

ENVIRONMENTAL & SOCIAL REVIEW SUMMARY

This Environmental and Social Review Summary (ESRS) is prepared by IFC to disclose its findings and recommendations related to environmental and social considerations regarding potential investments. Its purpose is to enhance the transparency of IFC's activities. For any project documentation or data included or attached herein that has been prepared by the project sponsor, authorization has been given for public release by the project sponsor. IFC considers that this ESRS is of adequate quality for release to the public, but has not necessarily independently verified all of the project information therein. It is distributed in advance of IFC Board of Directors' consideration and may be periodically updated thereafter. Board dates are estimates only and this document should not be construed as presuming the outcome of the Board Directors' decision.

Project number	31834
Country	India
Region	South Asia
Sector	V-BC - Wind Power - Renewable Energy Generation
Department	Reg Ind, Infra & Nat Res, ASIA
Company name	Inox Renewables Limited
Environmental category	B - Limited
Date ESRS disclosed	April 24, 2012
Last Updated Date	05/04/2012
Status	Pending Approval

Overview of IFC's scope of review

The IFC review of this project consisted of appraising technical, environmental and social information made available by the INOX and the Company. The appraisal involved meetings with senior management of INOX and IRL as well as a review of the Company's environmental and social systems and policies and their approach to planning new wind farms. Documents reviewed include the draft Social Environmental Impact Study Report: 300MW Wind Power Project, Dangri, Jaisalmer District, Rajasthan, prepared in April 2012 by TATA Consulting Engineers Limited; and Rapid Biological Assessments of 5 Wind Farm Sites of Inox Renewables Limited, April 2012, prepared by Green Support Services. In addition, visits were made to the Dangri wind farm, both the 100MW site currently under construction and the proposed 300MW site at which construction is due to start later in 2012, to appraise how the Company manages environmental and social issues during design and construction phases.

Project description

INOX Renewables Limited ("IRL" or the "Company") was incorporated in November 2010 and houses the wind power generation business of the INOX group. IRL plans to build up to 3000 MW of wind projects by 2017 with the majority being in the states of Rajasthan and Gujarat in India. IFC's proposed investment (the "Project") involves equity investment in IRL and senior debt for construction of up to 400 MW of wind projects in the states of Rajasthan and Gujarat in India. The first of those sites is likely to be the 300MW wind farm at Dangri in Rajasthan. Dangri wind farm site is approximately 65 km south east of Jaisalmer in the Thar Desert, Rajasthan.

The existing operational assets are a 4MW wind farm in Tamil Nadu, two wind farms in Rajasthan, including Sadiya -12MW and Ossiya - 30MW, and a 23.1MW site in Gude Panchgani, Maharashtra. There is a 100MW wind farm at Dangri, Rajasthan currently under construction.

Identified applicable performance standards

- PS 1 – Assessment and Management of Environmental and Social Risks and Impacts
- PS 2 - Labor and working conditions
- PS 3 - Resource Efficiency and Pollution Prevention
- PS 4 – Community Health, Safety and Security
- PS 5 – Land Acquisition and Involuntary Resettlement
- PS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources

While all Performance Standards (PSs) are applicable to this investment, IFC's environmental and social due diligence indicates that the investment will have impacts that must be managed in a manner consistent with the following PSs:

- PS1: Assessment and Management of Environmental and Social Risks and Impacts;
- PS2: Labor and Working Conditions.

And each of the projects to be developed by the Company may result in impacts that may have to be managed in a manner consistent with the following PSs:

PS3: Resource Efficiency and Pollution Prevention;

PS4: Community Health, Safety and Security;

PS5: Land Acquisition and Involuntary Resettlement: However, the Project and the identified sites to be constructed up to 2014 are primarily on government land that is not formally inhabited or used for any economic activity; and will not entail involuntary resettlement or economic displacement. Further a small number of informal settlers on the Dangri site will not be required to relocate as turbines will be sited more than 300m from their settlements; and

PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. However, a rapid biological assessment identified that all operational and sites planned up to 2014 are low risk with the exception of one planned wind farm that is considered moderate risk. Any potential impacts on this site will be mitigated by careful siting of turbines.

While lands and resources on which Indigenous Peoples are dependent (PS7) and cultural heritage (PS8) are not expected to be impacted by the Project, the Company will, for all future projects, review the applicability of all PSs including PS7 and 8 and address any impacts in a manner consistent with the PSs.

Environmental and social categorization and rationale

The Project has been categorized as Category B according to IFC's Environmental and Social Review Procedure. Land and avifaunal impact related risks were assessed for sites planned for construction up to the end of 2014 and it is expected that potential risks and impacts will be limited. While the location of the wind farms to be developed after 2014 remains uncertain, IRL is committed to select sites for wind farms where potential social and environmental risks and impact will be limited and readily avoided, minimized, mitigated or compensated for in a manner consistent with IFC PSs

Accordingly, IFC's proposed investment is such that adverse environment and social (E&S) risks and impacts are limited, site specific and may be readily mitigated by adhering to generally recognized performance standards, guidelines or design criteria. The Company will manage its environmental and social performance in accordance with applicable local laws and regulations and international standards, including IFC PS.

Main Environmental & Social Risks-Impacts of the Project and Key Mitigation Measures

Key environmental, social, health and safety issues associated with the Project during construction and operation include the Company's capacity to: undertake adequate social and environmental assessment commensurate with the impacts of the Company's projects during construction and operational phases; manage the social, environmental, health and safety performance of its contractors in accordance with good international practice; consult and engage with project affected communities in accordance with local requirements and IFC PS; ensure fair, safe and healthy working conditions during construction and operations for direct employees as well as for contract workers; ensure proper handling of hazardous materials, wastewater, solid and hazardous waste during construction and operations; ensure proper management of the impacts of construction and operations on community health, safety and security as well as management of the potential impacts of the influx of construction labor during construction; and minimize the impacts of the wind farms on flora and fauna.

The Company has presented plans to address these impacts to ensure that the proposed project will, upon implementation of the specific agreed measures, comply with host country laws and regulations and IFC Performance Standards. The information about how these potential impacts will be addressed by the Company is summarized in the paragraphs that follow:

PS 1: Assessment and Management of Environmental and Social Risks and Impacts

Environmental and Social Assessment and Management System:

IRL has an Environmental Management System Policy which states the Company's commitment to sound environmental performance through identification and control of the impact of its activities; and to comply with the applicable laws and regulations. IRL will upgrade this policy, stating its commitment to select sites for wind farms where potential social and environmental risks and impact will be limited and readily avoided, minimized, mitigated or compensated for in a manner consistent with IFC PSs. The Company will develop and implement an Environmental and Social Management System (ESMS) to ensure that it implements and operates its projects (wind farms) in a manner consistent with the IFC PS. Of the five operational wind farms, two are operated and maintained by Suzlon and one by Vestas. Both Suzlon and Vestas are ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 certified companies

Identification of Risks and Impacts:

The Government of India does not require environmental impact assessment and clearance for wind farms and none of the five operating wind farms, nor those currently under construction, have had an Environmental and Social Impact Assessment (ESIA) prepared. For each of these sites, the Company has confirmed that the land was either government revenue/ waste land, unused for any economic purpose; or purchased privately on a willing seller willing buyer basis. All sites are at some distance from populated areas. To evaluate the potential biological risk of the operational wind farms, a two stage biological assessment was undertaken consisting of an initial desk based review for all operational sites and those which are likely to be operational by 2015, followed where required by a rapid biological assessment, based on a more detailed desk review and site visits. The assessment indicated that all of the sites were considered to be low risk, with the exception of the Rojama site in Gujarat, which is considered to be medium risk. A full ESIA will be undertaken for all sites prior to construction.

IRL will develop a Corporate ESMS. The ESMS will include procedures for screening and selection of sites for wind farms to ensure that each site selected will have minimal E&S risks. The ESMS will also include policies and procedures stipulating the need for undertaking an ESIA in accordance with IFC PSs of all prospective projects.

The ESIA will include an ESMP setting forth: (i) measures to mitigate adverse impacts that result in outcome consistent with IFC PSs; (ii) monitoring requirements for ensuring the mitigation measures are implemented effectively and in a timely manner; (iii) organizational and financial resources for carrying out the measures; (iv) an implementation schedule for these activities; and (v) an appropriate monitoring and reporting framework to ensure that the plans are implemented.

An ESIA is in the process of being finalized for the 300MW wind farm at Dangri, which is to be constructed in the second half of 2012. The ESIA concludes that there were no potential significant adverse impacts associated with the project. An ESMP has been prepared to promote good engineering practices during both construction and operation phases of the project. It includes actions to manage air quality, noise, land and water environment, visual impacts, waste management, occupational health and safety, protect security and safety of the local community as well as a monitoring program for bird and bat mortality; and air noise, water and soil quality monitoring.

Management Programs:

As part of the ESMS, IRL will develop a hierarchy of management programs for managing the design, construction, operation and decommissioning of all wind farms. The management programs will be in accordance with the IFC PS and applicable World Bank Group (WBG) Environment, Health and Safety (EHS) guidelines.

The management programs will include procedures for:

- i. Occupational Health and Safety;
- ii. Emergency preparedness and response;
- iii. Waste management, including materials storage and handling arrangements;
- iv. Water management;
- v. Traffic safety;
- vi. Land reclamation from road and foundation construction;
- vii. Wind farm decommissioning;
- viii. Stakeholder engagement framework;
- ix. Security;
- x. Land acquisition; and
- xi. Biological monitoring.

The management programs will be included in the Corporate ESMP and will be generally applicable to all sites. Site specific management plans may also be developed for each wind farm if required by the ESIA.

Organizational Capacity and Competency:

As part of the ESMS, a detailed Environmental Social Health and Safety (ESHS) organization with appropriately qualified ESHS staff will be developed. IRL will appoint an appropriately qualified ESHS team consisting of an individual within the IRL senior management team, supported by financial and professional staff resources, who will have overall responsibility for the development and implementation of the ESMS. In addition, there will be a member of the corporate team responsible for planning and developing wind farm sites that will be responsible for ensuring that the required ESIA studies are undertaken prior to construction of the wind farms. The Liaison Team will ensure appropriate stakeholder engagement is undertaken prior to land acquisition and during construction and operation of the wind farms. IRL management teams responsible for construction supervision and operation of the wind farm will have a designated, appropriately qualified ESHS officer responsible for managing the implementation of the ESMP.

Monitoring and Review:

The Corporate ESMS will also include monitoring procedures to ensure that the ESMP at each site is being implemented, exceptions flagged to Corporate management, corrective action identified and action taken reports prepared and made available to Corporate management. In addition, there will be a periodic review of the ESMS to identify procedures to be strengthened.

IRL will define a monitoring and review program to be implemented at each wind farm. The monitoring will be undertaken by IRL staff and will be designed to measure the effectiveness of the management program. Where significant risks are identified, for example, with respect to potential significant impacts on birds and bats, a specialist will be required to undertake specific monitoring programs.

The Dangri ESIA outlined a monitoring program which, once finalized, will include monitoring of the implementation of the ESMP as well as monitoring of impacts on birds and bats and other operation phase impacts including noise.

PS 2: Labor and Working Conditions

IRL has around 70 staff, half of whom have been transferred internally within Inox.

Working Conditions and Management of Worker Relationship:

IRL has developed a Human Resources (HR) Policy Manual which is based on the Inox corporate policy manual. It incorporates policies on working hours, wages, overtime, compensation and benefits, non-discrimination and equal opportunity, contract labor, security, disciplinary procedures, code of conduct, leave, transfer and

relocation, training, travel and employee welfare. As part of this process, the HR policies will be upgraded to meet PS2 provisions, including amongst other requirements, a policy enabling collective bargaining. IRL will also provide a grievance mechanism for workers, in line with PS2, to raise workplace concerns, informing workers of the mechanism at the time of their recruitment and make it easily accessible to them.

Protecting the Work Force:

IRL does not employ child or forced labor and site entry/exit procedures prohibit entry of contractors' staff under 18 or over 58 on to the site. All contract staff are required to be registered by the contractor and must produce photographic identification upon entry.

Occupational Health and Safety (OHS):

IRL has an OHS policy and is committed to providing a safe and healthy work place for all personnel. The Company is in the process of developing its Health, Safety and Environment (HSE) Manual. The draft Manual outlines the roles and responsibilities for site HSE Management from the client and contractor side. It indicates the need for safe work practices and procedures, training, toolbox talks, work permit system, incident reporting, recording and investigation, site rules and regulations and HSE rules, road safety onsite, waste disposal, emergency preparedness and fire incident response. IRL requires contractors to implement its HSE obligations and includes such obligations in the contract documents.

The Site Safety Manual and related procedures are also in the process of being completed and rolled out. Such documents will include the emergency action plan, work permit system, safety work instruction, incident management system, crane safety, working at heights and vehicle safety, enforcing the use of personal protective equipment, the observation of traffic safety protocols, training and awareness for employees, emergency response plan implementation, making available ambulance and first aid facilities and ensuring access to doctors or other medical staff.

The ESIA for Dangri site includes OHS measures covering, for example, OHS training, implementation of fall protection systems for laborers working at height, use of Personal Protective Equipment, provision of sufficient clean drinking water and medical services.

Workers Engaged by Third Parties:

IRL has detailed policies and procedures for managing and monitoring the performance of contractors in compliance with national laws. This includes detailed guidelines relating to security, health and safety, worker's accommodation and avoidance of child labor, and worker's conditions and terms of employment. If contractors provide barracks on site, they must be safe and hygienic with appropriate toilet, washing and drinking water facilities. The policies and procedures will be upgraded to meet PS 2 provisions, including provision of adequate living/sleeping facilities and space per person, canteen/mess or fuel for cooking; locker/storage facilities, and facilities for management and disposal of garbage, sewage and other domestic waste. The Company will make its grievance mechanism for workers accessible to contracted workers. These procedures will be embedded in the ESMS and shared with all staff.

PS 3: Resource Efficiency and Pollution Prevention

Dust emissions during construction activities and movement of vehicles on unpaved roads will be managed primarily by limiting the speed of vehicles, taking measures to minimize windblown dust from stock piles of excavated materials and monitoring dust emissions during high wind periods. Given the arid environment of the wind farm, every precaution to minimize dust emissions will be taken through good management procedures and water spray dampening will be used where all other measures have been exhausted.

Waste water will be discharged into a septic tank and there will be no discharges to the ground water. In order to minimize erosion, surplus excavated earth will be used for access road construction.

The ESIA for Dangri site indicates that the project is implicitly a net benefit from a pollution perspective as it will generate electricity from a renewable source. Nevertheless, during construction and maintenance hazardous materials such as oil and paint, lubricating and hydraulic fluids will be stored on site and a limited amount of hazardous waste will be generated. Hazardous materials and wastes will be stored and disposed of in line with international best practice and national regulatory requirements. General waste such as unused metals, packaging, plastic, paper and food waste will be recycled and reused as far as possible. Once the project is operational there will be limited pollution risk from the project due to closed systems used within the turbines and limited site activities; periodic oil and fluid changes of geared equipment will be conducted and waste oils/fluids will be disposed of at designated sites.

PS 4: Community Health, Safety and Security

Community Health and Safety:

The population in villages neighboring the Dangri wind farm is approximately 37% literate according to the 2001 census and mostly relies on agriculture and household industries for their livelihoods. Although the villages are all outside the proposed wind farm, there are informal settlements in the wind farm area that have been located there for more than 50 years.

The main risk to the communities relates to the transport of heavy equipment and parts on local roads. The ESMP stipulates that the speed limit of vehicles should be limited, trucks transporting heavy equipment should be

mobilized at night, and drivers should have a valid driving license and appropriate training. The ESHS staff on site will be responsible for notifying the communities and verifying that contractors enforce mitigation measures.

With regard to noise impacts, the closest receptors, the informal settlers, are located approximately 300m from the nearest turbine. Predicted incremental increase in noise levels is not expected to exceed 3dB(A) during the operational phase and will comply with IFC guidelines. During construction, noise levels at these settlements may rise to 60dB during daytime for short periods of excavation. The Sponsor will discuss any mitigation requirements with the Affected Persons.

In terms of visual impacts, the site is an open, flat, degraded desert landscape. The turbines are of uniform color and have non-reflective paints that blend with the natural landscape. While the site will add a number of structures to the landscape, the scale and distance from populated areas is unlikely to impact sensitive receptors.

The site is located more than 50km south east of Jaisalmer airport and air force station. The turbines are located more than 1km from nearby villages. The Company will implement a program to assess and monitor risk of shadow flicker impact on the few settlements located nearby the turbines and in consultation with any identified affected households, agree and implement appropriate necessary mitigation such as screening.

Security Personnel:

IRL has a detailed 'Guideline on Security for Wind Sites' which outlines the criteria for selection of security agencies, including the need for police verification for each security personnel deployed at the site, training in fire fighting, emergency evacuation and first aid. However, given that armed guards may be deployed at the site, the guideline will be updated to stipulate the requirement for training in the use of force and firearms and appropriate conduct toward workers and affected communities including a procedure that security incidents are recorded, investigated and corrective action implemented; bona fide complaints against security personnel are investigated and appropriate disciplinary actions are implemented; and there is a grievance mechanism for aggrieved members of community or employees, in the event of a violation of the code for security personnel.

PS 5: Land Acquisition and Involuntary Resettlement

Typically wind power projects do not result in involuntary resettlement as land is either purchased on a willing seller willing buyer basis or, as in the case of Dangri wind farm, is government land which is not of economic value and only small areas are required for each turbine. Nevertheless, the ESIA identified that some informal settlers are living on the Dangri wind farm. IRL has stated that the turbines will be sited no less than 300m from the settlements and relocation will not be required. Implementation of the corporate stakeholder engagement framework will ensure that the informal settlers are adequately consulted and their concerns or interests taken into account, and Affected Persons will be made aware of the grievance mechanism. Further, in the ESMS procedures will be put in place for ensuring that in the event of involuntary resettlement, an appropriate ESIA is undertaken and mitigation measures in accordance with the provisions of PS5 are implemented.

PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

An initial desk based scoping review indicated that of the four operational sites, three (Sadiya, Ossiya and Tamil Nadu) are not located close to sites of potential biological importance and there have not been any reports of bird or bat strikes. These three sites are considered low risk. Rapid biological assessments, involving more detailed desk studies and site visits were undertaken for the remaining operational site at Gude Panchgani. At this site grassland meadows support a great diversity of reptiles and birds and no bird kills have been reported to date. As part of the ESMS, IRL will monitor the turbines for bird strikes during peak bird activity periods.

The 100MW wind farm under construction at Dangri is adjacent to the site which has been subject to an ESIA. Given the homogeneous nature of the environment, the biological surveys in the ESIA can be considered to be representative of the site under construction. The project area is a dry and semi-arid landscape and vegetation is degraded. The majority of the faunal species found during the survey were common throughout the State of Rajasthan, there were no endemic or threatened species present in and around the project area. There was no presence of endangered species such as the Great Indian Bustard and the nearest protected area is the Desert National Park, 60km away. Roosting colonies of bats are located 50km from the site; there are no wetlands in or around the site and migratory routes are broad and not restricted over the project site. It was concluded that the impact on avifauna was predicted to be low.

In order to screen the risks associated with the projects that are likely to be developed by the end of 2014, a rapid biological assessment was undertaken to establish if there was any risk to critical habitats or threatened or endemic species. The assessment indicated that all of the sites were considered to be low risk, with the exception of the Rojama site in Gujarat, which is considered to be medium risk. There are a total of 13 wetlands in the north of this 320MW site and 25 in the 5km periphery of the site. Of these 38 wetlands, only 3 are major wetlands, two of which are within the project area and 35 are minor wetlands/check dams that do not retain water throughout the year. The wetlands support large populations of migratory and local waterbirds, including flamingos and cranes which move between wetlands in search of food and safe night roosts. The rapid biological assessment recommends that the turbines are located a minimum of 500m from the small wetlands and 1km from the two large wetlands in order to avoid significant bird mortality. Prior to construction, a full ESIA will be undertaken for all wind farms including a avifaunal/bird impact study for the Rojama site and the Environmental and Social Management Plan (ESMP) will incorporate these recommendations.

As standard practice, the operational phase management program for each wind farm will include bird strike monitoring, surveying for carcasses and prompt removal to avoid attracting raptors. Where necessary, bird surveys will be undertaken in peak seasons to determine the need for additional mitigation measures. These activities are consistent with good practice at all wind farms and will be formally incorporated in the management programs in the ESMS.

Client's community engagement

IRL has a Liaison Team, which consists of staff employed from the local community of each prospective wind farm, whose primary responsibility is to engage with the local communities and resolve grievances through discussions with village elders. Consultation with local village representatives is undertaken by IRL prior to land allocation by the government agency. Public consultation meetings are arranged with village representatives on a mutually agreed date and place to explain the nature of the project, seek the views of the stakeholders, identify opportunities for employment or local contracting as well as opportunities for community development. The community development activities are handed over to village communities for implementation.

IRL will prepare a stakeholder engagement framework that outlines the responsibilities of the Liaison Team and includes procedures for identifying stakeholders directly and indirectly affected by the project including informal settlers and indigenous people; ensuring that community representatives represent the views of affected communities; and engaging with stakeholders appropriately and identifying their interests and concerns. The procedures will represent best practice in line with PS1 for disclosing adequate information and undertaking a process of consultation and will specify activities to be undertaken as part of the ESMS engagement during project site selection and conceptualization, engagement as part of the ESIA and finally ongoing engagement during construction and operation, including communicating the grievance mechanism to local communities. In the event that there may be potentially significant adverse impacts on Affected Communities or Indigenous Peoples, IRL will have a procedure for Informed Consultation and Participation.

IRL has a guideline on complaint resolution procedures that indicates mechanisms for public consultation, the process of liaising with local communities during construction and operation, including how specific complaints related to noise, shadow flicker and electromagnetic interference will be addressed and a complaint resolution process. On each wind farm site there is a Liaison Team which is responsible for implementing the guideline.

IRL will prepare a procedure for providing timely information on key stages of project implementation, updates of Action Plan and other social and environmental performance information relating to concerns/interests expressed by the Affected Communities.

The Liaison Team and the consultants undertaking the ESIA have consulted with representatives of the local communities at the Dangri wind farm site who indicated their expectations for beneficial impacts from the wind farm, such as employment, improved access roads and consistent power supply. A few consultees expressed concern that the noise from the turbines might scare their cattle but were satisfied that this had not been an impact elsewhere. The Liaison Team will work with the local communities to define appropriate development projects.

Local access of project documentation

Company will disclose:
 this ESRS and the ESAP.
 draft Social Environmental Impact Study Report: 300MW Wind Power Project, Dangri, Jaisalmer District, Rajasthan, prepared in April 2012 by TATA Consulting Engineers Limited.
 Rapid Biological Assessments of 5 Wind Farm Sites of Inox Renewables Limited, April 2012, prepared by Green Support Services.
 at its website:

as well as locally at the following addresses:

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Environmental & Social Action Plan - Appraisal

#	Action	Deadline
PS1: Assessment and Management of Environmental and Social Risks and Impacts		
1	The Sponsor will update and implement its environmental and social management system as described in the ESRS.	September 2012
2	Implement SEMS audit and corrective action program as described in the ESRS.	Within 90 days of the end of each financial year with effect from commitment.
3	Put in place organizational capacity to implement the ESMS as described in the ESRS.	September 2012
4	Undertake ESIA's for all wind farms before construction and implement ESMPs.	Ongoing
PS2: Labor and Working Conditions		
5	Upgrade the HR policies to meet PS2 provisions, including amongst other requirements, those identified in the ESRS.	September 2012

Client's Documentation

There are no attachments for this document