



Contents

1	Project Description	2
1.1	Project Context, Objectives & Benefits	2
1.1.1	Project Context	2
1.1.2	Project Objectives & Benefits	2
1.2	Project Location	2
1.3	Project Milestones & Status	3
1.4	Key Parties & Partners	4
1.5	Supporting Frameworks	4
1.6	Key Technical Features	5
1.6.1	Standard Technical Solution	5
1.6.2	Enhanced Technical Solution	5
1.7	Market Size & Considerations	5
2	Delivery & Business Models	6
2.1	Delivery Model	6
3	Project Costs	6
3.1	Funding Model	7
3.2	Revenue Model	8
3.3	Project Agreements	8
4	Financial & Economic Analysis	9
5	Opportunities to Leverage Private Sector Capital	9
6	Environmental, Socio-Economic Impact & Climate Change	9
6.1	Environmental & Climate Impact	10
6.2	Socio-economic Impact	10
6.3	Job Creation Opportunities	10
7	Risks & Mitigation Measures	11
8	Timelines & Milestones	12



1 PROJECT DESCRIPTION

1.1 PROJECT CONTEXT, OBJECTIVES & BENEFITS

1.1.1 PROJECT CONTEXT

The Governments of Burundi, the Democratic Republic of Congo (DRC) and Rwanda (the three Countries) agreed to develop a third Hydropower Plant HPP along the Ruzizi River, referred to as Ruzizi III HPP. The Project comprises a run-of-river dam on the Ruzizi River between the DRC and Rwanda, a 147 to 230 MW power plant and a distribution station. Ruzizi III is being developed via a public private partnership (PPP) model which allows the three Countries to leverage private sector capital and knowhow to design, construct, fund and operate the Project.

Currently there are two existing power plants along Ruzizi River, i.e. Ruzizi 1 and Ruzizi II. Ruzizi I which has a peak power capacity of 29.8 MW was commissioned in 1959 by Société Nationale d'Électricité (SNEL), the DRC's national utility, and is located 3km downstream of Lake Kivu. It is owned and operated by SNEL and has suffered many technical issues and is currently only making 21.2MW of power available. Ruzizi II which has an installed capacity of 43.8MW was commissioned in 1989 by L'Énergie des Pays des Grands Lacs (EGL) and is managed by the Société Internationale d'Électricité des Pays des Grands Lacs (SINELAC¹).

Despite these two energy investments, all three Countries are experiencing significant power deficits that impede their ability to grow economically. Since the hydrology of the Ruzizi River allows for significantly more power to be generated downstream of the two existing hydropower plants, EGL was tasked by the three Countries in 2007 to investigate and develop Ruzizi III. EGL is currently also investigating Ruzizi IV² which has a potential installed capacity of 287MW.

1.1.2 PROJECT OBJECTIVES & BENEFITS

The objectives of Ruzizi III are to: bridge the medium-term energy deficit in the region; provide the energy necessary for economic recovery in the sub-region; and to contribute to the reconstruction of socio-economic infrastructure, including rural electrification.

Ruzizi III is expected to generate various benefits, including:

- (i) Increased supply of electricity in the region at an affordable price;
- (ii) The creation of direct, indirect and induced jobs;
- (iii) The avoidance of around 151,000 tCO_{2e} of carbon dioxide emissions over the operational period; and
- (iv) The creation of income-generating activities for women and youth.

1.2 PROJECT LOCATION

The Ruzizi River is approximately 117km in length, connecting Lake Kivu at its northern most point with Lake Tanganyika at its southern most point. The River forms the border between the DRC and Rwanda in the north, and the border between the DRC and Burundi in the south. The Ruzizi River valley is narrow with steep sloped gorges and there is a difference of approximately 500m in level between its valley floor and the plateaux top. The steepest flow gradient occurs over the first 40 kilometres of the River where both the existing and planned hydropower plants are located.

Ruzizi III is located approximately 10km upstream from Bugarama, in Rwanda, and Kamaniola, in Burundi. The Project spans the Cibitoke Province in Burundi, South Kivu Province in DRC, and the Ruzizi District in Rwanda as illustrated in Figure 1.

¹ SINELAC is a multi-national organization established by a treaty among Burundi, the DRC, and Rwanda. It has the mandate to (i) operate the Ruzizi II hydropower plant and its dependencies like the regional substation of Mururu II, and (ii) sell the energy production of Ruzizi II to the three national utilities, namely REGIDESO in Burundi, SNEL in DR Congo and RECO in Rwanda.

² Ruzizi IV will be located on the Ruzizi River between Ruzizi II and III. It will be developed at a much larger scale than Ruzizi III and will benefit from the increased organisational capacity of EGL that will be established during the final development stages of Ruzizi III.

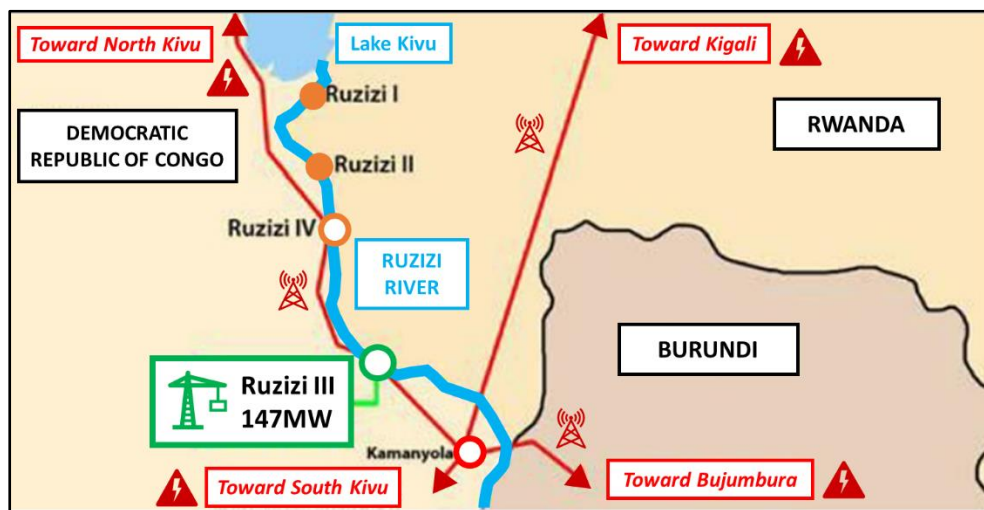


Figure 1. Location of Ruzizi III Hydropower Project.

1.3 PROJECT MILESTONES & STATUS

The key milestones achieved by the Project are illustrated below, commencing with the November 2010 decision to develop the Project via a PPP. A consortium comprising Sithe Global Power Ventures LLC (Sithe) from the USA and Industrial Promotion Services Ltd (IPS) from Kenya were awarded preferred bidder status in September 2012 following an open tender process. A best and final offer process (BAFO) was concluded in March 2016 before Sithe exited the transaction and was replaced by the Black Rhino Group. SN Power, which is wholly owned by Norfund, replaced the Black Rhino Group in August 2017 bringing stability to the consortium.

The Project’s suite of agreements were developed and refined between 2014 and 2018, culminating in the signing of the Kinshasa Declaration in May 2018. Except for the applicable law that will govern guarantees, all other project agreement stipulations were signed-off by EGL and SN Power/IPS in September 2018.

An optimisation study was undertaken by the Preferred Bidders in 2016/17 that investigated a hydroelectric plant with a generation capacity of up to 230 MW instead of the initially envisaged 147 MW facility. Whilst a full feasibility study is about to commence that will conclude on Ruzizi III’s design capacity and site, the project agreements were amended to allow for a higher capacity in February 2018.

The Project’s milestone and current status is capture in Figure 2.

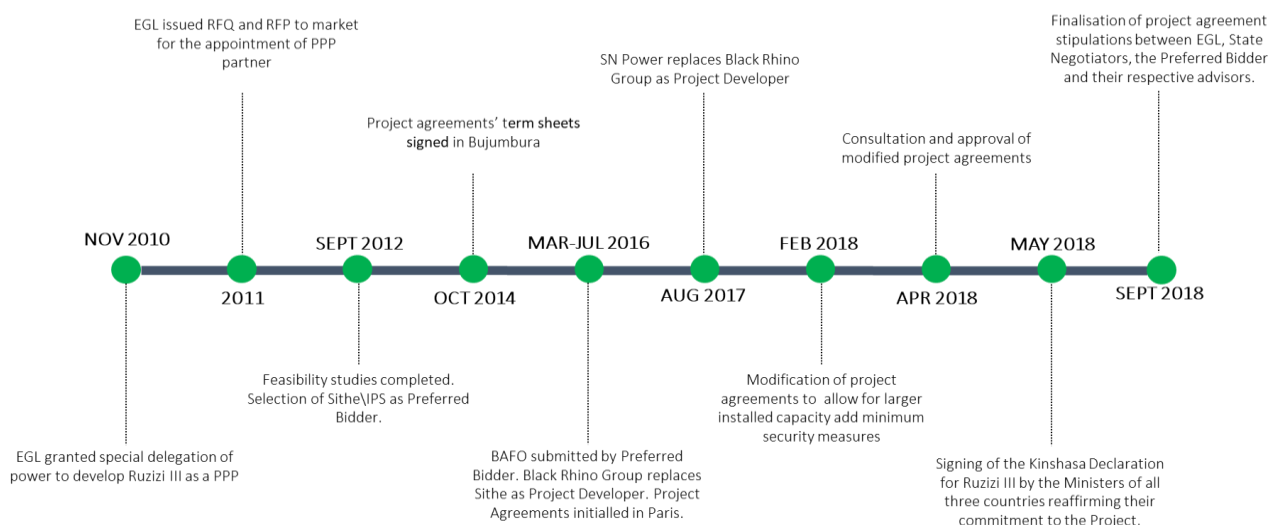


Figure 2. Project milestones and current status.

1.4 KEY PARTIES & PARTNERS

Ruzizi III HPP is a development priority for all three Countries, who are also its Project Sponsors. The adoption of a Public-Private Partnership (PPP) model was supported by all three Countries to avoid the management problems encountered on Ruzizi II HPP and to unlock private sector capital and knowhow. The key parties and their partners are noted below.



EGL – Executing Agent – A special delegation of powers was conferred upon L’Energie des Pays des Grands Lacs (EGL) by the three Countries in 2010 to implement Ruzizi III. EGL has championed a “balanced” project structure, which aims to achieve an equitable sharing of project benefits and cost between the three Countries.



SNEL – Off-taker in DRC – Société Nationale d’Électricité (SNEL) is the national electricity company of the DRC. SNEL has experience with hydropower assets, as it owns and operates Ruzizi I.



REG – Off-taker in Rwanda – Rwanda’s Energy Group Ltd (REG) is a government-owned company responsible for the import, export, procurement, generation, distribution and sale of electricity. It performs its functions through two wholly owned subsidiaries: Energy Utility Corporation Limited (EUCL) and Energy Development Corporation Limited (EDCL).



REGIDESO – Off-taker in Burundi – Régie de Production et de Distribution d’Eau et d’Electricité³ (REGIDESO) is a Burundi state-controlled utility provider. It is mandated to ensure production, transportation, distribution and commercialisation of electricity and drinking water in urban areas and rural centres. It has financial autonomy but is under the supervision of the Ministry of Water, Energy and Mining.

SN Power/IPS consortium – Is a consortium comprising SN Power, a Norfund subsidiary, and Industrial Promotion Services Ltd (IPS). The consortium is the preferred bidder for Ruzizi II.

AfDB – Key Resource Mobilisation Partner – The African Development Bank Group (AfDB) is a multilateral development finance institution. The AfDB has been one of the leading resource mobilisation partners for Ruzizi III since the Project’s inception.

EIB, the World Bank, KfW, EU, AfD – Development Finance Institutions that have committed funding alongside the AfDB.

CAPP, EAPP and SAPP - Finally, due to its central location, Ruzizi III will contribute to the activities of three of the five African Power Pools, namely: Central Africa Power Pool (CAPP), East Africa Power Pool (EAPP) and Southern Africa (SAPP).

1.5 SUPPORTING FRAMEWORKS

Ruzizi III enjoys strong political support and aims to be the first **regional** PPP power project in Africa and the development strategies of all three Countries support the development of power generation capacity.

- Ruzizi III is a priority project in the Programme for Infrastructure Development in African (PIDA) and in the EAPP Masterplan.
- **Burundi** prioritises the development of national and regional energy projects in order to significantly increase the supply of reliable and affordable electricity and improve countrywide access to electricity.
- In the **DRC**, the project is in keeping with the 2011-2015 GPRSP⁴, the main reference framework for all development operations. This framework prioritises access to basic social services, strengthening human capital, and environmental protection and climate change adaptation.
- In **Rwanda**, one of the priorities of the EDPRS⁵ 2013-2018 is to support growth and economic transformation by improving the connectivity of Rwanda’s economy through an increase in electricity generation and access.

³ Directorate for Production and Distribution of Water and Electricity.

⁴ GPRSP: Growth and Poverty Reduction Strategy Paper.

⁵ EDPRS: Economic Development and Poverty Reduction Strategy.



1.6 KEY TECHNICAL FEATURES

1.6.1 STANDARD TECHNICAL SOLUTION

Under the 147 MW scenario, Ruzizi III comprises a run-of-the-river hydro-electric plant with three, equally-sized power units. The dam is expected to cover an area of approximately 200,000m² with a volume of 18,716,000m³ of water. The total useful volume of water for hydropower purposes is approximately 900,000m³. Each turbine is designed for a maximum flow rate of 50m³/s, equating to a total plant discharge of 150m³/s. A hydrological analysis forecast a nominal mean annual energy production of 710GWh/ year (or 56% of installed capacity).

Power will be transmitted to the three Countries from the Kamaniola substation by 220kV transmission lines⁶. Each off-taker will purchase on commercial terms, with a full payment security package, one-third of the capacity of the project under a Common Power Purchase Terms Agreement (CPPTA), and three separate Power Purchase Agreements (PPA).

Ruzizi III is a medium-head hydro-electric plant, with the following salient technical features:

- A diversion dam, either a concrete, gravity dam, or a watertight-core, embankment dam;
- Three plants (Ruzizi I, II and III) will operate as a cascade, i.e. the same water will flow sequentially through each of the HPP dams;
- A surface powerhouse located 3.9km from the dam, built above ground, and comprising three Francis type turbine generator units with 49MW installed power capacity each (under the 147 MW scenario);
- A 3.9km long penstock and surge chamber, with the surge chamber on the Congolese side of the River and the penstock on the Rwandan side; and
- A 220kV switchyard⁷, and 10km transmission lines to the substation located at Kamaniola in the DRC.

The solution is based on the findings of the feasibility study completed by Fichtner in 2012. Six alternative technologies were explored in the same study, namely: diesel thermal, methane thermal, solar photovoltaic, wind, geothermal and small-scale hydropower. These options were rejected either because of their higher capital and/or operating cost requirements or their inability to guarantee generation during peak demand.

The technical features of the 230 MW or enhanced scenario will be confirmed during the full feasibility study that is scheduled to commence in 2019. This study will conclude on Ruzizi III's optimal capacity and location.

1.6.2 ENHANCED TECHNICAL SOLUTION

After joining the preferred bidder consortium, SN Power proposed increasing the installed power capacity of Ruzizi III to 230 MW. Under this enhanced scenario, the Project would be located at an alternative site offering improved geotechnical, geological and hydraulic conditions. The key comparators between the "standard" and "enhanced" technical solutions are tabulated below:

Output	Standard Solution	Enhanced Solution
	(FICHTNER) 2012	(SN POWER) 2016-2017
Installed Power Capacity	147 MW	200 -230 MW
Peak Production	1,6 h	8 h
Average Energy Production/yr	710 GWh	958 GWh
Cost of EPC ⁸	USD 473 m	USD 495
Energy Tariff USDc/kWh	11.65	8-9

1.7 MARKET SIZE & CONSIDERATIONS

The three Countries are currently facing large-scale and growing power deficits which were estimated at 60-80 MW of installed capacity in 2011 and the existing power infrastructure covers less than 35% of current energy

⁶ Funding has been secured from the following three DFIs for each country: KfW (DRC's transmission line and substation), EIB (Rwanda's transmission line) and AfDB (Burundi's transmission line).

⁷ Electricity will be evacuated by 220kV lines from the powerhouse's elevated substation to the transmission substation. Furthermore, a smaller 30kV line conveys power to the dam site.

⁸ Refer to Section 0 for Project Costs.

demand. The Three Countries' energy demand is forecast to reach 3,800 GWh by 2025⁹ and is expected to grow by 7.4% in the DRC's eastern region, 6.2% in Rwanda and 8% in Burundi between 2010 to 2040. Since the current generation capacity is not able to satisfy power demand, the three Countries experience regular outages and electricity supply interruptions.

Ruzizi III should transform the electricity sectors in the three Countries since Ruzizi III will double Burundi's current capacity (i.e. 55 MW), increase Rwanda's capacity (i.e. 209 MW) by 25% and facilitate the connection of the DRC's Eastern region which is currently not connected to the network.

2 DELIVERY & BUSINESS MODELS

2.1 DELIVERY MODEL

Ruzizi III is being developed as a public-private partnership (PPP) where the Project Company will be responsible for design, construction, funding, operation and maintenance over a 25-year concession period, commencing in either 2026 or 2027. The three Countries will collectively own 30% of the Project Company whilst SN Power/IPS will own the remaining 70% as illustrated in Figure 3.

The adopted funding structure assumes that the Project will have a gearing ratio of 70% debt and 30% equity. Furthermore, the debt component will be in the form of blended finance consisting of grants, commercial debt and concessionary debt. In order to reduce the weighted cost of capital (WACC). The three Countries have committed to raise sovereign debt consisting of the grants and concessional funds, which they will on-lend to the Project Company.

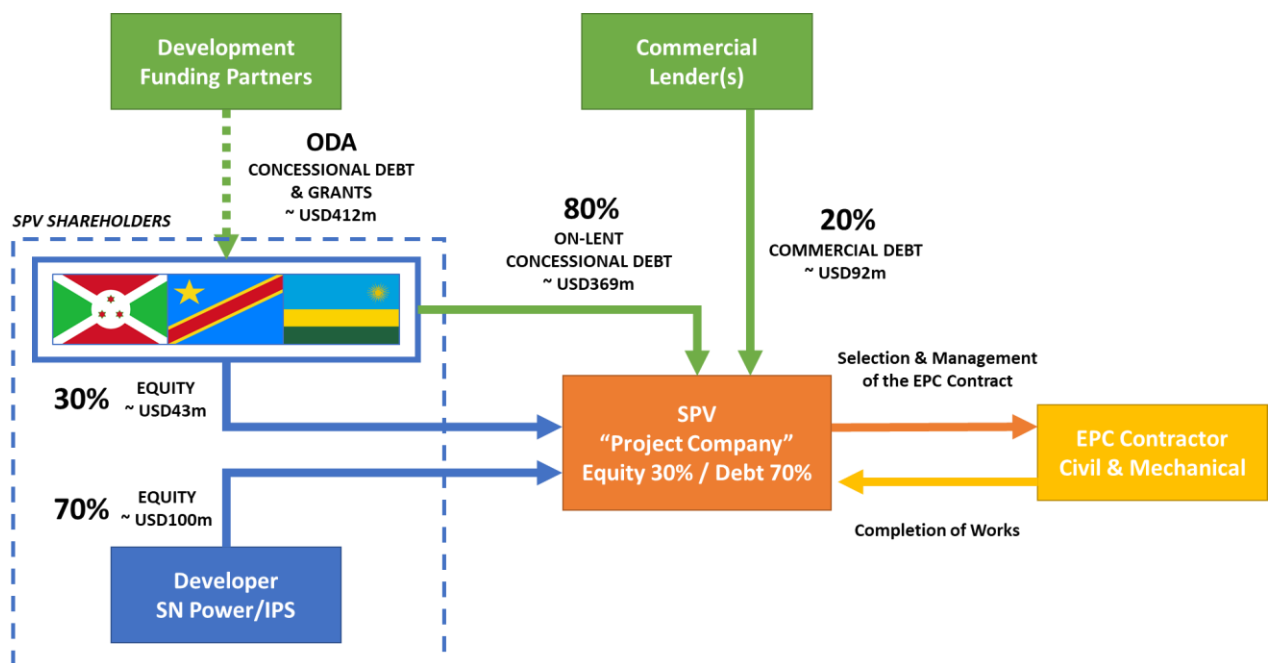


Figure 3. PPP Structure envisaged for Ruzizi III HPP.

3 PROJECT COSTS

Ruzizi III's capital costs¹⁰ were estimated at USD 625.2 million in 2015 in respect of the 147 MW scenario (including regional cooperation and project management costs), as tabulated in Table 1. The project costs will be revised based on the outcome of the 2019 feasibility study and more recent documents suggest total project costs of only US\$604 million.

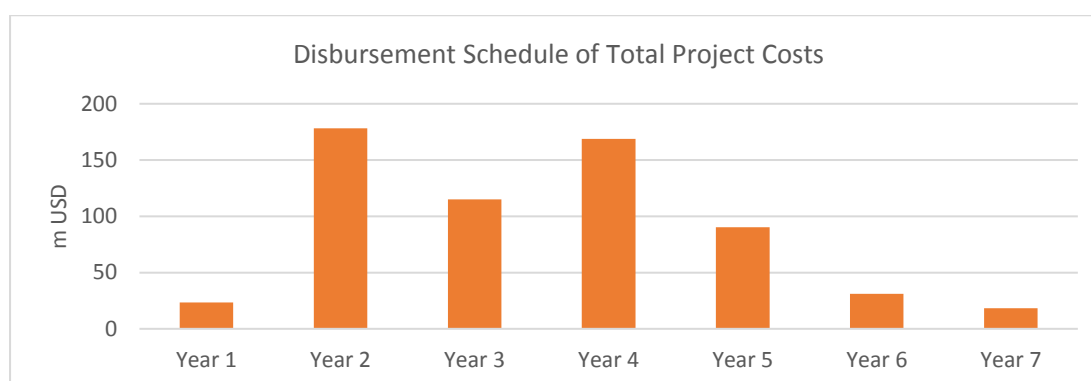
⁹ With the Standard Technical Solution, Ruzizi III HPP is expected to generate 710GWh per annum, at 56% generation capacity. This is almost 20% of the total energy demand in the region in 2025.

¹⁰ Capital Costs have been extracted from the AfDB's Appraisal Report (December 2015) and are shown in United States Dollars (USD) in 2015 terms.

Table 1. High-level breakdown of the Total Project Costs.

No.	Component	Estimated Cost (m USD)	Component Description
1	Implementation	613.9	Construction of Ruzizi III with installed capacity of 147 MW and implementation of Environmental & Social Management Plan
2	Regional Cooperation	5.7	Development of national energy markets and access to regional energy market, institutional framework for development of regional energy projects, and support for development of regional integration.
3	Project Management	5.5	EGL capacity building, funding of the Project Implementation Unit's operating costs and independent experts.
-	Total Project Cost (m USD)	625.2	-

Construction costs were estimated at around USD 556 million in 2015 or 90% of implementation costs whilst development and other costs accounted for the remaining USD 58 million. Only around USD 119.2 million of these costs will be paid for in local currencies. The development period is assumed to be 12-18 months and construction is forecast to take 5 to 6 years to complete, giving rise to the disbursement profile in Figure 4.

**Figure 4. Anticipated schedule of payment disbursements for Project Development and Implementation.**

3.1 FUNDING MODEL

About 80% of Ruzizi III's debt requirements (i.e. USD369 million) as well as the three Countries' equity contributions (i.e. USD 43 million) will be co-financed by six development partners who have committed concessional loans and grants to the Project. Their commitments, which will be subject to the completion of a due diligence process, are summarised in Table 2.

Table 2. Funding committed by DFIs

Donors	Subscription USD million	Funding type
AfDB	138	Concessional loans and grants
World Bank	150	Concessional loans
EIB	108	IDEM
KfW	31	Grants
EU	35	Grants
AfD	15	Concessional loans
TOTAL	477	

The capital structure of the Project Company is tabulated in Table 3. The Project's concessionary debt will be raised by the three Countries and on-lent to the Project Company. The remaining 20% will constitute commercial debt which will be raised by the Project Company. SN Power/IPS will provide USD 100 million of the Project Company's equity whilst the three Countries will contribute a further USD 43 million of equity.

Table 3. Capital structure of Ruzizi III.

No.	Description	% Capital Class	Amount (m USD)	% Capital Outlay
1	Equity / Share Capital	100%	143	23.7%
1.1	SN Power/IPS	70%	100	16.6%
1.2	Three Countries	30%	43	7.1%
2	Debt	100%	461	76.3%
2.1	Concessional	80%	369	61.1%
2.2	Commercial	20%	92	15.2%
-	Total Capital Outlay	100%	604	100.0%

3.2 REVENUE MODEL

The three utilities (or “Off-takers”) will pay for the power capacity made available by the Project Company rather than the power produced. The payment structure allocates day-to-day hydrological risk to the national utilities, ensuring more predictable cashflows for the Project Company and its lenders.

The three utilities, EGL and the Project Company will enter into a Common Power Purchase Terms Agreement (CPPTA) which will describe general conditions and common modalities to the three distinct PPAs that will be signed by the utilities and the Project Company.

3.3 PROJECT AGREEMENTS

The following project agreements were developed for Ruzizi III and were approved by all stakeholders in April 2018 (see Table 4). Once the Project Company has been established and below agreements have been signed, the DFIs will release grant funding to support the project preparation phase.

Table 4. List of Project Agreements.

No.	Agreement/Document	Object	Signatories
1	Implementation Agreement	Rights and obligations of the three Countries and the Project Company in delivering Ruzizi III.	<ul style="list-style-type: none"> • Three countries • Project Company • EGL
2	Common Power Purchase Terms Agreement	Contains general conditions and common modalities to the three distinct Power Purchase Agreements.	<ul style="list-style-type: none"> • Off-takers <ul style="list-style-type: none"> ○ REGIDESO/Burundi ○ SNEL/DRC ○ EUCL/Rwanda • Project Company • EGL
3	Power Purchase Agreement	Three distinct PPAs signed individually between each off-taker and the Project Company	<ul style="list-style-type: none"> • REGIDESO/Burundi & Project Company • SNEL/DRC & Project Company • EUCL/Rwanda & Project Company
4	Shareholders Agreement	Sets out relationship between partners: (i) shareholding; (ii) management structure; and (iii) shareholding changes.	<ul style="list-style-type: none"> • SNP/IPS • Three Countries
5	Agency Agreement	Contains rights and obligations of EGL, acting as interface between the three Countries, the off-takers and the Project Company.	<ul style="list-style-type: none"> • Three Countries • Project Company • Off-takers • EGL
6	State Guarantee	Each state provides a guarantee to the project Company to cover the risks of termination of the Project Agreements.	<ul style="list-style-type: none"> • Contracting States
7	Tripartite Agreement	Regulates the Countries/off-takers’ rights and obligations between the three Countries, in the	<ul style="list-style-type: none"> • Three Countries



No.	Agreement/Document	Object	Signatories
		implementation of the Ruzizi III Project Agreements.	
8	Security Plan	Security stipulations to protect the implementation and operation of the works.	<ul style="list-style-type: none"> • Three Countries • Project Company

4 FINANCIAL & ECONOMIC ANALYSIS

The Project's financial and economic evaluation was modelled over a 30-year period¹¹ in 2016 terms by SOFRECO in their 2011 feasibility study. The analysis concluded that the project is financially and economically viable, based on a weighted average price of USDc 12.4/kWh and 663.4 GWh of energy sold per year. The financial model forecast a modest project IRR of 7.8% and applied a WACC of only 6.55% to arrive at a positive net present value.

The economic model forecast an internal rate of return of 13.4% and a net present value of USD 36.1 million by quantifying the Projects costs and benefits relative to a do-nothing scenario. The economic study also provided equivalent kWh costs for off grid generators that ranged between USDc 22/kWh in Burundi and USDc 29/kWh in Rwanda and concluded that the weighted price would be affordable relative to these alternative solutions. The Project's key financial and economic indicators are displayed in Table 5.

Table 5. Financial and economic indicators.

Description	Output
Financial IRR	7.8%
Financial NPV (USD m)	63.1
Economic IRR	13.4%
Economic NPV (USD m)	36.1

5 OPPORTUNITIES TO LEVERAGE PRIVATE SECTOR CAPITAL

An opportunity may exist to refinance the Project Company using project bonds through NEPAD's 5% Agenda, after the hydropower plant has been commissioned which would allow lenders to recycle their loans earlier. The repayment of concessionary loans would reduce the three Countries' debt obligations as the project bonds would be issued by the Project Company. Project bonds may also offer an opportunity to raise funding in local currencies which may be attractive to Burundian, Rwandan and Congolese institutional investors.

A further opportunity exists for the three countries to securitise a local bond against the dividends that the Three Countries will be entitled to once the Project is operational. This bond could be used to replace some of the sovereign debt that the Three Countries will be taking on during the construction phase.

Independent power producers (IPPs) are well-understood by regional institutional investors as a result of the REIPPP¹² programme in South Africa. Since the credit quality of the Project's three off-takers is unlikely to be acceptable to institutional investors who will be looking for investment grade investment opportunities, guarantees will be required from development financiers to enhance the project bonds' credit quality. In this respect, if operational, the African Infrastructure Guarantee Mechanism (AIGM) could facilitate access to risk mitigation and guarantee instruments.

It is recommended that the potential for refinancing is investigated and modelled during the feasibility study that will commence in 2019 and that Ruzizi's transaction advisors engage with the AIGM to understand their requirements.

6 ENVIRONMENTAL, SOCIO-ECONOMIC IMPACT & CLIMATE CHANGE

A comprehensive environmental and social impact assessment (ESIA) and Full Resettlement Plan (FRP) were prepared in 2012 that may need to be updated to reflect the Project's final location/site and PPP structure.

¹¹ The 30-year modelling period accounts for 5-years of construction and 25-years of operations.

¹² REIPPP: Renewable Energy Independent Power Producer Procurement.



6.1 ENVIRONMENTAL & CLIMATE IMPACT

The studies identified the following potential environmental impacts for the construction phase, namely: the degradation of the river's water resources downstream from the works area; the destruction of plant species and wildlife habitat along the right-of-way; and issues related to employees' health and security of employment.

During the operational phase, the impacts are likely to include a proliferation of water-borne diseases and the increased occurrences of landslides. The largest risk identified relates to potential successive dam failures of Ruzizi I, II and III. To mitigate these potential negative impacts, the EPC contractor will be required to prepare detailed and specific environmental and social plans.

In terms of climate change adaptation, the environmental impact assessment indicates that the Ruzizi flow rate depends mainly on the level of Lake Kivu. This level has been falling for several years due to a downward trend in rainfall, expansion of its catchment area and anthropic activities which are accelerating erosion and sedimentation in the river. The analyses forecast average temperature increases of 1.9°C and 2.5°C by 2050 and 2060 and concludes that climate variability will have an impact on the cascade's energy production and the choice of flow control equipment for Ruzizi III.

With annual generation of about 710 GWh, Ruzizi III is estimated to avoid carbon emissions of 151,000 tCO_{2e} per year. Methane emissions during the operational phase will be significantly reduced, owing to very little vegetation being submerged and short retention time in the reservoir. Therefore, the implementation of Ruzizi III would help prevent the emission of over 7.5 million tCO₂ over 50 years.

6.2 SOCIO-ECONOMIC IMPACT

The Great Lakes Region comprises extremely poor communities and is classified as a "fragile" area, due to the political instability, the different forms of social exclusion: identity crisis, ethnic divides and land tenure conflicts, and gender-based violence, especially among the youth. This fragility may pose risks for the Project's successful implementation if not managed properly. To ensure these positive impacts are achieved, a plan to Restore and Improve Living Conditions (PRRV) and a local development plan (PDLC) will be rolled out. The estimated cost of implementing these two plans is USD 7 million.

Persons affected by the Project will be compensated and assisted in compliance with the resettlement plan prepared in 2012 and USD 17.14 million has been budgeted for this¹³. The plan will be updated by the Project Company prior to the launching of invitations to bid for the EPC Contract.

6.3 JOB CREATION OPPORTUNITIES

The PIDA Job Creation Toolkit was used to estimate the average annual jobs that the Project could generate during the project preparation and construction phases. As summarised in Table 6, it is estimated that 7,836 direct jobs could be created per annum during the construction phase whilst 559 were estimated for the project preparation phase.

Table 6. Estimated average annual jobs created.

	Preparation Phase	Construction Phase	Total
Years assumed	2	5	57
Direct jobs	559	7 836	707
Indirect jobs¹⁴	77	4 891	432
Induced jobs¹⁵	79	4 448	393
Secondary jobs¹⁶	-	-	653
Total average jobs p.a.	715	17 175	2 185

Source: PIDA Job Creation Toolkit

¹³ Clearing of the works right-of-way¹³, is anticipated to affect fewer than 650 in Rwanda and in the DRC, equating to approximately 4,500 people¹³.

¹⁴ Jobs created by suppliers to the project

¹⁵ Jobs created by spending of direct and indirect workers

¹⁶ Jobs created as a result of the economic impact of the project, such as increased access to energy and transport

The Project is expected to stimulate the local economy and to result in new economic and commercial opportunities. This increased demand for goods and services, coupled with an increase in the local and regional population, is expected to boost economic activities and generate positive consequences.

7 RISKS & MITIGATION MEASURES

The Project's success will depend on the mitigation and management of several critical risks. Table 7 presents a description of the Project's key risks, their likely impact on the Project as well as proposed mitigation actions. The risks have been listed in order of severity.

Table 7. Project risks, impacts and mitigation actions.

Risk Type & Description	Impact on Project	Risk Mitigation Actions
<p>Political Instability This risk reflects the fragility of the ongoing peace process and political instability in the region.</p>	<ul style="list-style-type: none"> • Could seriously impede the implementation and operation of the project. • Whilst Ruzizi I & II have continued operating despite rebel movements, these assets remain strategic targets. 	<ul style="list-style-type: none"> • Ongoing political developments such as the consultative process and regional and internal mediation. • Governments to restore State authority over their respective national territories. • Political risk guarantees to be negotiated with DFIs.
<p>Developer Withdrawal Given that two developers have exited the transaction, there is a risk that further delays could result in the current developer also exiting.</p>	<ul style="list-style-type: none"> • This would result in significant delays to the Project. • The Project will likely lose major credibility, and risk not finding another developer. 	<ul style="list-style-type: none"> • Project agreements have been approved by all stakeholders and financial close can occur once the technical solution is finalized.
<p>Co-Financing and Refinancing Risk Six DFIs are currently involved in the transaction and these relationships will need to be managed carefully.</p>	<ul style="list-style-type: none"> • There is a risk that some DFIs may lose interest in the Project if delays occur. • Lack of appetite for project bonds may mean that DFIs will not be able to recycle capital before the end of the loan terms. 	<ul style="list-style-type: none"> • EGL to regularly communicate progress to all potential lenders. • Introducing innovative guarantee mechanisms that will make project bonds attractive to institutional investors.
<p>Inflation of Project Costs Inflation of project cost may lead to tariff structures that are less viable.</p>	<ul style="list-style-type: none"> • Will likely impact project feasibility, if tariffs become unaffordable for off-takers. • Project may be mothballed. 	<ul style="list-style-type: none"> • SN Power/IPC to commit to a tariff celling on completion of the feasibility study and EPC procurement process.
<p>Deterioration of the three Countries' Balance Sheets Due to higher than expected debt levels or other macro-economic factors.</p>	<ul style="list-style-type: none"> • An adverse change in the three Countries' balance sheets may result in DFIs being unwilling to extend loans to one or more of the countries. 	<ul style="list-style-type: none"> • Countries may need to prioritise the Project in favour of competing projects that also require debt.
<p>Creditworthiness of National Utilities The risk of nonpayment and default by the utilities.</p>	<ul style="list-style-type: none"> • If payments are significantly delayed, it could result in the Project Company defaulting on its commercial loans. 	<ul style="list-style-type: none"> • Guarantees from the three countries in respect of the utilities' commitments.
<p>Institutional Capacity of Executing Agent EGL has no previous history of developing, implementing or monitoring a PPP.</p>	<ul style="list-style-type: none"> • Capacity issues are likely give rise to delays in reaching financial close and substandard monitoring of the PPP. 	<ul style="list-style-type: none"> • Intentionally building EGL's capacity. • Support from experienced consultants and input from development partners.
<p>Technical Integration & Hydrology This risk concerns the likelihood of simultaneous availability of distribution networks for energy, or consistent supply of water from Lake Kivu through upstream facilities.</p>	<ul style="list-style-type: none"> • The power availability generated by the newly commissioned plant may not be able to be used by the off-takers because the requisite distribution networks have not yet been connected. 	<ul style="list-style-type: none"> • These risks will be mitigated by the distribution works being prepared or implemented in advance of the Project.



8 TIMELINES & MILESTONES

Ruzizi III is nearing the end of a lengthy project development phase and **Error! Reference source not found.** sets out the next steps required. Once the project agreements have been signed and the Project Company has been established, project preparation grants will be released by the DFIs which will be used to fund the studies indicated below. The DFIs will however only start their due diligence process once most of the studies have been completed and the funding agreements will be concluded thereafter. It is anticipated that the Project’s detailed design and construction will commence under an EPC Contract between the Project Company and EPC Contractor in 2021. EGL will be responsible for the award of all contracts for project activities, in particular monitoring the selection of the EPC Contractor¹⁷.

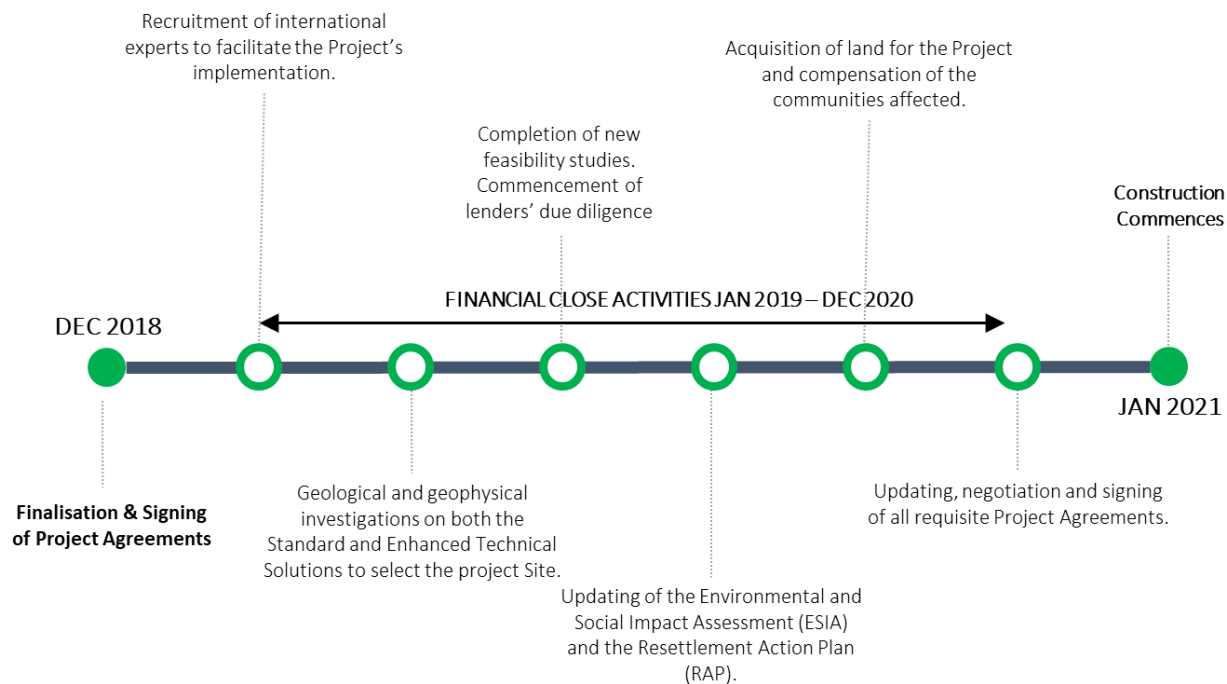


Figure 5. Project timelines and milestones

¹⁷ The assessment of EGL's capacity indicates a need for capacity building by a procurement expert. A draft procurement plan prepared by EGL will be submitted to the development partners for review and approval prior to negotiations.