

ESS - ENVIRONMENTAL AND SOCIAL SCREENING & STRATEGY

TITLE:	Lagoa do Barro Windfarm		
COUNTRY:	Brazil	Category*:	B (High Risk)

PROJECT SPECIFICS (bullet form)

I. ESHS Key Impacts and Risks/Potential Compliance Issues:

The project includes the design, construction, operation and maintenance of a 195-MW wind project ("Lagoa do Barro") to be located in the region of Piauí and an 83km long transmission line. The Project sponsor, Atlantic Energias Renováveis S.A. ("Atlantic"), is an equity platform wholly-owned by Actis Brasil, an asset management company. Atlantic currently has 9 operating assets, including 8 wind farms of 30-MWp each and 1 small hydro of 9.6-MWp. It is also developing the Santa Vitoria do Palmar 207-MW wind project, which is under construction in the State of Rio Grande do Sul, also being assessed by IIC. IIC is evaluating the issuance of a guarantee and/or providing a loan, totaling up to four hundred and thirty million Reais to be provided to partially cover the senior loan and to cover the infrastructure debentures to be issued for Lagoa do Barro, with a tenor of 10-12 years, or to provide a loan of up to 15 years door to door.

An impact assessment (RIMA - *Relatório de Impacto Ambiental – Complexo Eólico Piauí*) was commissioned to Geoconsult - *Projetos e Serviços Ambientais Ltda.*, issued on May 2015. The RIMA was prepared for a wind farm complex consisting of 10 adjacent wind farms with 83 turbines totaling 255-MW, occupying an area of 3,494 hectares. The 83 km-long 230/500kV transmission line from the Lagoa do Barro 1 substation to the Sao Joao do Piaui substation was not included in the RIMA and will require a separate impact assessment. It is unknown if the RIMA for the wind farm was approved.

The project is located in the *Caatinga biome*, of predominantly dense shrubs with emerging trees, combined with converted agricultural land. The project site overlaps with three type of areas of permanent conservation (*Áreas de Preservação Permanente - APP*): (i) 30 meter corridors along water bodies; (ii) slopes over 45 degrees and (iii) mountaintops. The project will require deforestation of APP mountaintops type, which in turn require a permit from SEMAR with its associated compensation measures. The RIMA indicates there are no nationally protected areas nearby; the closest protected area, *Área de Proteção Ambiental do Lago de Sobradinho*, is located 50 km northeast of the site and *Parque Nacional da Serra das Confusões* is located 100 km east of the site. The *Corredor Ecológico da Caatinga/ Reserva Biológica da Caatinga* has a transitional area 15 km and buffer área 20km. The biodiversity baseline identified the following listed bird species: *Stgmatura napensis* (VU nationally), *Rhea americana* (NT), and *Columbina minuta*, *Eupetomena macroura*, *Poliophtila plumbea*, *Zonotrichia* (all LC). It also identified the presence of caves, but no identification of bats is recorded in the RIMA. Regarding mammals: *K. rupestris*, *L. tigrinus* and *T. pecari* are listed nationally as VU. *Cavea spixii*, *Dasyprocta prymophola*, *Euphractus sexcinctus*, *Kerodon rupestris*, and *Mazama gouazoubira* are IUCN LC and *L. tigrinus* and *P. yagouaroundi* are on CITES Appendix I. Herpetofauna: *Dactyloa nasotrotalis* (VU nationally), *Amphisbaena alba* (IUCN LC) and *Tupinambis spp.* (CITES Appendix II).

There are other wind farm developments underway in the Municipality of Lagoa do Barro do Piaui, including the Ventos de Santa Angela Wind Complex consisting of 21 wind farms with 210 turbines totaling 630-MW. The Municipality has a population of 4,570 inhabitants (census 2010) including 881 rural households and 283 urban households. There is basic public infrastructure, water is distributed through a Municipal system, cistern trucks and wells. Sewage is primarily through septic wells or direct discharges. Domestic waste pick up is limited. There is power and cellular service and 9 public health establishments. The main economic activities are: agriculture (beans, caju, corn); timber extraction; cattle (mostly sheep); industry (mostly agribusiness) represents 11.4% GDP; commerce and services (81.7% GDP).

No traditional populations were identified in the area, based on criteria used by Federal Decree N°6.040/2007. The RIMA indicates that this criteria includes indigenous people, *quilombolas*, *caboclos* among others. There are no rural settlements in the Municipality of Lagoa do Barro do Piauí. The Project looked for landowners interested in renting their land. Negotiations were held with landowners that had land titles and no environmental restrictions in areas meeting the site selection criteria. An alternatives analysis was conducted for the site selection, evaluating wind potential, land availability, population density, forested areas and existing infrastructure (access roads and transmission infrastructure).

An archaeological study is being conducted and the presence of paleontological remains was discarded.

It is expected that all Performance Standards will be triggered, with the likely exception of PS7, given that no indigenous territories/ traditional populations were identified in the Project area. The Project has been classified preliminary "Category B (High Risk)" project according to IIC's Sustainability Policy, given the potential biodiversity impacts and land use change of the wind farm and the impacts of the 83-km transmission line. The Projects' environmental and social baseline, environmental and social impact assessments, its proposed management system will be evaluated in detail during the environmental and social due diligence (ESDD) process. After this process the IIC will re-evaluate the project's categorization after due diligence.

II. ESDD Information and Key Compliance Gaps and Strategy for Due Diligence:

Based on a review of the available information (RIMA), the due diligence will focus on the following issues:

- Confirm project design and capacity planned for development as well as the T-line route.
- Status of permitting process/ licensing and construction status.
- Impact assessment for the transmission line.
- Cumulative impacts of the Lagoa do Barro wind Project with other wind farm complexes in the Municipality (i.e., Ventos Santa Angela), as well as any other potential future wind developments.
- Stakeholder consultation, including nearby communities, local, federal/state agencies, NGO's, academic community, community leaders.
- Disclosure of information,
- Stakeholder engagement plan.
- Analysis of bird and bat communities: location, migration patterns and routes, monitoring activities performed so far by the Client, results monitoring activities and adequacy of proposed mitigation measures.
- Analysis of impacts to biodiversity: biodiversity studies, impacts to permanent conservation areas, plans for mountain top vegetation removal and reforestation, land conversion and other areas of conservation value, identification of critical habitat. Impact of access roads and impacts of the TL.
- Flooding and drainage: studies, vulnerability, design, plans and measures proposed to diminish the risk.
- Emergency response plans: analysis of natural and human-related hazards, climate change risks on floodplains.
- Land acquisition negotiations, authorizations: monitoring economic displacement
- Analysis of socioeconomic impacts at the local level and ecosystem services
- ESHS management systems/ plans and institutional capacity to manage ESHS risks
- Occupational health and safety plans (i.e., work at heights, biological and weather hazards, etc.)
- Labor issues and working conditions, including worker's accommodations, discrimination, gender issues and retrenchment.
- ESHS requirements for contractors, subcontractors and local providers
- Project's alternatives analysis
- GHG emissions: during construction and operation
- Traffic impacts and other health and safety risks to communities
- Grievance mechanism for workers (internal) and for the community (external).
- Cultural heritage and archaeology: studies and management plans
- Confirm presence/ absence of indigenous people/ indigenous territory

Other issues may arise during the due diligence review and site visit.

III. Anticipated Efforts:

The IIC review will require the support of a specialized consultant with knowledge on local biodiversity, cumulative impacts and community engagement in Brazil. IIC will work with the Client to obtain additional information to complete the ESDD and to complement as necessary in order to meet IIC requirements. The following key issues are expected to require the most effort: (i) cumulative impact assessment (CIA); (ii) comprehensive consultation with stakeholders; (iii) biodiversity assessment to determine impacts on birds, bats and areas of conservation value; and (iv) natural disaster risk. These issues will be discussed as priority with the client.

IV. Opportunities for Additionality (if any)

IIC will seek non-financial products that will help the Client improve the Project's environmental and social performance and include climate change adaptation measures.

*Mandatory for Category A, B and FI-1 transactions.

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