

## Overview

Project Name: FINA ENERJI WIND POWER PLANTS (2015-0575)  
 Project Number: 2015-0575  
 Country: Turkey  
 Project Description: *The project comprises the construction and operation of three wind farms (Uluborlu, Karova and Kizilcaterzi), located in different regions of Turkey (Isparta, Bodrum, Tekirdag), together with associated facilities, power substations and interconnection lines for a total capacity of 106 MW.*

EIA required: yes

*For the Kizilcaterzi (14 MW) and Karova (31 MW) projects and for all wind farms' grid connection lines, the competent authority issued an "EIA not required" certificate, whereas the Uluborlu (61 MW) project was screened-in and has undergone the full EIA process.*

Project included in Carbon Footprint Exercise<sup>1</sup>: yes

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

## Environmental and Social Assessment

### Environmental Assessment

#### General assessment

If the projects were located in the EU, they would fall under Annex II of the EIA Directive. This would require the competent national authority to determine the need for an EIA based on the screening criteria specified in Annex III of the same directive. National environmental legislation aims at harmonisation with EU standards in the context of EU accession process. Whilst the criteria and procedures to determine the need for an EIA are defined similarly to those of the EU, full aligned application needs still to be achieved. According to Article 6 of the Turkish EIA regulation the projects should either submit an Environmental Impact Assessment (EIA) Report or Project Description Report (PDR) based on the classification of the projects listed in Annex I and Annex II of the EIA regulation. The wind farm projects having installed capacity above or equal to 50MW are listed in Annex I and should prepare a full EIA report, whereas wind farms below 50MW are screened based on their PDR documents. Similarly, if the length of the energy transmission line is between 5 km and 15 km with a voltage of 154 kV or higher, a PDR should be submitted for development consent of the transmission line. If the transmission line is 15km or more with a voltage of 154 kV or higher, a full EIA report shall be submitted.

#### Specific wind farms assessment

For the Kizilcaterzi (14 MW) and Karova (31 MW) projects and for their grid connection lines, the competent authority issued an "EIA not required" certificate, whereas the Uluborlu (61 MW) project including its grid connection line was screened-in and has undergone the full EIA process and received EIA consent in December 2014. The PDR and EIA studies for the respective wind farms and their grid connection overhead lines conclude that the projects will not have significant negative residual environmental and social impacts. Uluborlu and Karova wind farms have valid environmental consents, while Kizilcaterzi wind farm does not have a final EIA permit yet as the positions of 3 wind turbines of where challenged by the Ministry of Forestry. The court case is still ongoing and might result in changing of micro locations of some turbines and even reducing the total capacity of the project.

<sup>1</sup> Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO<sub>2</sub>e/year absolute (gross) or 20,000 tons CO<sub>2</sub>e/year relative (net) – both increases and savings.

The assessment work carried out by the promoter to date has resulted in an overall understanding of the environmental and social risks, including cumulative impacts, and mitigation measures required for a project of this nature.

The main expected negative impacts on the environment include: disturbance to some bird species living near the wind farms (modification of their natural habitats, and risks of collision); visual impact on the landscape; disturbance for local villages caused by noise and/or flickering during construction and operation. Key mitigation measures required according to the permits include: wind farms location and layout planning, noise assessment according to good international practice and standards, wind turbines noise reduction mode functionality, etc. all in order to minimise impacts both on flora, fauna and the local population. The projects are not situated close to any settlement (distance is minimum 1km), neither in a protected area nor do they affect one. There are no critical habitats for breeding birds in the project areas. The projects areas are water scarce.

However some gaps with respect to the Bank's environmental and social requirements have been identified. In particular, the biodiversity impact assessments were not done according to the best practice and lack an appropriate site-specific data basis:

Biodiversity assessments carried out by the experienced local biodiversity consultancy company: Nature Research Association (DAD) during the migration season suggests that the numbers of migration birds observed at the project wind farms are at the lower end among the wind sites in Turkey, which suggests that they are not located within the main birds' migration corridors. All project sites were visited few times, for minimum fifteen days in total, in spring and fall from 2011 to 2015. In case of Uluborlu wind farm, the results are however limited, because the monitoring included only vantage points at the southern part of the site. Small numbers of storks, buzzards and eagles were recorded during birds' migration monitoring. In addition, a Golden Eagle, a Peregrine Falcon, several Long-legged Buzzards, Common Kestrels, a few Sparrow Hawks and Common Buzzards were observed and presumed to be local birds which may be breeding (one or two pairs) in the larger projects area. In addition, two bat species (*Rhinolophus mehelyi* and *Myotis cappacini*) were observed during biodiversity monitoring of Kızılcaerzi wind farm, and they are considered vulnerable. However, no caves are known or identified near the site for bats to breed or roost.

Low number of migrating birds observed indicates low collision risk and the project sites are neither within sensitive birds and bats habitats nor close to any nature protection zone. The projects' habitats are either of anthropogenic origin or support little vegetation. The topography contains alternative corridors for the birds to use and the distances to other neighbouring wind farms exceeds 10km, which indicates that no cumulative barrier effect for birds may be expected.

Based on the limited, preliminary data available, and additional consultations with the local biodiversity experts engaged by the promoter, overall biodiversity risks are considered to be low to medium as the project sites are not important breeding points and not located on the main migratory routes.

However, further monitoring and research on bird migration and on the status of breeding/nesting birds in the project areas is recommended. The Bank will request additional biodiversity monitoring reports and (if relevant) any appropriate additional mitigation measures. Corresponding disbursement conditions and undertakings have been proposed.

### **EIB Carbon Footprint Exercise**

The project has no direct greenhouse gas (GHG) emissions. Estimated GHG emissions savings in a standard year of operation are 148 kT of CO<sub>2</sub> equivalent per year compared to a baseline comprising the current fleet of thermal power plants, new coal power plants, and new renewable energy installations.

For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

## Social Assessment

### General assessment

The project contributes to improving the electricity supply of Turkey on the basis of renewable resources. In addition, the project offers benefits to local communities through employment opportunities during project implementation and operation as well as through the improvement of existing and installation of new roads.

The project has neither physical involuntary resettlement (no people living within the project area) nor indigenous people's issues. There are no culturally important sites in or around the project sites.

According to relevant legislation, national Energy Market Regulatory Authority (EMRA) and national TSO (TEIAS) are conducting expropriation of the parcels required for 1) widening of existing and construction of new access roads (around 31.5 km) and the wind turbine sites and 2) the overhead line (around 4.3 km) and switchyard. The expropriation list is prepared by the General Directorate of Land Registry and Cadastre (GDoLRC) in accordance with Zoning Plan and includes land ownership, land type, border and expropriation area. Price of all land types is set by the third party ("Price Approval Commission" that includes minimum 3 people) after the approval by EMRA and TEIAS, in line with the market prices for agricultural lands in the region, which is considered reasonable

### Specific wind farms assessment

Karova and Kizilcaterzi wind farms are located mostly on a forest, public land managed by the Turkish General Directorate of Forestry. In line with Turkish legislation they shall obtain the required land servitude rights from the Forest Company before the start of the construction.

In case of Uluborlu wind farm only around 10% (97.700m<sup>2</sup>) of the total project area is located on private land parcels classified as agricultural land, being the rest public forest land. Around 56.000m<sup>2</sup> of lands will require easement rights for the transmission line during construction time while project owners will be able to continue using their land during operation. In line with Turkish legislation Uluborlu wind farm has obtained the required land servitude rights from the Forest Company before the start of the construction. Privately owned parcels required for the construction of Uluborlu wind farm will be secured through the willing seller willing buyer agreements or as a last instance expropriated, in line with Turkish Expropriation Law No. 2942. There will be no physical displacement for none of the projects.

The whole process for Uluborlu wind farm is described in the Land Acquisition and Livelihood Restoration Plan (LALRP) and Stakeholder Engagement Plan (SEP) that have been prepared in line with IFC Performance Standard 5 and presented to the public and to all the stakeholders. A Project grievance mechanism has been established. The LALRP and SEP present all required land acquisition actions and disclosure activities. They also serve as a guide to mitigate any negative impacts of the land acquisition and ensure that all affected individuals and households are compensated fairly for their land and assets, which will enable them to attain standard of living similar to, or if possible better than the existing one.

It is estimated that in total 68 privately owned parcels are impacted, 20 parcels by overhead line and 48 by access road and wind turbine foundations, with around 100 affected people, including land owners and users of land who are not the owners but have income from the land. Rose, almond and cherries are the main products besides wheat and barley in and around the project area. The priority will be given to the negotiation of the compensation price for full replacement costs of the expropriation. Expropriation as defined by the courts is the last resort. Project relation officer (PRO) has been actively working in the project area since June 2015.

Stakeholder consultations pursued during ESIA's confirm the appropriateness of the land acquisition and allotment/compensation processes; prices determined were deemed adequate by all consultees and in-line with or above prevailing market prices. The

independent consultant familiar with the Bank's environmental and social standards, as well as the Bank will closely monitor an ongoing process.

### **Public Consultation and Stakeholder Engagement**

In line with Turkish EIA legislation, the EIA report for Uluborlu project was prepared and published on website of MoEU and stakeholder consultation was held on July 2, 2014 in Isparta. According to available records from the stakeholder consultation meeting, participants stated that the meeting was useful for them to better understand the project, wind energy, benefits in general, effects on local regions and awareness about climate change issues. Stakeholders' comments were mostly positive since the project was perceived to be beneficial for the local and national community and would create job opportunity for locals. Main concern of the stakeholders seemed to be the possible noise disturbance. The promoter explained that it will address those concerns by using state-of-the-art wind turbines and by the measurements and modelling of noise levels which do not exceed international standards.

For Karova and Kizilcaterzi public consultation is not compulsory from a Turkish legislation point of view. The Promoter however voluntarily organised a public consultation meeting for Karova wind farm on 25 February 2014 and is planning to have one for Kizilcaterzi wind farm as well. The Bank considers public disclosure for both Uluborlu and Karova wind farms acceptable, according to its internal procedures and will ensure that similar consultations are held for Kizilcaterzi wind farm. The grievance mechanisms are envisaged to be established for each of the project wind farms during construction and operation phase within their respective Environmental and Social Action Plans (ESAPs).

### **Other Environmental and Social Aspects**

Third party independent compliance monitoring of the expropriation process and progress of LALRP will be carried out in order to check whether the implementation of compensation and livelihood restoration is in accordance with the Banks standards. Reports will consolidate information on compensation and livelihood restoration measures, consultation measures, information on negotiation and results, grievance mechanism etc. Reporting to the Bank will be annually during construction and operation.

The Promoter obtained the following quality certificates of OHSAS 180001, ISO 9001 and ISO 14001.

Occupational health and safety (OHS) standards are deemed satisfactory. The EPC contractor in charge of installation and operation of both wind farms is ISO 9001, ISO 14001 and OHSAS 18001 certified. The Bank's impression of OHS standards when visiting the construction site of the Uluborlu wind farm was good.

## **Conclusions and Recommendations**

Generally, wind farms generate electricity with significantly lower environmental impacts than conventional power plants based on the use of fossil fuels, as they displace a significant volume of gaseous pollutants such as particulate matter, SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub>.

The Environmental and Social Action Plan (ESAP) for each wind farm has been prepared in line with IFIs standards. The ESAP summarises the implementation programme of monitoring and mitigation measures during construction and operation of the projects. The promoter will establish procedures to monitor the implementation of the ESAP and will prepare its Environmental and Social Monitoring Report (ESMR) by the Environmental Consultant during construction and operation and in case of the need of corrective action; the ESAP will be amended accordingly.

The Bank will require the following contractual conditions for the project wind farms:

Conditions for 1st disbursement:

- For Uluborlu wind farm:
  - Implementation of construction monitoring of the nesting and breeding birds for the northern part of Uluborlu wind farm. The programme shall be implemented by experienced consultants subject to the Bank's prior approval.
  
- For Kizilcaterzi wind farm:
  - Preparation and implementation of pre-construction biodiversity monitoring programme covering migratory, breeding and nesting birds. The programme shall be prepared by experienced biodiversity consultants subject to the Bank's prior approval.
  - Preparation and implementation of pre-construction field research on threatened bat populations.
  - Evidence from the competent authority that the project is fully permitted (including number of wind turbines and their capacity with land servitude rights), either in the form of positive decision from the ongoing court case or the permit for the new project location.
  - In case of change of the location, new ESIA, Environmental and Social Action Plan (ESAP) and environmental permit shall be submitted to the satisfaction of the Bank.
  - In case that the Bank deems that significant expropriation of private land is required for this wind farm and its connection lines, the promoter shall follow the same procedure as for Uluborlu wind farm, and prepare the Land Acquisition and Livelihood Restoration Plan (LALRP) and Stakeholder Engagement Plan (SEP) in line with IFC PS5 and to the satisfaction of the Bank.
  - Publication of PDR documents on the promoter's website and stakeholder consultation shall be implemented to the satisfaction of the Bank.
  
- For Karova wind farm:
  - Preparation and implementation of pre-construction biodiversity monitoring covering migratory, breeding and nesting birds. The programme shall be prepared by experienced biodiversity consultants subject to the Bank's prior approval.
  - In case the Bank deems that significant expropriation of private land is required (based on the evidence of land servitude rights) for this wind farm and its connection lines, the promoter shall follow the same procedure as for Uluborlu wind farm, and prepare the Land Acquisition and Livelihood Restoration Plan (LALRP) and Stakeholder Engagement Plan (SEP) in line with IFC PS5 and to the satisfaction of the Bank.

Undertakings

- The promoter will establish procedures to monitor the implementation of the ESAPs for all three wind farms by the appointed Environmental Consultant during construction and operation and in case of the need of corrective action; the ESAP will be amended accordingly. Annual reporting to the satisfaction of the Bank.
- Implementation of construction and 3 years operational monitoring and mitigation programme for migratory, breeding and nesting birds for all 3 wind farms. Annual reporting to the satisfaction of the Bank. The programme shall be implemented by experienced consultants subject to the Bank's prior approval.
- For Uluborlu wind farm (and if Bank deems required for Karova and Kizilcaterzi wind farms): Compliance monitoring of the expropriation process and progress of LALRP in order to check whether the LALRP implementation is in accordance with the Banks standards. Reports will consolidate information on compensation and livelihood restoration measures, consultation measures, information on negotiation and results, grievance mechanism etc. Reporting to the Bank will be annually during construction and operation. The monitoring shall be implemented by experienced consultants subject to the Bank's prior approval.

With these conditions in place, this operation is considered acceptable for Bank financing in environmental and social terms.