

Environmental and Social Completion Sheet (ESCS)

Overview

Project Name:	CA CCFL Reventazon Hydropower
Project Number:	2012-0472
Country:	Costa Rica
Project Description:	Allocation under the Central America Climate Change Framework Loan. The project consists of the construction and operation of a 305.5 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.

Summary of Environmental and Social Assessment at Completion

EIB notes the following key Environmental and Social outcomes at Project Completion.

The project comprises the construction and operation of a 305.5MW hydropower plant (HPP) on the Reventazón river, located 8 kilometers southwest of the city of Siquirres. The project includes the construction of a 130-meter high dam, a 6.9 km² surface reservoir, a 700 meter-long diversion tunnel, and hydroelectric generation facilities. The plant was completed in line with its original design and was set in operation in October 2016.

The operation comprises an allocation under an intermediated framework loan, the Central American Climate Change Framework Loan. The EIB funding was provided to a Financial Intermediary (FI), the Central American Bank for Economic Integration (CABEI), who allocated funds to eligible investments, including the Reventazon HPP. The HPP was also financed by IFC, IDB and local Banks. For the monitoring of the project's implementation, the EIB relied significantly on the monitoring structures set up by the other financiers, as the requirements deriving from EIB's E&S Handbook –applicable at the time of appraisal- were covered by the standards and procedures of IDB and IFC.

At appraisal, the main potential environmental impacts identified, were (a) the loss of connectivity of the Barbilla-Destierro Biological Sub-Corridor (SBBD), (b) significant direct and cumulative impact of the project's construction and operation on the Reventazon River's natural aquatic habitat and (c) potential adverse impacts during the project's operation on the Reventazon-Parismina-Tortuguero hydro-biological system.

A mitigation/compensation and monitoring strategy was developed to address each of the aforementioned risks, including the restoration of the connectivity of the biodiversity corridor, a compensation programme in the Parismina river under the "intact river" principle (the River Parismina Offset Programme), maintaining an ecological flow on the Reventazon river, adaptive management of potential downstream impacts, all of which were reflected in the project's Environmental and Social Management Plan (ESMP).

Key mitigation measures identified at EIB's appraisal and introduced as disbursement conditions in the Finance Contract, included the set-up of (a) an Independent Panel of Experts for the monitoring of Environmental and Social (E&S) aspects of the project, and (b) a Technical Panel of Experts for the review of the integrity and of Health and Safety (H&S) aspects of the dam. Two Panels of Experts for the respective tasks were indeed set-up with the support of IADB and IFC. The Technical Panel of experts prepared a report on the assessment of the dam

European Investment Bank (EIB)

Luxembourg, 10.05.2020

design, materials and construction, which was reviewed and was found satisfactory by the Bank. The scope of work of the Independent Environmental and Social Monitoring Consultant (IESMC) included: (a) assessing the project's compliance with IDB and IFC E&S requirements; (b) assessing the status of implementation of the ESMP; (c) identifying any new risks or impacts; and (d) propose corrective actions for any non-compliance identified. The IESMC remained in place throughout the implementation of the project, until after the conclusion of the construction phase.

The IESMC concluded in the construction conclusion report and in the relevant compliance certificate issued at project completion, that there were no existing adverse E&S impacts or risks, which were not already mitigated, compensated or addressed in the ESMP, with the exception of two issues remaining open: (a) the management of landowner, community and workers' grievances and (b) the follow-up actions deriving from the Resettlement Audit, discussed further below.

The mitigation and compensation strategy included a Master Plan, established with the support of CATIE¹ and NGO Panthera, to secure the legal and financial basis for the SBBD corridor restoration program to strengthen the corridor's connectivity. The Master Plan included prioritized programs of reforestation, land purchase, payment for ecosystems services, environmental education, and establishing sustainable agricultural practices within the corridor. Priority areas for the corridor's connectivity restoration were identified by Panthera. Based on the compliance certificate issued by the IESMC at project completion, the reconstruction of the corridor was concluded in line with the actions envisaged in the ESMP.

According to the report issued by the promoter on the monitoring of the River Parismina Offset Programme over the period 2016-2019, no net (biodiversity) loss has occurred in the aquatic habitat of the river system monitored. The monitoring is ongoing.

Other contractual undertakings required (a) the development of a Livelihood Restoration Plan for those affected by project-related land acquisitions, (b) the development of a White Water Rafting Mitigation Plan to address project impacts on tourism companies using the river for white-water rafting, (c) the development of a Redress Grievance Mechanism for the workers and the community, (d) a report with the review of the E&S status of the project 90 days prior to the filling of the reservoir and (e) an Audit of Resettlements at the completion stage.

Documents (a)-(c) were developed by the promoter with the support of external consultants and were delivered to the Bank. With regards to the document under point (d), a consolidated E&S report was not submitted to the Bank 90 days prior to the filling of the reservoir and is not available as such. Nevertheless, the monitoring of the ESMP requirements did take place, with regular reports being issued by the IESMC, including a report prior to the filling of the reservoir. In addition, the Biodiversity Advisory Group –selected and financed by IDB and IFC- also produced regular reports until the conclusion of their contract in 2016. The Bank considers this reporting acceptable.

The project involved a land acquisition programme that resulted in the acquisition/expropriation of 136 properties. The number of properties is substantially higher than originally envisaged, mainly attributed to widening the buffer around part of the reservoir. The Audit of Resettlements -requested under point (e) of the undertakings- was completed in 2018 and concluded that the resettlement actions were completed in line with the Resettlement Framework and fulfilled the financiers' requirements (IDB and IFC), with the exception of the interpretation and application of IDB and IFC E&S policies for non-vulnerable groups. For these groups, the Resettlement Audit recommended that further monitoring of their livelihood restoration is carried out and

¹ Centro Agronómico Tropical de Investigación y Enseñanza

European Investment Bank (EIB)

Luxembourg, 10.05.2020

corrective actions are undertaken as necessary, as well as the (re)assessment and qualification of some cases as vulnerable/non-vulnerable. In addition, the audit recommended the improvement of registering and handling of grievances, as several grievances by landowners were submitted during the project's implementation. In order to address the findings of the Audit, the promoter developed an Action Plan, the implementation of which commenced in 2020. The monitoring of the non-vulnerable cases identified in the Action Plan will be carried out annually for up to three years. Its continuation after the first year will depend on the identification of negative impact linked to economic displacement, as it may have been caused by the project.

EIB Carbon Footprint Exercise

With regards to the GHG emissions of the project, a GHG Monitoring Framework was developed as part of the project's ESMP. Physical monitoring of the reservoir's emissions is conducted on a yearly basis. Based on the GHG emissions' measurement report delivered by the promoter for the period 2016-2019, the project in average complies with the original estimates at appraisal (by the EIB and by the promoter). In particular, the absolute emissions of the plant were 15.3ktCO₂e in 2016, 30.4ktCO₂e in 2017, 44.6ktCO₂e in 2018 and 15.9ktCO₂e in 2019. It is noted that for year 2018, the emissions were higher than originally forecasted by the EIB (i.e. 38ktCO₂e). This was attributed to the fact that the plant was out of operation for several months, in order for the promoter to conduct reparative works that commenced in 2017. The eutrophication conditions attributed to the cease of operation and to the low level of water in the reservoir, in combination with the deposition of sediment and the degradation of organic matter after the first filling, led to higher reservoir emissions in that year.

The project provides electricity from renewable energy sources, thus contributing to the overall reduction of GHG emissions in the country.

EIB notes the following key Environmental and Social aspects to be monitored during operations:

The EIB will continue to monitor the project in the course of the next three years (until 2023), with a focus on:

- (a) The GHG emissions of the project, considering the reservoir's water quality parameters and potential eutrophication conditions. The GHG measurements that will be conducted by ICE will be reviewed by the EIB in the context of the HPP's operational parameters during the next three years;
- (b) The conclusion of actions relating to the findings of the Resettlement Audit and the completion of the monitoring entailed in the related Action Plan;
- (c) The results of the on-going biodiversity monitoring for the operational phase of the project;
- (d) Other significant E&S issues, as they may occur.

Summary opinion of Environmental and Social aspects at completion:

Based on input from the promoter and/or reports provided by lenders' Supervisors (Panels of Experts, IESMC, GAB etc.) and others, EIB is of the opinion that the project has been implemented without material deviation from the requirements of the EIB Environmental and Social Handbook of 2010 -applicable at the time of appraisal- and will continue to monitor open issues as deemed necessary.