

ENVIRONMENTAL AND SOCIAL STRATEGY¹

A. PROJECT DESCRIPTION

1. The Eurus Wind Project (the Project) consists of the installation of 167 Acciona AW70 variable speed wind turbine generators (WTGs) with a nominal capacity of 1.5 MW each (250 MW total capacity), associated control and transmission facilities and a 22 kilometer (km) 230 kV overhead transmission line from the Project site to the Juchitán II substation, to be built within the right of way of the existing Federal Electricity Commission (CFE) transmission line. Each tower is 80 m high and includes a rotor diameter of 70 m (maximum height: 115 m). The Project is located on the Isthmus of Tehuantepec, in the southeast region of the state of Oaxaca, in the vicinity of the La Venta Ejido² and 29 km southeast of Juchitán de Zaragoza. The towers will be erected in six rows, ranging from 10 WTGs to 42 WTGs per row. See Annex I for maps of the location of the Project.
2. The generators will be connected to an on-site 230 kV substation through an underground 34.5 kV electrical network. The Project company has signed an agreement with the Federal Electricity Commission (CFE) to reserve 250 MW of capacity in the JuchitánJuile transmission line, and has obtained the grid connection rights. The Project also includes construction of non-asphalted access roads along each row of generators (8 m wide), and requires construction of platforms of 730 - 890 m² for erection and maintenance of each tower. Transport of towers, generators and other heavy equipment to the Project site is almost complete and has not required any upgrade of the existing road network. The total permanent footprint of the Project is estimated to be approximately 68 hectares.
3. The Project is currently under construction. As of mid-April 2009, 64% of civil works and 104 of 167 foundations had been completed. Meanwhile, 58 of the WTGs have been erected, and 32 WTGs are currently operating. The remaining WTGs are expected to enter into operation in groups on a monthly basis through November 2009. The substation and external electrical works have been completed. There are currently about 400 to 500 workers on site, including approximately 200 workers from the La Venta *Ejido*, and the total workforce should peak at about 1000 workers . The total cost of the Project is approximately US\$525 million.
4. Wind resources in Oaxaca are among the best in the world due to a mountainous topography that levels off at a point where the land mass tapers down to a narrow isthmus. This creates a natural wind tunnel for air currents flowing between the Gulf

¹ This Environmental and Social Strategy (ESS) is being made available to the public in accordance with the Bank's Policy on Disclosure of Information. The ESS has been prepared based primarily upon information provided by the project sponsors and does not represent either the Bank's approval of the project or verification of the ESS's completeness or accuracy.

² The term "*Ejido*" refers to a system of communal land use. An *Ejido* comprises two types of land: individual plots and common use land.

of Mexico and the Pacific Ocean. As a result of these excellent wind conditions, development of wind energy projects in the region is attractive, and several large-scale projects are either in planning, under construction or already in operation. Approximately 143 MW of private wind auto-generation capacity were erected at three wind farms during 2008, including the Eurus Project's first 37 MW of installed capacity, the first 79.9 MW of Iberdrola's La Ventosa wind project and Gamesa Energia's first 26 MW installed in its Bii Nee Stipa wind farm. The La Ventosa and La Mata 67.7 MW wind power Project developed by Eléctrica Del Valle de México, an affiliate of Électricité de France ("EDF"), is also currently under construction.

5. Adjacent to the Project site, CFE has a pilot wind power plant with a capacity of 1,575 kW, operating since 1994 (La Venta I). An 83.5 MW expansion (La Venta II) was commissioned by CFE in January 2007. In March 2009, Iberdrola secured a contract from CFE for the construction and operation of the 102.85 MW La Venta III wind power plant. Construction will start in 2009 and the facility is expected to come on stream in November 2010.
6. The Project is localized in the land of the La Venta Ejido, which consists of 362 Ejidatarios and 56 Possesors on more than 6,094 hectares of land, the majority of which is used mostly for livestock production. Land Use Agreements granting usufruct rights to the Project have been signed with the relevant landowners for an initial period of 30 years. The Agreements permit the Company to install the WTGs, as well as any other necessary infrastructure, including power lines, substations and access roads. The contracts have different payment rates depending on the stage of implementation of the Project, i.e. before construction (land reserve), during construction and during operation. Eurus has executed 462 Agreements covering 2,797 hectares and approximately 90% of the Ejidatarios. 167 additional contracts ("*Convenios de Afectacion*") providing for additional compensation have been entered into for those parcels that will have a permanent structure on them. Construction and operation of the wind generators require only a very small portion of the overall contracted land, however, and the Project will not use the remaining land. Only 55 hectares, equivalent to 2.3% of the total land covered under the Agreements will be permanently utilized by the Project.
7. The 230 kV on-site sub-station is located on a 13 hectare land parcel within the La Venta Ejido that the Project will purchase. The Project will transfer 1.44 hectares of this land to CFE for their own needs. Construction works of the substation have been completed already.

B. INSTITUTIONAL AND REGULATORY CONTEXT

8. The General Law for Ecological Equilibrium and Protection of the Environment ("Ecology Law" hereafter) was passed in 1988 and established the overall framework for industrial requirements and associated fines and penalties for noncompliance. The Ecology Law was amended several times since, and the currently applicable Ecology

³. The Ecology Law requires that for certain projects an Environmental Impact Assessment (EIA) ("*Manifestación del impacto ambiental*") be prepared and reviewed by the Ministry of Environment and Natural Resources ("*Secretaría de Medio Ambiente y Recursos Naturales*") (SEMARNAT) before an environmental license can be issued. Article 28 of the Ecology Law, which lists the sectors and areas of economic activities that require an EIA and prior review by SEMARNAT, includes power generation facilities. The Project company presented the EIA in February 2006 and was subsequently granted an environmental license in June 2006.

9. The Environmental License has been updated by SEMARNAT in July 2008, and the September 2008 SEMARNAT authorization to start operations includes provisions for further assessment, monitoring and mitigation of potential impacts on migratory birds. More specifically the updated license requires the Company to design and implement a program for real time detection of migratory birds at risk of collision and a wind turbine generators shut down procedure.
10. Results of bird monitoring activities and estimated collision risks carried out for the Project from October 2006 to September 2007 by independent ornithologists have been provided to SEMARNAT. An Environmental Management Plan (EMP) for the construction phase has been developed, and semi-annual monitoring reports on the implementation of this plan have also been provided to SEMARNAT.
11. In reference to land negotiations with Ejidos, the law that is applicable is the Agrarian Law, which was passed in 1992 and established the land management framework for Ejidos, including definition, land heritage, uses, usufruct, division of land among the members of the Ejido and rights of Ejidatarios.
12. The Project triggers Directive B.12 of the IDB's OP 703 Environment and Safeguards Compliance Policy regarding projects under construction, and Indigenous People Policy of the IDB's OP-765. The Project will develop and submit prior to Board Approval an Action Plan to define the actions and associated schedule for the timely resolution of any non-compliance with the IDB's safeguard policies, including sufficient funding for its implementation. In compliance with Directive B.6 of OP 703, the Project will also be required to organize a consultation with affected parties on the Environmental and Social Management Plan.

C. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

13. The Project's site consists of converted land used for agricultural activities, mainly pastures dedicated to cattle, with few trees, and no vulnerable or threatened terrestrial species. No cultural artifacts have been encountered so far during preliminary surveys

³<http://www.semarnat.gob.mx/leyesy normas/Leyes%20del%20sector/LEY%20EQUILIBRIO%20ECOLÓGICO%20Y%20LA%20PROTECCIÓN%20AL%20AMBIENTE%20ACT%205%20JUL%202007.pdf>

and on-going excavation works⁴. The Project's site has therefore a low environmental sensitivity from the perspective of natural habitats and cultural heritage. However, the Isthmus of Tehuantepec⁵ has been classified as an Endemic Bird Area (EBA) by Birdlife International. Some bird species endemic to the Isthmus of Tehuantepec, in particular the Cinnamon-tailed Sparrow (*Aimophila Sumichrasti*) listed in the Near Threatened (NT) category in the 2008 IUCN Red List, are known to nest at times in the patches of dense bushy vegetation typically found in some areas near the Project's site. Potential impacts of the Project on endemic birds will be further assessed during due diligence.

14. The environmental impacts related to construction activities (e.g. soil erosion, noise, dust generation, traffic disruption) are likely to be of limited significance, and can be mitigated through routine standard procedures. Areas temporarily used or disturbed during construction will be reinstated and re-vegetated at the end of construction, and the permanent footprint of each tower is relatively small. Occupational health and safety hazards specific to wind energy facilities and activities primarily include working at heights. Hazards associated with working at heights can generally be prevented with an adequate health and safety management system.
15. The Isthmus of Tehuantepec, where the Project is located, is also of global significance for migratory birds, which use this corridor to migrate from the Atlantic Coast to the Pacific. The operation of wind turbines may result in collisions of birds with wind turbine rotor blades and towers, potentially causing bird mortality or injury. According to results of bird monitoring activities carried out from October 2006 to September 2007, the Project's site is not directly located within a high bird traffic zone in either the fall or spring seasons, but is adjacent to the most important migratory flyways in the region, those being along the Sierra de Tolistoque and through Paso Chivela to the North, and the southern part of the coastal plain along the Pacific slope. The strong winds characteristic of the region may at times, however, cause birds to fly at low altitudes and in unintended directions.
16. It was also observed that migratory raptors generally flew at considerable altitudes, usually more than 300 m above the ground, and that for all species except the Franklin's Gull, the collision risk is considered to be very low⁶, and probably insignificant at the species level⁷. One quarter of the Franklin's Gull population flying above the Project's site (corresponding to 2 to 5 % of the overall world population) was, however, observed at an altitude of collision risk with the WTG blades.

⁴ It will be further verified during due diligence that an adequate chance finds procedure is in place

⁵ See <http://www.birdlife.org/datazone/ebas/index.html?action=EbaHTMDetails.asp&sid=13&m=0>

⁶ The monitoring report covering the first year of the CDM crediting period (July 2007-June 2008) for the 83 MW La Venta II wind project reports 43 bird collisions on a total of 267,000 individual birds crossing the project's site.

⁷ The Bird Monitoring Study for the migratory season of Spring 2007 mentions that for all species except the Franklin's Gull, individuals flying above the Project's site represent less than 0.1 % of the overall population in North America.

17. Furthermore, as mentioned above, there are several other wind farm projects in construction and in operation adjacent to the Project's site. Potential cumulative impacts of those wind farms on birds, and their global significance at the species level, will need to be assessed, and closely monitored. A specific mechanism comprising real time monitoring of birds during migratory seasons and a wind turbine generator shut down procedure will have to be put in place for the Project's operation.
18. The Project is located in a geographical area generally identified as Zapotec traditional territory, and thus the IDB's Operational Policy on Indigenous Peoples applies. No involuntary resettlement has taken or will take place. The Project has been paying to Ejidos and Ejidatarios an annual reservation fee since the signing of the usufruct contracts, as well as a compensation fee for the land affected by construction activities. The Project also pays an additional annual fee for leasing the land with permanent structures (i.e. 2.3% of the total land covered under the Agreements). Potential adverse impacts on affected indigenous peoples are likely to be minimal to moderate since the permanent footprint on the land is relatively small, and current users will be able to continue their past agricultural activities such as livestock production mostly undisturbed. As per IDB's Operational Policy on Indigenous Peoples, the direct, indirect and cumulative impacts of the Project on local communities will be further assessed during due diligence through a socio-cultural evaluation. It will be also verified that the Project has entered into good faith negotiations with the affected Ejidatarios in order to achieve fair compensation and a satisfactory level of support for the Project and related mitigation measures. During due diligence, specific attention will be paid to the land acquisition and compensation process that was carried out for the purchase of the land where the on-site substation is located (including the land to be transferred to CFE).
19. As a generally recognized rule of thumb, the additional noise level from a wind turbine over background noise is considered insignificant at a distance of 3 times the blade tip height, i.e. about 345 m for the category of WTG used for the Project. The closest population center (La Venta) is located about 700 meters from the Project's site boundaries. Potential noise impacts caused by the wind turbines during operation on adjacent communities are therefore not expected to be significant. Nevertheless, the results of the noise model will have to confirm that noise impacts won't exceed the levels presented in the World Bank Group's General Environmental, Health and Safety Guidelines, nor result in a maximum increase in background levels of 3 dB at the nearest receptor location. To ensure ongoing compliance, noise impacts during operation will be periodically monitored.
20. Community health and safety hazards specific to wind energy facilities primarily include: aircraft and marine navigation safety; electromagnetic interference and radiation; public access considerations. Risk of such hazards is not considered significant in the context of the Project.

D. ENVIRONMENTAL AND SOCIAL DUE DILIGENCE STRATEGY

21. Taking into account the aspects discussed in the previous sections, including the overall scale of the Project, its potential adverse impacts on Indigenous Peoples' land and cumulatively with the other wind project in the region on migratory birds, and the requirements outlined in IDB's OP 703 Environment and Safeguards Compliance Policy, the Team proposes that the Project be classified as a Category A operation.
22. The Bank will perform an Environmental and Social Due Diligence ("ESDD") in order to confirm that all Project relevant impacts and risks have been, or will be properly and adequately evaluated and mitigated in line with the needs identified in the sections above.
23. The environmental and social due diligence will specifically address the following aspects:
 - (a) Assessment of cumulative impacts on migratory birds, and development of an appropriate mitigation mechanism comprising real time monitoring of birds during migratory seasons and a wind turbine generators shut down procedure;
 - (b) Assessment of the Project's compliance with all relevant safeguards directives of the IDB's Environment and Safeguards Compliance Policy, and development of an Action Plan for the timely resolution of non-compliances, e.g. regarding any environmental liability or outstanding non compliance with the Environmental and Social Management Plan at the end of construction;
 - (c) Assessment of the Project's impact on affected Indigenous Peoples, including adequacy of the consultation and negotiations process, compensation arrangements and proposed community investment program;
 - (d) Assessment of model of land compensation and comparison with other project models.
 - (e) Assessment of cumulative impact on the land structure.
 - (f) Evaluation of project-related information disclosure and public consultation activities that have been performed, and proposed future actions to provide adequate ongoing information disclosure and public consultation with affected parties;
 - (g) An assessment of the Company's Environmental, Health and Safety Management System, including plans and procedures, to assess their adequacy in terms of responsibilities, training, auditing, reporting, and resources to be made available to ensure adequate implementation;

- (h) An evaluation, and further development as necessary, of Project execution monitoring/supervision procedures to ensure proper implementation of environmental, social, health and safety and labor actions and requirements;
24. As part of the ESDD process, the Project Team will analyze the environmental and social aspects of the Project and prepare an Environmental and Social Management Report (“ESMR”).

ANNEX I PROJECT LOCATION



