

Environmental and Social Data Sheet

Overview

Project Name:	<i>CA CCFL REVENTAZON HYDROPOWER</i>
Project Number:	<i>2012-0472</i>
Country:	<i>Costa Rica</i>
Project Description:	Allocation under the Central America Climate Change Framework Loan. The project consists of the construction and operation of a 305 MW hydropower plant with associated dam and reservoir, located on the Reventazon river in Costa Rica. It aims at providing for the increasing electricity demand from a renewable source.

EIA required: yes

Project included in Carbon Footprint Exercise: yes

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

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The project includes a large dam and a reservoir, which require a full Environmental and Social Impact Assessment (ESIA) under EIB environmental and social policies. The promoter has compiled a comprehensive ESIA in line with national legislation and the financiers (IADB, IFC, CABEL and EIB) requirements. The river basin has a management agency; there exists a comprehensive watershed management plan, and cumulative impact assessment of the river cascade. The promoter is state-owned utility, has well developed occupational health and safety standards, and is implementing the project with personnel that it employs itself. The majority of the workforce (60% of the total workforce that is expected to peak at 3300 workers) is recruited locally from Siquerres and Limon districts.

The ESIA developed by the Promoter is of good quality and has identified a number of environmental and social risks based on sound baseline information. This study was further improved with Technical Assistance from IADB. Some further risks that require mitigating measures were identified in this TA report. Those risks relate to cumulative effects, social impacts and the development of a resettlement framework, potential biodiversity loss, disruption of ecological corridors, to possible changes in the river and downstream nature reserve by changes of sediment conveyance, and loss of livelihood of population, both at the reservoir area and downstream (no households are required to be physically displaced from the reservoir area). The Promoter has started the mitigating measures, but not yet completed them.

The key mitigating measures, which include Panels of Experts for environmental, social and dam safety issues, are suggested as loan conditions. The Environmental and Social Management Plan implementation needs as well be verified and reported before the impoundment of the reservoir starts.

The project is expected to provide renewable hydro electricity with an environmental and social impacts which, when appropriately mitigated, are considered acceptable.

Environmental and Social Assessment

Environmental Assessment

The Project's environmental impacts would be significant, if left unmitigated. Key environmental impacts and risks include: a) loss of connectivity due to the future reservoir of the Barbilla biodiversity corridor (Jaguar Corridor), a critical natural habitat; b) significant direct and cumulative impact of project's construction and operation on the Reventazón River's natural aquatic habitat; c) potential adverse impacts during Project operation on the complex and ecologically sensitive Reventazón – Parismina – Tortuguero hydro-biological system.

A mitigation strategy and management framework has been developed in line with the financiers requirements. This strategy, which addresses the Project's key impacts and risks, includes: restoring the connectivity of the biodiversity corridor at the tail of the reservoir; helping conserve an ecologically similar river system as a healthy and free flowing aquatic habitat to compensate for Project's impact on the Reventazon River; adaptive management of potential downstream impacts. ICE is committed to ensuring adequate implementation of the mitigation strategy, including through securing necessary resources. Loan conditions will include requirement to that effect, in particular those reflected in the Environmental and Social Management Plan (ESMP), and appropriate monitoring and supervision arrangements.

EIB Carbon Footprint Exercise

Estimated emissions savings are 212 000 tonnes of CO₂ equivalent per year.

The project includes a medium-sized reservoir. According to the UNFCCC methodology, (for CDM registration), GHG emissions can be neglected from hydropower plants with a power density higher than 10W per m². Reventazon reservoir is significantly smaller than this threshold, and the carbon footprint exercise does not include such emissions. The project boundaries are the power plant and the reservoir. No emissions or savings outside this boundary have been taken into account. The climate change models indicate that precipitation in Caribbean coast of Costa Rica is expected to slightly increase. The hydrology and emission savings of the project are considered to be stable.

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

There are no permanent residences located within the project. However, there are 56 affected land owners, of which 40 are businesses, absent tenants, or governmental institutions which will be subject to marginal impacts. The remaining 16 land owners present mid-to-high levels of socio-economic vulnerability and are expected to suffer loss of livelihood; 9 out of the 16 vulnerable families may need to be physically resettled if no replacement agricultural land is found nearby. 18 farm workers are losing their jobs, but are offered employment by the project as immediate mitigation. The cumulative impacts of the project will affect tourism companies using the Reventazón River for white-water rafting.

The compensation and potential resettlement of the affected people is expected to happen according to a Livelihoods Restoration Plan (focussing on vulnerable groups) and a Compensation Plan and White Water Rafting Mitigation Plan focusing on the less vulnerable landowners and tourism companies. A Resettlement Completion Audit is required for Project completion.

The promoter ICE has recruited 60% of the workforce of the project from the nearby communities. It applies acceptable occupational health and safety standards to its own

employees (which constitute 90% of the workforce). Enforcement of similar standards needs to be established as well with respect to other contractors operating on the project; to this end, ICE will develop a compliance monitor mechanism for sub-contractors, drawing on its own OHS policies and procedures.

To facilitate better management of the environmental, social and health and safety elements of the project, ICE will amalgamate all existing teams under a single unit under an Environmental, Social and Health and Safety Management System – ESHS-MS based on internationally recognized standards, covering both construction and operation phases and being accompanied by respective Manuals. In addition, ICE will create an independent supervision team with a clear mandate, capacity to halt construction works and/or operations if and when needed, detailed procedures and field supervision protocols, and adequate personnel and budget.

The primary community health and safety risks identified during the construction phase of this project are similar to the typical large scale construction site, associated with traffic safety, noise, and dust generated by the transport of materials, equipment, and workers to and from the project site. Three villages located along the two main access roads will be mainly affected and a series of preventive/mitigation actions/programmes deemed adequate by the EIB have already been introduced. Finally, as indicated in the project's ESMP, an Emergency Preparedness and Response Plan will be developed; additionally, ICE will elaborate a Contingency Plan and Natural Disaster Management Plan (NDMP) for the construction phase in form and substance acceptable to IFC/IADB standards.

Specific E&S management & monitoring arrangements:

Disbursement conditions

The promoter shall, prior to the first disbursement and to the satisfaction of the Bank, establish two external advisory teams (Technical Panel of Experts; and Environmental and Social Panel of Experts) to assess dam safety and integrity, and to advise and monitor the implementation of the ESIA's and ESMPs.

The promoter shall, prior to the first disbursement and in a form and content to the satisfaction of the Bank, a) develop a Livelihood Restoration Plan covering all those affected by project-related land acquisitions and a strategy for developing the White Water Rafting Mitigation Plan, both these consistent with the Resettlement Framework/Preliminary Land Acquisition and Involuntary Resettlement Plan, b) develop and implement a Grievance Redress Mechanism for Workers (direct and subcontracted) and c) implement a robust Grievance Redress Mechanism as part of the Community Engagement Plan.

Undertakings

Two expert teams; the Technical Panel of Experts; and the Environmental and Social Panel of Experts, shall be established with the composition, Terms of Reference and reporting procedures satisfactory to the Bank. The reports of the both Panels of Experts shall be delivered to the Bank as annexes of the project progress reports. The promoter shall comply with the recommendations of the both Panels of Experts to the satisfaction of the Bank.

The promoter shall deliver to the Bank a report from a Technical Panel of Experts assessing the dam design, materials and construction against best available practices of CFRF-type dam. This assessment needs to include stability analysis and leakage risk analysis, and shall be done prior to the start of the concrete slab works of the dam.

The promoter is required to submit to the Bank 90 days prior to the filling of the reservoir a comprehensive environmental and social status report (in a form and content to the satisfaction of the Bank) that details the completion and/or the progress that has been made towards each of the mitigating measures in the Environmental and Social Management Plan. The report needs to be endorsed by the Environmental and Social Panel of Experts. The report is required as well to cover the progress in tasks outside the project area, like the

biodiversity-related activities, the enhancement of the connectivity protected areas and the Parismina offset program. It shall as well monitor the implementation of Livelihoods Restoration Plan and a Compensation Plan, ICE's Occupational Health and Safety compliance mechanism to monitor sub-contractors throughout the project, and introduction and operation of the grievance redress mechanism for affected parties. This review needs to cover as well the integrated Environmental, Social and Health and Safety Management System and associated manuals and of the creation of an independent supervision unit, the Contingency Plan and Natural Disaster Management Plan for the Construction Phase and the associated warning and alarm system for downstream communities (including adapted existing emergency preparedness and evacuation plans for Cachi and Angostura), and an independent Resettlement Audit.

The promoter shall provide a White Water Rafting Mitigation Plan in form and content acceptable to the Bank on or prior to one year after 1st disbursement

The promoter shall provide a Completion Audit of Resettlements at project completion stage.

Public Consultation and Stakeholder Engagement, where required

During preparation of the EIA for the Project, multiple public participation and consultation workshops and meetings were carried out by ICE as mandated by Costa Rica's national legislation. In this process, ICE carried out a total of 52 workshops and meetings. Common concerns among residents were around loss of income/employment, fair compensation for acquired land, uncertainty about the Project benefits and future opportunities for the communities, alteration of community relations and values due to the presence of outsiders, and more pressure and demand on basic health, sanitation and educational services. The main benefits were considered to be the prospect of employment in the project. ICE signed a cooperative agreement with all 15 affected communities thus formalizing ICE's commitment to comply with the mitigation measures

ICE will implement a grievances redress mechanism to address and resolve public complaints and disputes that may arise during the life of the project. Such mechanism is described ICE's Communities Engagement Plan, and a proper protocol has yet to be established. Evidence should be presented prior to first disbursement that the grievance redress mechanism for affected parties is in place and operational.

Other Environmental and Social Aspects

None

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