



1 Introduction



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1.1 Purpose of this Document

This document is the International Environmental and Social Impact Assessment (ESIA) for the 206 MW Ruzizi III Regional Hydroelectric Power Project, including a 7-km-long 220 kV Transmission Line. The purpose of this ESIA is to demonstrate the Project's alignment with the Environmental and Social (E&S) policies of the International Financial Institutions (IFIs) that are considering supporting the Project, comprising AFD, AfDB, BII, EIB, KfW and the World Bank. Earlier versions of this report were provided to environmental authorities in Rwanda and DRC and the environmental permits obtained on 14 April 2023 and 26 June 2026 respectively.

1.2 Objectives and Rationale of the Project

The Project will generate clean and renewable power, reducing the region's reliance on expensive thermal generation. It will also reduce the local communities' dependence on wood fuel and charcoal which represents a major threat to the countries' forests and biodiversity. Availability of the renewable power will support efforts to extend electrification to the region.

It is currently projected that the Project will benefit a population of 30 million people, 54% of whom are living under the poverty line and averaging a 24% electricity access rate. Once commissioned, Ruzizi-III will almost double Burundi's current capacity, increase Rwanda's installed capacity by nearly 30% and provide much needed baseload power in Eastern Democratic Republic of the Congo (DRC), a region that is otherwise isolated from DRC's interconnected grid.

The Project will be constructed and owned as a public-private partnership (PPP) among the Republic of Burundi, DRC, and the Republic of Rwanda (together as the Contracting States) and the Project Proponent. It is an Independent Power Project (IPP) based on a Build, Own, Operate, Transfer (BOOT) structure and underpinned by a 25-year concession agreement and Power Purchase Agreements (PPAs).

1.3 Project Location and Overview

The Project is situated on the Ruzizi River which flows from Lake Kivu to Lake Tanganyika. At the Project location the river represents the border between Rwanda and DRC and the administrative limit between the Rusizi District of the Western Province of Rwanda and the Walungu Territory of the South Kivu Province of DRC. The Ruzizi-III dam is situated 16 km downstream from the existing 29.8 MW Ruzizi-I and 12 km downstream from the existing 36 MW Ruzizi-II hydroelectric schemes, which started operation in 1959 and 1989 respectively. The Project location is shown on the map provided in Figure 1-1.

The main Project components comprise a rockfill embankment dam with a height of 51 m and a small reservoir occupying 46 ha (16 ha in Rwanda and 30 ha in DRC). These components occupy areas in Rwanda and DRC. Project components situated in Rwanda comprise the dam's spillway and bottom outlet, a 3.8 km long headrace tunnel, an above ground powerhouse, dam access road, permanent operators' village and temporary facilities for the construction phase, including a temporary accommodation camp for workers. Project components situated in DRC comprise a 220 kV substation, a 7-km-long 220 kV Transmission Line, a dam access road, 30 kV Power Supply Line and temporary facilities for the construction phase including a temporary accommodation camp for workers.

No Project components are situated in Burundi. However, the Ruzizi River flows into Burundi 10 km downstream from the Project powerhouse and one of the objectives of the ESIA is to access the types of impacts and significance that alteration to flow regimes and sediment transport may impacts receptors in Burundi.



The Project has completed a Feasibility Study, and the detailed design and construction will be managed by an Engineering, Procurement and Construction (EPC) Contractor in the next stage of the Project. Construction duration is estimated to be between 48 and 56 months, requiring an estimated workforce of 500-1,000 workers. On completion of the Project construction, the operation of the scheme will be handed over to an operating company that will be created or nominated at a later stage. The Project will operate in a coordinated manner with the Ruzizi-I and -II hydroelectric schemes upstream which operate with periods of peak and off peak flows. The Project's peak flows (150 m³/s) are identical to the peak flows from Ruzizi-I and -II.

1.4 The Project Proponent

The Project Proponent is Ruzizi III Energy Limited (REL), a special purpose vehicle that has been established and registered in Rwanda to develop the Project. REL will be a public-private partnership during construction and operation of the Project. The Company will be registered as a Community Enterprise at the level of the Economic Community of the Great Lakes Countries (ECGLC) in parallel with financing for the project construction. The Company will function in accordance with various consents issued by the Contracting States and at the ECGLC level as required for construction and operations.

The shareholders of REL during the initial development period are Industrial Promotion Services (IPS) and SN Power AS (SNP) – owned by Total Energies.

- IPS is the infrastructure and industrial development arm of Aga Khan Fund for Economic Development (AKFED). Within East Africa, IPS has operations in Kenya, Uganda, Tanzania, Burundi, Mozambique and DRC and employs over 10,000 people. Outside the East and Central Africa region, IPS operates in Cote d'Ivoire, Burkina Faso, Mali, Senegal, Tajikistan, Afghanistan, Kyrgyzstan and Pakistan.
- AKFED is an international development agency dedicated to promoting entrepreneurship and building economically sound enterprises in parts of the developing world that lack sufficient foreign direct investment. It also makes bold but calculated investments in situations that are fragile and complex. It is part of the Aga Khan Development Network.

After financial close, the shareholders of REL will be Ruzizi III HPCL (comprising SNP and IPS) and the Contracting States (comprising Burundi, DRC, and Rwanda), with the private and public parties holding 70% and 30% of the company's share capital respectively. The ECGLC Organisation for *Energie des Pays des Grands Lacs* (EGL) acts as the agent for the three Contracting States and the power purchasers from each Contracting State (Offtakers) for the Project. EGL is a specialised ECGLC body responsible for energy cooperation among the Contracting States.

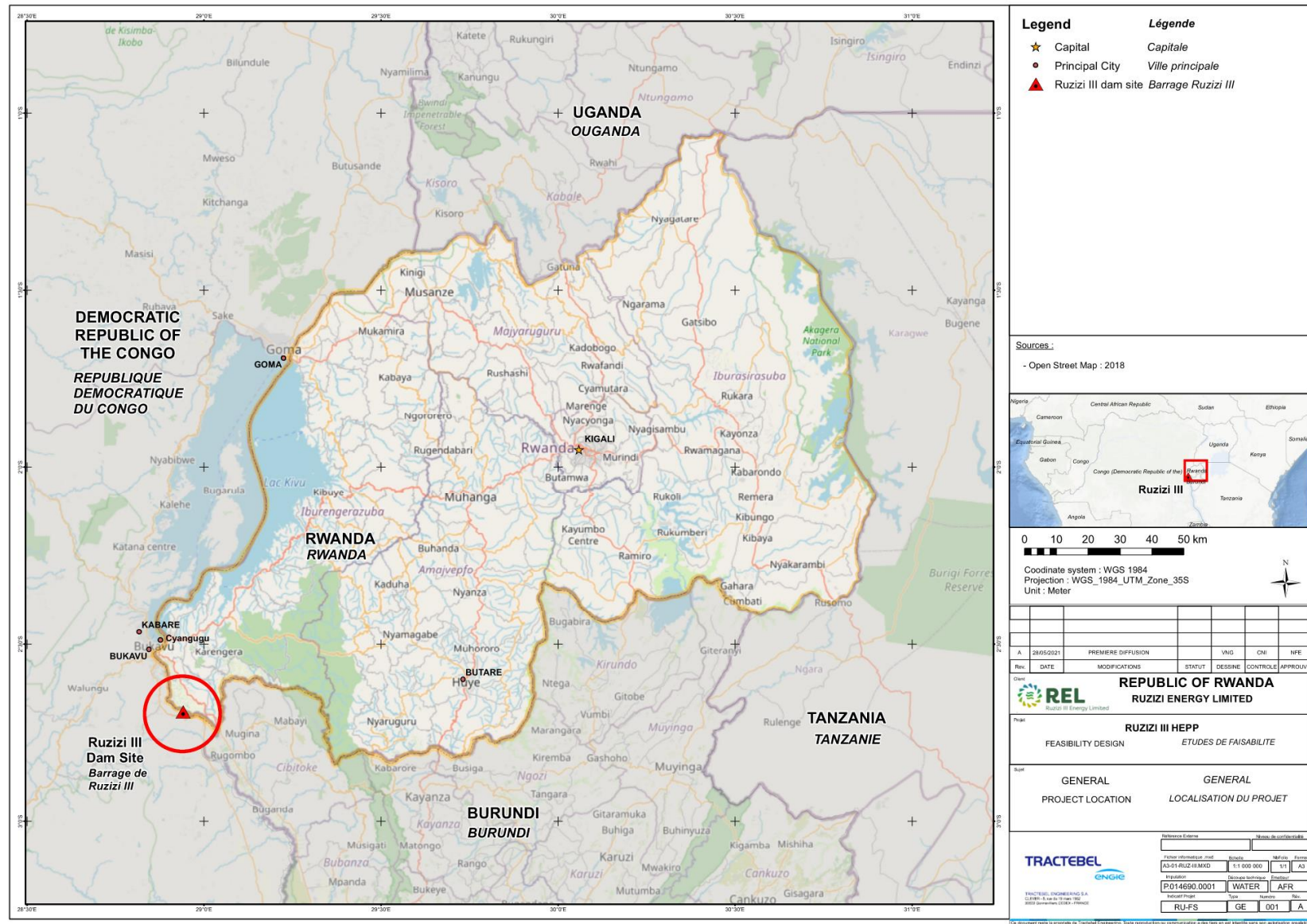


Figure 1-1 Project Situation



1.5 ESIA Team

The ESIA has been prepared by SLR Consulting, an international environmental consulting company. SLR's international ESIA team have a long track record of preparing ESIA for international hydropower projects that meet the requirements of International Financing Institution (IFI) environmental and social policies. The team members have extensive Africa experience and experience in Rwanda and DRC. The Ruzizi-III ESIA has been prepared by environmental and social specialist and experts from SLR France, South Africa, Ireland and UK with support for the field surveys from international and regional biodiversity experts and regional social experts. The list of ESIA team members is provided in Annex A. The level of effort in the preparation of the ESIA is 45 person-months.

1.6 Facilities & Activities Included in the ESIA Scope

The Project facilities and activities that are included in the scope of the ESIA comprise the following:

- Construction and operation of the power production facilities comprising the dam, headrace tunnel, power waterways, powerhouse, 7-km-long 220 kV transmission line, access roads, and operators' village.
- Facilities required for construction including worksite and construction camp and worker accommodation camp.
- Reservoir impoundment.
- Impacts from operation of the facilities, including impacts from the creation of a 5.5-km-long bypassed reach of the Ruzizi River and downstream impacts from hydrological changes to the Ruzizi River caused by the Project.

Project facilities and activities that are not included in the scope of this ESIA comprise quarries and borrow areas developed for the construction phase and Associated Facilities.

- Quarries and borrow areas are not included in the scope of the ESIA because the sitting will be defined at a later stage. Chapter 4 - project description provides the locations of potential sites for quarries and borrow areas that have been identified by REL. However, it will be the EPC Contract that selects site locations, and they may correspond to sites identified by REL or alternative sites. Vol. IV - ESMP includes the process for REL's review and approval of the sites proposed by the EPC Contractor so that there is avoidance or minimisation of environmental and social impacts. REL will engage an ESIA consultant to conduct the environmental and social impacts for the establishment and exploitation of the quarries and borrow areas and any necessary access roads. The ESIA and RAP will meet international standards and demonstrate alignment with lenders' E&S policies.
- Associated facilities are not included in the scope of this ESIA. The ESIA's and RAPs for the Kamanyola substation and transmission lines that transport electricity produced by the Project to Rwanda, DRC and Burundi are prepared by the developers of these projects. However, the projects to develop associated facilities are also receiving support from IFIs (AfDB, KfW, EIB) and as a consequence the ESIA's and RAPs shall also be prepared in alignment with lenders' E&S policies.



1.7 ESIA Report Structure

The ESIA report structure below is an adaption of the structure recommended by the IHA¹.

Volume I – ESIA Summary

Volume II – Environmental and Social Impact Assessment – Main Report

1. **Introduction** – includes objectives of the project, project overview, description of the project proponent, ESIA team and report structure.
2. **Legal and Administrative Framework** – includes ESIA regulations and requirements, regulations on environment, health and safety, social issues, national institutional framework and applicable international standards.
3. **ESIA Process and Methodology** – describes the ESIA process and dates, scoping, data collection for baseline surveys, direct and indirect area of influence and impact assessment methodology.
4. **Project Description** – describes the location and regional setting, overview and layout, project components, construction activities and operations.
5. **Analysis of Alternatives** – describes the needs and objectives, identification of alternative options to the project, comparison of environmental and social impacts of the options, alternative site layout and design and comparison of the environmental and social impacts of the alternatives
6. **Public Participation and Engagement** – describes stakeholder groups, consultations undertaken, findings of the consultations, grievance redress mechanism and ongoing consultations.
7. **Environmental Baseline Situation** – describes the physical and biological baseline situation.
8. **Social baseline Situation** - describes the social baseline situation.
9. **Critical Habitat Assessment** – assesses if and how the project area could qualify as critical habitat as per the World Bank ESS6 criteria and IFC Guidance Note 6 (GN6) thresholds for species criteria.
10. **Environmental Flow Assessment** – assesses the Project impacts on downstream river ecosystems and people in order to determine the environmental flow commitment.
11. **Impact Assessment and Mitigation** – assessment of climate change vulnerability, greenhouse gas emissions, air quality/odours, noise/vibration, geology and soils, hydrology, water quality, wastes, aquatic/terrestrial habitats and biodiversity, physical and economic displacement, community health and safety, cultural heritage, landscape and visual amenity, positive impacts and benefits.
12. **Cumulative Impact Assessment** – assesses incremental impacts from temporal and special overlap of Project impacts with other projects and external factors.
13. **References**

Volume III - Environmental and Social Impact Assessment – Annexes

Volume IV - Environmental and Social Management Plan (ESMP)

Volume V - Resettlement Action Plan (RAP)

Volume VI - Resettlement Policy Framework (RPF) for Quarries and Borrow Areas

Volume VII – Gender-Based Violence and Harassment (GBVH) Action Plan

Stakeholder Engagement Plan (SEP)²

Local Area Development Plan (LADP)²

Environmental and Social Commitments Plan (ESCP)²

¹ How-To Guide - Hydropower Environmental and Social Assessment and Management (IHA, 2021)

² Prepared by REL