems more appropriate.	-
6.3	Sustainable Management of Living Natural Resources	N/A	-	-	-

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
<b>8</b>	<b>Cultural Heritage</b>				
<b>Summary:</b> The project developer has a system in place for management of impacts on cultural heritage, including the close cooperation with competent authorities. A chance finds procedure is recommended to be developed and implemented for the project.					
8.1	Assessment and Management of Impacts on Cultural Heritage	PC	The KWF site is not considered to be rich in cultural heritage, the ESIA identified a number of sites where archaeologically important items might be found and the actions that must be taken to protect them.	<p>Appoint one or more competent individual(s) to oversee all excavations and other ground-disturbing activities at the WTGs identified by the Institute for Protection of Cultural Monuments. Provide the professional(s) with authority to stop work in case of possible discoveries and ensure that site foremen are aware of that authority (Zone I and II).</p> <p>Develop and implement chance find procedure, train all foremen in its use, including empowerment to stop work. Train/advise workers and foremen of the types of cultural heritage that may be discovered (Zone III).</p>	8.1
8.2	Consultation with affected communities and other stakeholders	N/A	-	-	-
8.3	Project use of Cultural Heritage	N/A	-	-	-
<b>10</b>	<b>Information Disclosure and Stakeholder Engagement</b>				
<b>Summary:</b> The SEP must be developed (to include greater detail) and maintained. The ESAP places specific emphasis on communication with affected people prior to, and during construction.					
10.1	Stakeholder Engagement Plan	PC	<p>The KWF has been present in the area for more than four years during which a variety of meetings, public presentations and consultations have been organised with the affected communities, local authorities and provincial institutions. The stakeholder engagement has been effective, with early engagement of institutional stakeholders and extensive consultations with the local communities, directly and indirectly affected landowners. Public perception of the project is positive.</p> <p>The SEP is outdated.</p>	The local EIA in Serbian should be available on the project website.	10.1
10.2	Operational Grievance Mechanism	PC	Stakeholders were made aware of the Grievance Mechanism established by NES and four complaints were submitted under the Mechanism. All four complaints related to damage caused to crops during earth excavation associated with the geotechnical investigations. These complaints were resolved by the payment of financial compensation.	Implement the agreed SEP, inform stakeholders of activities and possible impacts and receive and respond to grievances.	10.2

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required	ESAP Ref.
<b>Overall Compliance</b>					
	National Environmental, Social, Health and Safety Requirements	<b>PC</b>	The KWF is in compliance with Serbian environmental, social, health and safety regulatory requirements.	Manage and maintain.	
	EU Environmental, Social, Health and Safety Requirements	<b>PC</b>	The KWF is in compliance with EU Environmental, Social, Health and Safety Requirements	Manage and maintain.	

### 13. Revised Environmental and Social Action Plan

Changes to the 2013 ESAP are shown underlined and highlighted in yellow.

The table below constitutes the ESAP. It identifies the required actions, the basis of the requirement, the timing of the action, the criteria to be used for determining whether the required action has been successfully achieved, and information that will be reported to the Lenders. Implementation of the actions is the responsibility of EWK. When contractors perform work under contract to EWK or their designee(s), EWK will be responsible for those contractors' compliance with the requirements of the ESAP. This is expected to be accomplished by inclusion of requirements in contracts and subcontracts, and by direct oversight and supervision by EWK and/ or its designee, as needed.

Performance of the actions required by this ESAP will be reported to the Lenders by EWK as required by the ESAP and the financing agreements. The ESAP will be audited or otherwise evaluated by the Lenders throughout construction and operation of the Project. As agreed by the Lenders and EWK, this ESAP may be revised from time to time during Project implementation, sometimes in response to evaluations conducted under the ESAP itself. No changes will be made if they could allow violations of Serbian law or of Lenders' requirements for environmental and social performance.

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
0	Submit report to the Bank on environmental, health, safety and social performance (EHSS), including status of each ESAP element and other agreed activities including resolution of grievances associated with the project.	Continual assessment of EHSS performance against EBRD PR's and IFC PS's	Internal resource.	6 monthly during construction. Annually during operation.	Submission of reports on environmental, health and safety, and social (EHSS) performance on schedule and in a mutually agreed format.
<b>1</b>	<b>EBRD PR 1: Environmental and Social Management / IFC PS1: Assessment and Management of Environmental &amp; Social Risks and Impacts</b>				
1.1	Develop an integrated <u>Environmental and Social Management System (ESMS) environmental, social, health and safety management system (ESHS) that includes for occupational health and safety. Relevant requirements during construction and operation should be made the responsibility of WTG supply and FSA contractors. [Note: system(s) should generally meet objectives of ISO14001 and OHSAS 18001, but need not be certified].</u>	Best practice EBRD PR1, PR2, PR4, PR6 and PR8 IFC PS1, PS2, PS6 and PS8	Internal resource (or supported by external consultant).	Prior to construction initiation. Maintain permanently during construction and operation.	ESMS developed by qualified consultant, staff trained, system implemented. Status of system to be reported to the relevant financial institution (in line with ESAP item 0).
1.2	Establish and implement corporate policy, <u>MS framework</u> and procedures for environmental, social and occupational health & safety (ESHS) performance, to include (at a minimum): <ul style="list-style-type: none"> <li>ESHS procedures and system for compliance reporting and monitoring;</li> <li>Inclusion of appropriate Environmental and Social Management Plan (ESMP) and legal requirements in contracts/subcontracts, including requirement for staff/management training;</li> <li>Assignment of clear responsibilities within Electrawinds for contractor oversight;</li> <li>Regular inspections of contractors' construction operations;</li> <li>Contractor reports on performance sufficient to allow inclusion</li> </ul>	Best Practice EBRD PR1 IFC PS1	Internal resource (or supported by external consultant).	Prior to construction initiation. Maintain permanently during construction and operation.	Preparation of ESMP and annual ESMP update report to relevant financial institution. Appointment of qualified person. Qualifications submitted with first relevant report under ESAP item 0. Responsible person maintained at all times.

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
	<p>of data in ESHS reports to the Bank, and to allow Electrawinds to determine if corrective actions are needed; and</p> <ul style="list-style-type: none"> <li>Verification of training and professional qualifications for contractor ESHS managers and staff.</li> </ul>				
1.3	<p>Ensure sufficient capabilities to address ESHS issues associated with the project and to ensure appropriate ESHS management of contractors.</p> <p><u>Design a framework for defining the organisational structure of the EWK Project Management Team, with all key roles represented in an organogram. Appoint and maintain person(s) to be responsible for environmental, social, and occupational health and safety for the project, to report directly to the project manager, and subsequently to the EWK management board.</u></p>	Best Practice EBRD PR1 IFC PS1	Internal resource (or supported by external consultant).	At all times during project lifespan.	<p>Clear ESHS requirements.</p> <p>Qualified ESHS personnel available.</p> <p>Qualifications submitted with first report to relevant financial institution (in line with ESAP item 0).</p>
1.4	<p>Appoint and maintain on-site a person to be responsible for ESHS compliance, to report directly to the project manager, and to Electrawinds management.</p>	Best Practice EBRD PR1 IFC PS1	Internal resource (or supported by external consultant).	<p>Appoint prior to construction initiation.</p> <p>Maintain permanently during construction and operation.</p>	<p>Appointment of qualified person.</p> <p>Qualifications submitted with first.</p> <p>Relevant report under ESAP item 0.</p> <p>Responsible person maintained at all times.</p>
1.5	<p><u>Develop and implement Contractor/ Subcontractor Management Plan to manage ESHS planning and performance of construction and other contractors, including at a minimum:</u></p> <ul style="list-style-type: none"> <li><u>Inclusion of relevant ESAP requirements in contracts/subcontracts.</u></li> <li><u>Clear assignment of EWK and contractor ESHS responsibilities.</u></li> <li><u>Contractor reports sufficient to allow EWK to include relevant data in reports to Lenders, and to allow evaluation of need for corrective actions.</u></li> <li><u>Verification of training and/or proper credentials for contractor staff/ managers responsible for ESHS</u></li> </ul>	<u>Best Practice EBRD PR1</u> <u>IFC PS1</u>	<u>Internal resource (or supported by external consultant).</u>	<p><u>Develop/ adopt prior to executing contracts/ subcontracts</u></p> <p><u>Implement: throughout execution of contracts/ subcontracts</u></p>	<p><u>Development, adoption, and implementation of contractor management system ESHS reporting:</u></p> <ul style="list-style-type: none"> <li><u>Report to Lenders on development of policy/procedures</u></li> <li><u>Report ESHS training(s) of contractors/subcontractors</u></li> <li><u>Report status and highlights of contractor oversight</u></li> </ul>
1.6	<p><u>Develop an Environmental and Social Management Plan (ESMP) for the project comprising full details of environmental, social, health and safety performance requirements and obligations for construction, operation and decommissioning of the project. To include detailed timelines for implementation of specific mitigation measures and monitoring activities. ESMP to require detailed construction environmental management plan (CEMP) and associated sub-plans, including those recommended within the ESAP.</u></p>	Best Practice EBRD PR1, PR 3, PR4 IFC PS1, PS2, PS4	Internal resource (or supported by external consultant).	<p>Prior to construction initiation.</p> <p>Maintain permanently during construction.</p>	<p>Submission to relevant financial institution (with first report under item 0) of CEMP for review and approval.</p> <p>On-going reporting to relevant financial institution throughout construction phase (in line with ESAP item 0).</p> <p><u>ESMP and CEMP sub-plans will be reviewed and approved by EWK and</u></p>

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
	<u>Develop and implement the Construction Environmental Management Plan (CEMP).</u>				<u>competent third-party acceptable to Lenders</u> <u>Plans provided to Lenders for review and no-objection approval</u> <u>ESHS reporting:</u> <u>Status of ESMMP and sub-plan review and approval</u>
1.7	Develop and implement a decommissioning strategy that includes a plan for minimising impacts during decommissioning.	Best practice EBRD PR1 IFC PS1	Internal resource.	At end of life of wind farm.	Decommissioning plan submitted to relevant financial institution.
<u>1.8</u>	<u>Actively participate in the Cumulative Impact Assessment project being jointly promoted by the IFC and EBRD.</u>	<u>EBRD PR1</u> <u>IFC PS1</u>	<u>Internal resource.</u>	<u>One-off study starting in Spring 2017.</u>	<u>Provision of commercially non-sensitive documentation and data related to the impact assessment and construction programme.</u>
<b>2</b>	<b>EBRD PR 2 / IFC PS 2: Labour and Working Conditions</b>				
2.1	Develop a formal grievance mechanism for employees and contractors and disseminate information about its uses to the workforce, in the language(s) of the workers.  <u>Note: this mechanism is separate from the one for external stakeholders that is part of the Stakeholder Plan under PR/PS 10.</u>	EBRD PR 2 IFC PS 2	Internal resource (or supported by external consultant).	Develop and implement prior to construction and throughout project lifetime.	Submission to relevant financial institution (with first report under item 0) of grievance procedure for review and approval.  Thereafter, report to relevant financial institution to include all worker grievances and resolutions.
2.2	Develop and implement an occupational health and safety (OHS) plan to guide all activities on project site during site preparation, construction, and operation. Also require contractor plan/compliance. Requirements to include (but not to be limited to): <ul style="list-style-type: none"> <li>Job and task specific hazard analysis and controls for all activities;</li> <li>Mandatory reporting by contractors;</li> <li>Requirements for and enforcement of PPE use;</li> <li>Safety training for personnel;</li> <li>Develop and implement an emergency response procedure;</li> <li>Review and approval of contractors' OHS plans; and</li> <li>Maintain statistics of total work hours, lost time, incidents, injuries, near misses etc.</li> </ul>	Best practice EBRD PR 2 IFC PS 2 Serbian Law	Internal resource (or supported by external consultant).	Prior to initiation of contractor activities on-site.	Confirmation of Electrawinds plan by relevant financial institution.  Availability of contractor OHS plans approved by Electrawinds or by independent OHS professional.  Reports to Bank on OHS issues, statistics and training delivered (in line with ESAP item 0).  Reports to Bank on major accidents (in line with ESAP item 0).

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
2.3	Develop and implement labour and social policies and incorporate into contractual arrangements with employees and contractors – to include terms of employment, skills, dismissal, discrimination, harassment, violations, human rights, forced and child labour, wages and social leave/benefits, health & safety and bribery and corruption	EBRD PR1, PR2 and PR 4 IFC PS1, PS2 and PS4	Internal resource (provided by contractors).	Prior to initiation of contractor activities on-site.	Policies approved by Electrawinds or independent professional.  Submission to relevant financial institution (with first report under item 0).
<b>3</b>	<b>PR 3: Pollution Prevention and Abatement / IFC PS 3: Resource Efficiency and Pollution Prevention</b>				
3.1	Undertake noise monitoring survey at sensitive receptors (i.e. nearby residents) to verify noise levels are acceptable.	EBRD PR2, PR3 and PR4 IFC PS2, PS3 and PS4 Serbian Law	Internal resource (or resourced externally).	Six months following completion of development.	Report on survey with compliance status to relevant financial institution (with first report under item 0).
3.2	Implement management practices for dust abatement as part of the CEMP: <ul style="list-style-type: none"> <li>Watering of roads during dry periods, with priority and increased frequency for road sections nearby residential areas;</li> <li>Define and enforce maintaining speed limits by construction traffic; and</li> <li>Cover loads on trucks to prevent dust generation.</li> </ul>	EBRD PR3 IFC PS3	Internal resource (or resourced externally).	At all times during construction	Report to relevant financial institution on implemented dust control activities (in line with reporting under ESAP item 0).
3.3	Develop and implement a comprehensive waste <b>and hazardous materials management plans</b> to include: <ul style="list-style-type: none"> <li>Procedures for proper handling of all waste generated;</li> <li>Methods to verify proper off-site management of related wastes by contractors;</li> <li>Measures to minimise waste generation and maximise reuse and recycling; and</li> <li>Waste segregation and designated storage locations.</li> </ul>	EBRD PR3 IFC PS3	Internal resource (provided by contractors).	Implemented during construction and operation.	Waste management plan to be approved by Electrawinds or independent professional.  Audit of implementation to relevant financial institution (with report under ESAP item 0).
3.4	<b>Develop and implement emissions control plan for the concrete batch plant (air and water).</b> <b>If this batch plant is operated for the specific purpose of providing concrete to the Kovačica WF then controlled measures will be required irrespective of its location.</b>	<b>EBRD PR3</b> <b>IFC PS3</b>	<b>Internal resource (provided by contractors).</b>	<b>Implemented during construction and operation.</b>	<b>Emissions managed and in compliance</b> <b>ESHS reporting:</b> <b>Report compliance status</b>
3.5	<b>Develop and implement an earthen material management:</b> <ul style="list-style-type: none"> <li><b>Segregate and store in stable piles all topsoil and subsoil salvaged from construction areas.</b></li> <li><b>Store rock in stable piles.</b></li> </ul>	<b>EBRD PR3</b> <b>IFC PS3</b>	<b>Internal resource (provided by contractors).</b>	<b>Implemented during construction and operation.</b>	<b>Adoption of plan, implementation of best practices, protection of topsoil and stored rock</b>  <b>Minimal erosion and loss of topsoil</b>

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
	<ul style="list-style-type: none"> <li>Protect all storage piles with covers, including vegetative cover (native grass species) as needed to prevent wind/water erosion and desiccation.</li> <li>Use best practices to prevent or retard run-off.</li> <li>Reinstate all disturbed areas by covering with topsoil and seeding/planting with native species, or returning to tillage.</li> </ul>				<p>ESHS reporting;</p> <p>Report to Lenders on plan status and highlights of erosion control program</p>
<b>4</b>	<b>EBRD PR 4 / IFC PS4: Community Health, Safety and Security</b>				
4.1	<p>Develop and enforce implementation by contractors of procedures to protect public health and safety.</p> <p>Procedures to include (but not to be limited to):</p> <ul style="list-style-type: none"> <li>Traffic management plan for contractors (speed limits, training, traffic routes, avoidance of sensitive areas) – the plan must cover transport of turbines, rock/ stone, and other materials to be brought to or removed from the site;</li> <li>Public notice of construction operations in areas open to the public;</li> <li>Security as needed to prevent unauthorized access to project locations, with appropriate training for security personnel;</li> <li>Measures to minimize disruption and closures of public access to grazing areas;</li> <li>Hazard notices/signs/barriers to prevent access to hazardous project areas; and</li> <li>Notice to nearby residents and local authorities before major activities and traffic.</li> </ul>	<p>EBRD PR4</p> <p>IFC PS4</p>	Internal resource (provided by contractors)	<p>Develop procedures: prior to construction initiation.</p> <p>Implement: all the time during construction.</p>	<p>These procedures may be prepared by EWK sub-contractors but EWK must ensure that the procedures are complied with. Submission of procedures to relevant financial institution for review.</p> <p>Public notices, hazard signs, barriers available.</p> <p>Report to relevant financial institution on traffic management, security, other activities, including any incidents / accidents involving the public (in line with report under item 0).</p>
4.2	<p>During construction and operation, monitor noise at residences upon request and take actions to reduce or control noise as needed to meet applicable standards. Ensure proper noise controls on vehicles and equipment. When designing the substation, use technology whose specifications ensure that noise standards will not be exceeded.</p>	<p>EBRD PR4</p> <p>IFC PS4</p>	Internal resource (provided by contractors)	<p>Develop procedures: prior to construction initiation.</p> <p>Implement: all the time during construction.</p>	<p>Appropriate construction design to minimise noise</p> <p>On-demand monitoring and mitigation as needed</p> <p>ESHS reporting;</p> <p>Report noise complaints, monitoring results, and mitigation measures</p>
4.3	<p>Set goals for and encourage contractors to hire local workers, with preference for those who may be directly affected by noise, traffic, or other project activities. Commission and implementing a training program to upgrade skills of unskilled local workers as part of the social investment program. Consider providing funding for</p>	<p>EBRD PR4</p> <p>IFC PS4</p>	Internal resource (provided by contractors)	<p>Establish goals: prior to engaging contractors</p> <p>Commission training program: by financial</p>	<p>Significant local hiring, including semi-skilled and skilled workers</p> <p>Training for local workers</p> <p>Educational support provided</p>

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
	<p>local students' university education in science and/or engineering disciplines (e.g., ornithology)</p>			close	<p>ESHS reporting;</p> <p>Report numbers of local vs non-local vs expatriate workers, and skill levels</p> <p>Report results of social investment program, including for training, education, and other investments that can benefit the project as well as social welfare</p>
<b>6</b>	<b>EBRD PR 6 / IFC PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources</b>				
6.1	<p>Develop and implement a monitoring programme to ensure mitigation measures remain acceptable prior to construction and to assess the impacts to birds and bats that may be occurring during the operational phase of the wind farm that should include:</p> <ul style="list-style-type: none"> <li>Appointed responsible independent Ecological Expert (IEE);</li> <li>Undertaking a series of repeat ornithological surveys to update the baseline information to finalise mitigation measures through consultation with the Institute for Nature Conservation, in addition to completing a final check prior to construction / decommissioning for protected species;</li> <li>Undertake a preliminary check within and adjacent to the site boundary (prior to construction) in order to determine if any new roosting opportunities for bats have developed since completion of the original surveys;</li> <li>Undertaken post construction ecological monitoring for an initial period of three years. A review will be undertaken after this initial three period to consider if further monitoring is required. The findings of the review must be shared with, and agreed by the Lenders. Monitoring will be undertaken in all seasons when these species are present;</li> <li>Undertake bird monitoring throughout the year to include recording the flying height; maximum approach height towards the wind turbines; modifications of any migration routes;</li> <li>Undertake identification of breeding birds in the area;</li> <li>Undertake monitoring of species of birds or bats found dead near the wind farm;</li> <li>Undertake recording of these incidents on databases;</li> <li>Undertaken monitoring for Saker falcon to further clarify the</li> </ul>	<p>EBRD PR6 IFC PS6</p>	<p>Internal resource (and independent Ecological Expert)</p>	<p>Prior to construction and post construction on a monthly basis during all seasons initially for a period of 5 years.</p>	<p>Recorded data submitted to relevant financial institution (in line with report under item 0).</p> <p>The Institute for Nature Conservation of Vojvodina Province has required a number of Species Protection Plans to be prepared. These SPPs must include for field surveys and monitoring of birds and bats for a minimum of three years. The Institute is vague about the mitigation actions should any protected species be identified during the survey work; they simply require EWK to "define appropriate mitigation measures during construction and operation". Due to the potentially low impact on birds it does not seem reasonable that "appropriate measures" would include the installation of a radar system. The use of field observers who, in conjunction with the windfarm control room, could selectively turn off WTGs seems more appropriate.</p>

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
	<p>use of the site by this species in order to identify the turbines which have the potential to result in significant mortalities which can be switched off during critical periods of the annual lifecycle of this species i.e. breeding;</p> <ul style="list-style-type: none"> <li>Undertake post construction monitoring of turbine 47 for bats to determine whether bat activity at this location has significantly reduce following the removal of woodland adjacent to the turbine; and</li> <li>Develop and implement a Site Restoration Plan (SRP) as part of the CEMP to ensure those areas of habitat that have been temporarily lost through development can regenerate.</li> </ul>				
<b>8</b>	<b>EBRD PR 8 / IFC PS 8: Cultural Heritage</b>				
8.1	<p>Appoint and undertake further archaeological investigations / watching brief within identified Zones of Protection.</p> <p>Appoint one or more competent professional(s) to oversee all excavations and other ground-disturbing activities at the WTGs identified by the Institute for Protection of Cultural Monuments. Provide the professional(s) with authority to stop work in case of possible discoveries and ensure that site foremen are aware of that authority.</p>	<p>Best Practice EBRD PR8 IFC PS8 Serbian Law</p>	<p>Internal resource (provided by contractors / independent Archaeological Expert where necessary)</p>	<p>Prior / during to construction</p>	<p>Recorded data submitted to relevant financial institution (in line with report under item 0).</p>
<b>8.2</b>	<p>Develop and implement chance find procedure, train all foremen in its use, including empowerment to stop work. Train/advise workers and foremen of the types of cultural heritage that may be discovered.</p>	<p>Best Practice EBRD PR8 IFC PS8 Serbian Law</p>	<p>Internal resource (provided by contractors / independent Archaeological Expert where necessary)</p>	<p>Develop: prior to construction Implement: throughout construction</p>	<p>Procedure in place and available for review, training provided to all foremen No cultural heritage removed or lost without appropriate conservation ESHS reporting: Report chance finds and actions taken</p>
<b>10</b>	<b>Information Disclosure and Stakeholder Engagement</b>				
10.1	<p>Review Stakeholder Engagement Plan, including a Grievance Mechanism (SEP)</p>	<p>EBRD PR10 IFC PS1</p>	<p>WSP has developed a SEP for use on this project.</p>	<p>Prior to construction and throughout project lifetime.</p>	<p>SEP document issued to relevant financial institution as part of disclosure package.</p> <p>The SEP must be updated and should include much greater levels of detail. The updated SEP must reflect the expectations of each stakeholder, the means of engagement as well as recording the outcome of each engagement/ communication. The SEP should be a living document and significant improvement is required.</p>

No	Action	Source of Requirement	Resources / Responsibility	Timetable for Action Completion	Target and Evaluation Criteria for Successful Implementation
10.2	Implement the agreed SEP, inform stakeholders of activities and possible impacts and receive and respond to grievances.	EBRD PR10 IFC PS1	Internal resource (appointment of project communications manager)	Implement during construction and operation.	Activities undertaken as part of SEP including grievances and response to grievances submitted to relevant financial institution (with first report under item 0).
10.3	In accordance with SEP, provide early notice to villages and residents prior to major increases in traffic or other project activities that could affect them.	EBRD PR10 IFC PS1	Internal resource (appointment of project communications manager)	Notice provided: before impacts occur	Affected people given advance notice of changes in impacts ESHS reporting: Report to Lenders highlights of notices

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