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**Pre-feasibility study  
on interconnection  
project:**

Burundi (Jiji-Mulembwe)  
- Tanzania (Kigoma)



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# Executive Summary

## Project context

The Pre-Feasibility Study for the Burundi (Jiji-Mulembwe) – Tanzania (Kigoma) 220 kV interconnector was conducted under the Continental Energy Programme for Africa (CEPA), an EU-funded technical assistance initiative (2025-2028) supporting the African Union (AU) energy programmes. CEPA's primary aim is to promote cross-border power cooperation, expand transmission networks at national, regional, and continental levels, and accelerate the adoption of renewable energy and energy efficiency, thereby contributing to the UN Sustainable Development Goal (SDG) 7, the AU Agenda 2063, and sustainable development.

CEPA is supporting three flagship pan-African energy initiatives, which include the Africa Single Electricity Market (AfSEM), the Continental Power System Masterplan (CMP), and the African Energy Efficiency Strategy (AfEES), in collaboration with AU agencies involved in the energy sector and regional institutions such as the African Power Pools. The AfSEM and CMP were endorsed as flagship projects of the AU Agenda 2063 at the AU Assembly of Heads of State and Government in February 2024, in Addis Ababa, Ethiopia. Therefore, the CEPA is now focused on operationalising the CMP through two pillars: (I) supporting the update of continental and regional masterplans, and (II) preparing pre-feasibility studies for up to twenty (20) cross-border transmission projects. The Pre-Feasibility Study is being supported under Pillar II of the CMP programme.

## Project description and rationale

The Burundi (Jiji-Mulembwe)–Tanzania (Kigoma) 220 kV interconnector aims to integrate Burundi's emerging hydro-based grid into Tanzania's grid, improving system stability and enabling bilateral power trade initially and, later, competitive trade when the EAPP competitive market becomes operational. The project entails the construction of about 145 km of 220 kV double-circuit overhead transmission line linking the Jiji-Mulembwe hydropower complex through Burundi's Makamba area, crossing the border near Mugina, and reaching Kigoma via Tanzania's Buhigwe district. The line is designed as a double circuit to enhance transfer capacity and reliability. The interconnector's estimated capital cost is about EUR 64 million, comprising costs for building the transmission line and associated substations, as well as fees for the Environmental and Social Impact Assessment (ESIA) and the project's legal, technical and financial advisory services.

Burundi's power system is hydro-dependent and faces chronic energy shortages, while Tanzania's larger grid can directly support power exports to Burundi and the wheeling of power from other Eastern Africa Power Pool (EAPP) countries. The project's objectives include strengthening energy security for both countries, improving electricity access in Burundi, improving stability of the Burundi grid by connecting to the larger Tanzania grid, reducing costs by optimising generation resources in both countries, and reducing CO<sub>2</sub> emissions by replacing Burundi's diesel peaking plants with cleaner generation from the TANESCO (Tanzania) system.

## Economic and financial aspects

A high-level Cost Benefit Analysis (CBA) comparing the proposed 220 kV interconnector option with two alternatives (a higher-capacity 400 kV double-circuit line and a "do nothing" option) was conducted. The CBA results indicate that the 220 kV double-circuit is economically sound, with a positive Economic Net Present Value (ENPV), an Economic Internal Rate of Return (EIRR) of about 19%, and a Benefit-to-Cost Ratio (BCR) of roughly 1.8.

Sensitivity analyses demonstrate that the 220 kV option remains economically viable across different scenarios, including higher discount rates and lower electricity trade volumes. For cases with reduced trade volumes or a higher 15% discount rate, the 220 kV line still achieves a BCR greater than one (1) and a positive ENPV, whereas the 400 kV alternative has a BCR below one. The study therefore recommends proceeding with the 220 kV interconnector double circuit as the least-cost option.

While the project is economically sound, financial feasibility (i.e., bankability and funding) requires careful structuring, as transmission projects generate revenue through regulated tariffs rather than through direct Power Purchase Agreements (PPAs) like those of Independent Power Producers (IPPs). In both countries, the transmission sector is publicly owned, and tariffs are kept low to promote affordability, making cost recovery from electricity users challenging. Prospects for private sector funding in a Public–Private Partnership (PPP) and Independent Power Transmitter (IPT) arrangement are limited. Most of the PPPs in the two countries have been for mainly generation projects, while transmission lines have remained under state-owned monopolies. A potential partnership with the private sector is envisaged to provide specialist project development advisory services and line construction services. As a result, the recommended financing model for the interconnector is likely public or blended financing comprising sovereign loans and grants from international lenders, backed by government guarantees, with the transmission line assets owned by the national utilities (or jointly). This approach ensures alignment with the current legal framework, under which REGIDESO (Burundi) and TANESCO (Tanzania) are mandated to own transmission and to take advantage of available concessional or blended funding for regional infrastructure.

Potential funding sources include the African Development Bank (AfDB), the European Union (EU), the World Bank, and bilateral donors. An early resource mobilisation strategy should comprise commitments of both governments to provide incentives or limited equity while seeking funding from development partners. Grant funding may be required for the soft components of project development, such as feasibility studies and environmental/social mitigation measures, while low-interest loans can finance the project's construction.

## Recommendations and next steps

**Approvals and Project Governance:** Both governments should formally endorse the feasibility study results and commit to the project development. The utilities should lead the technical review and approval of the Pre-Feasibility Study, and the Ministries of Energy of both countries should affirm their support for advancing the project to the detailed Feasibility Study and drafting of the Conceptual Design, Tendering Documents and Safeguards studies as well. Regarding project governance, a Joint Steering Committee is recommended to oversee the project's development. In parallel, a Project Management Unit, drawing staff from both countries, is required to handle the appointment of specialist services, such as consultants, owners' engineers, and advisors.

**Feasibility Study:** The next step is to conduct a detailed Feasibility Study, building on the pre-feasibility study findings. The feasibility study will include a detailed market analysis, grid network simulations, detailed ESIA studies, including Resettlement Action Plans (RAPs), comprehensive economic and financial analyses, and detailed project scope design. The feasibility study aims to develop a bankable project with all required technical designs, environmental permits and agreements drafted, and funding structures in place to facilitate financing for construction.

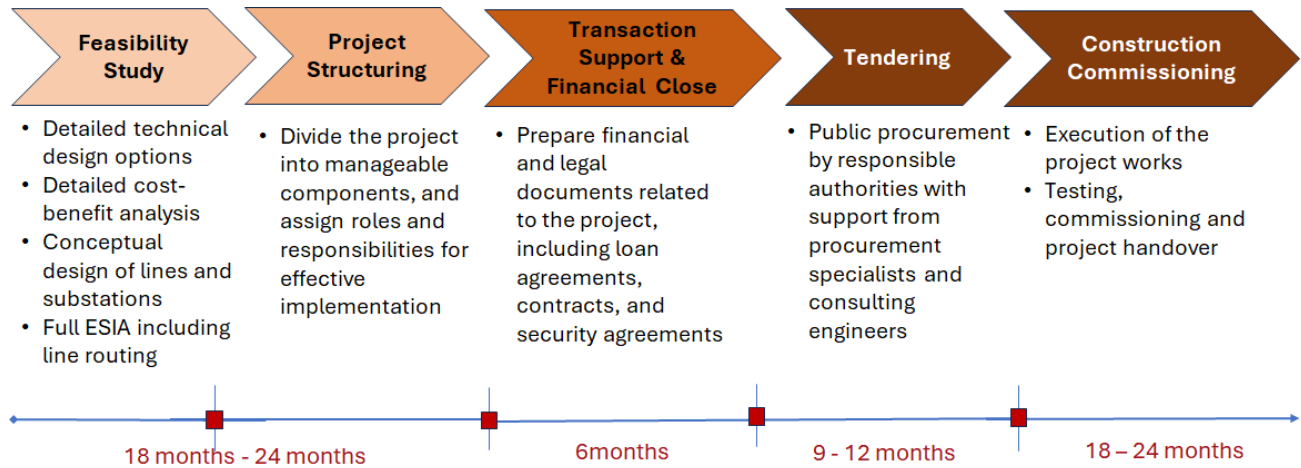
**Financing Strategy and Agreements:** Concurrently, a resource mobilisation strategy should be implemented to fund both the detailed feasibility study and subsequent construction. The African Union Development Agency (AUDA-NEPAD) and EAPP can assist by promoting the project in continental forums and matching it with potential funders. It is recommended to prepare a Project Information Memorandum (PIM) emphasising the project's benefits, economic returns, and alignment with regional objectives, to present at donor roundtables.

**Legal and Regulatory Preparation:** The project will require legal agreements covering institutional arrangements, cost allocation, and operational responsibilities. A power trading agreement specifying the tariffs will need to be drafted and approved by the regulatory bodies in both countries, i.e., AREEN (Burundi) and EWURA (Tanzania). Legal advisory support will be necessary to draft the required agreements.

**Maximising Development Impact:** Strategies should be put in place to ensure broader project benefits. A corridor development plan should be developed to leverage the transmission project to catalyse local community development. The corridor development plan should be accompanied by a job creation plan that encourages community participation and skills development, including vulnerable groups such as women and youth.

**Project Implementation Plan:**

The proposed project implementation plan and timelines are provided below. Although the development of transmission interconnectors in most parts of Africa takes more than seven (7) years to develop from a feasibility study to project commissioning, we have proposed an accelerated five-year implementation programme.



## Table of contents

<b>Executive Summary</b> .....	<b>4</b>
Project context .....	4
Project description and rationale.....	4
Economic and financial aspects .....	4
Recommendations and next steps.....	5
<b>1. Introduction</b> .....	<b>13</b>
1.1 Background .....	13
1.2 Project Description .....	14
1.3 Purpose of the Study.....	15
<b>2. Study Methodology</b> .....	<b>16</b>
<b>3. Stakeholders and Communication</b> .....	<b>17</b>
3.1 Stakeholder Analysis .....	17
3.2 Communication Strategy .....	24
<b>4. Project Background</b> .....	<b>26</b>
4.1 Demand forecast in Burundi.....	26
4.2 Demand forecast in Tanzania .....	27
4.3 Burundi - Existing & Future Generation and Transmission Plans.....	28
4.4 Tanzania - Existing & Future Generation and Transmission Plans .....	32
4.5 Regulatory conditions and tariff levels in Burundi .....	35
4.5.1 Electricity Regulatory Framework .....	35
4.5.2 Licensing .....	35
4.5.3 Tariff Setting.....	36
4.5.4 Competitive Electricity Market.....	36
4.5.5 Conclusion about the Regulatory Conditions and Tariff levels .....	36
4.6 Regulatory conditions and tariff levels in Tanzania.....	37
4.6.1 Electricity Regulatory Framework .....	37
4.6.2 Licensing .....	37
4.6.3 Tariff Setting.....	38
4.6.4 Competitive Electricity Market.....	39
4.6.5 Conclusion about the Regulatory Conditions and Tariff levels .....	39
4.7 Wholesale Tariff for the interconnection project.....	39
4.7.1 Burundi .....	39
4.7.2 Tanzania .....	39
4.7.3 Cross-Border Cost Allocation .....	40
4.8 Regional Transmission Grid Connections .....	40
<b>5. Analysis of Country Strategic Objectives</b> .....	<b>43</b>
5.1 Alignment with Strategic Goals.....	43
5.1.1 Burundi .....	43
5.1.2 Tanzania .....	43
<b>6. Technical and Economic Feasibility</b> .....	<b>45</b>
6.1 Generation Impacts.....	45

6.1.1	Typical exchange levels between countries and optimal generation dispatch with the projected interconnection .....	45
6.1.2	Gains on generation costs due to the interconnection .....	46
6.1.3	Reduction of greenhouse gases (GHGs) .....	46
<b>6.2</b>	<b>Transmission Grid Impacts .....</b>	<b>48</b>
6.2.1	Grid computations .....	48
6.2.2	Sensitivity on the sizing of the project interconnection .....	50
6.2.3	Impact on power losses .....	50
<b>6.3</b>	<b>Economic Analysis and New Business Opportunities .....</b>	<b>56</b>
6.3.1	Guidelines on Project Appraisal .....	56
6.3.2	Public sector strategic objectives .....	56
6.3.3	Cost-Benefit Analysis .....	58
6.3.4	Scope of Works of the Burundi-Tanzania 220 kV Interconnector .....	61
<b>7.</b>	<b>Preliminary Project Environmental and Social Impact Assessment (ESIA) .....</b>	<b>63</b>
<b>7.1</b>	<b>Least impact line route .....</b>	<b>63</b>
7.1.1	Geographical and Institutional Boundaries .....	64
7.1.2	Land availability .....	64
<b>7.2</b>	<b>Environmental and Social Impact Assessment (ESIA) Process .....</b>	<b>65</b>
7.2.1	Governing laws .....	65
7.2.2	Conducting ESIA – Procedures and Processes .....	65
<b>8.</b>	<b>PPP Suitability and Affordability Screening .....</b>	<b>69</b>
<b>8.1</b>	<b>Burundi .....</b>	<b>69</b>
8.1.1	Private Sector Participation .....	69
8.1.2	Testing PPP Suitability .....	70
8.1.3	Affordability Considerations .....	71
<b>8.2</b>	<b>Tanzania .....</b>	<b>71</b>
8.2.1	Private Sector Participation .....	71
8.2.2	Testing PPP Suitability .....	73
8.2.3	Affordability Considerations .....	74
<b>8.3</b>	<b>Outcome of the PPP Suitability Test .....</b>	<b>74</b>
<b>8.4</b>	<b>Preparation for Next Stage .....</b>	<b>75</b>
<b>9.</b>	<b>Project Screening .....</b>	<b>76</b>
<b>9.1</b>	<b>Summary .....</b>	<b>76</b>
<b>9.2</b>	<b>Project Description .....</b>	<b>77</b>
<b>9.3</b>	<b>Project Benefits .....</b>	<b>77</b>
<b>9.4</b>	<b>PPP Suitability .....</b>	<b>78</b>
<b>9.5</b>	<b>Affordability Analysis .....</b>	<b>78</b>
<b>9.6</b>	<b>Legal and Regulatory Issues .....</b>	<b>78</b>
<b>9.7</b>	<b>Project Readiness and Status .....</b>	<b>79</b>
<b>9.8</b>	<b>Information Availability .....</b>	<b>79</b>
<b>9.9</b>	<b>Outline of Project Management Plan .....</b>	<b>79</b>
<b>10.</b>	<b>Project Management Plan and Project Governance .....</b>	<b>80</b>
<b>10.1</b>	<b>Staffing plan .....</b>	<b>80</b>
<b>10.2</b>	<b>Budget estimates and funding plan .....</b>	<b>81</b>

10.3	Work program and timetable .....	83
11.	Preparation and Next Requirements .....	84
11.1	Approval of Pre-Feasibility Study Outputs and Quality Certification .....	84
11.1.1	Technical Review .....	84
11.1.2	Approval and Certification .....	84
11.2	Preliminary Job Creation, Resource Mobilisation and Corridor Development Strategy .....	85
11.2.1	Job Creation .....	85
11.2.2	Resource Mobilisation Strategy .....	86
11.2.3	Corridor Development Strategy .....	87
11.3	Capability Needs Assessment for Next Phase .....	88
11.3.1	Technical Expertise .....	88
11.3.2	Environmental and Social Impact Assessment .....	88
11.3.3	Legal and Regulatory Capacity .....	88
11.3.4	Economic and Financial Analysis .....	88
11.3.5	Overall Project Management Needs .....	89
ANNEXE 1	.....	90
	Missions to Burundi and Tanzania – Stakeholder Feedback .....	90
ANNEXE 2	.....	92

## List of tables

Table 1-1:	Report Structure .....	15
Table 3-1:	Burundi Stakeholders – Role and Influence on Project .....	19
Table 3-2:	Tanzania Stakeholders – Role and Influence on Project .....	20
Table 3-3:	Target Stakeholders and Communication Focus .....	24
Table 3-4:	Roles and Responsibilities in Communication .....	25
Table 4-1:	List of existing generation power plants in Burundi in 2025 .....	28
Table 4-2:	List of committed and future generation power plants in Burundi .....	29
Table 4-3:	Burundi Planned Transmission Development Projects (2025 – 2040) .....	31
Table 4-4:	List of existing generation hydro power plants in Tanzania in 2025 .....	32
Table 4-5:	List of existing generation thermal (gas) power plants in Tanzania .....	32
Table 4-6:	Tanzania - Planned Transmission Development Projects (2025 – 2040) .....	34
Table 4-7:	Summary of Licensing Regimes in Burundi .....	35
Table 4-8:	Risk Matrix of Current Regulatory Framework .....	37
Table 4-9:	Summary of Licences in Tanzania .....	38
Table 6-1:	Projected power exchanges (GWh) .....	45
Table 6-2:	Voltage planning limits .....	48
Table 6-3:	Line loading planning limits .....	48
Table 6-4:	Transformer loading planning limits .....	48
Table 6-5:	Projected Contribution to the Public Sector objectives .....	56
Table 6-6:	Projected contribution to addressing existing challenges in both countries .....	57
Table 6-7:	CBA Assumptions .....	59
Table 6-8:	CAPEX Assumptions .....	59
Table 6-9:	CAPEX for Alternatives 2 and 3 .....	60
Table 6-10:	CBA results for the three alternatives .....	60
Table 6-11:	CBA sensitivity results for the three alternatives .....	61
Table 7-1:	Summary of the Tanzania ESIA process .....	67
Table 8-1:	Basic screening of the PPP suitability of the Interconnection project in Burundi .....	69
Table 8-2:	High level risk assessment .....	70
Table 8-3:	Basic screening of PPP suitability of the interconnection project in Tanzania .....	72
Table 8-4:	High level risk assessment .....	73

Table 10-1: Staffing plan for Burundi – Tanzania Interconnector.....	81
Table 10-2: Budget Estimates .....	82
Table 10-3: Funding options analysis.....	82

## List of figures

Figure 1-1: CMP Project Preparation Timeline .....	13
Figure 1-2: Burundi – Tanzania 220 kV line Interconnector [not actual route, for illustration] .....	14
Figure 2-1 : Study Methodology .....	16
Figure 3-1: Burundi Electricity Sector Structure .....	17
Figure 3-2: Tanzania Electricity Sector Structure .....	18
Figure 4-1: Burundi: Peak Demand Forecast .....	26
Figure 4-2: Burundi: Energy Demand Forecast.....	27
Figure 4-3: Tanzania: Peak Demand Forecast (Base-Case Scenario) .....	27
Figure 4-4: Tanzania: Energy Demand Forecast (Base-Case Scenario).....	28
Figure 4-5: Burundi Transmission Development Plan (2025 – 2040) .....	31
Figure 4-6: Tanzania - Projected cumulative capacity per technology up to 2050 .....	33
Figure 4-7: Transmission Development Plan in the North Western Tanzania (2025 – 2040) [Extract from the Power System Master Plan 2024 Update].....	34
Figure 4-8: Existing and planned interconnections between African regions and with Europe and the Middle East.....	41
Figure 4-9: Existing and planned interconnections from Burundi and Tanzania. ....	42
Figure 6-1: Comparison of the electricity production costs in Burundi with and without the interconnector .....	46
Figure 6-2: CO2 emissions in tonnes with and without interconnector .....	47
Figure 6-3: CO2 emissions intensity per MWh produced with and without interconnector .....	47
Figure 6-4: Strategic position of the Burundi – Tanzania Interconnector .....	49
Figure 6-5: 220 kV Option - Maximum transfer of 200 MW across the Burundi – Tanzania interconnector (Tanzania >>> Burundi)...	51
Figure 6-6: 220 kV option - Maximum transfer on 181 MW under the Kigoma – Makamba 220 kV outage condition (N-1) .....	52
Figure 6-7: 220 kV option - Maximum transfer on 90 MW under the Horezo – Gitega 220 kV outage condition (N-1).....	53
Figure 6-8: 400 kV option - Maximum transfer of 226 MW across the Burundi – Tanzania 220 kV interconnector (Tanzania >>> Burundi).....	54
Figure 6-9: 400 kV Option - Maximum transfer on 88 MW under the Horezo – Gitega 220 kV outage condition (N-1) .....	55
Figure 6-10: Preferred 220 kV Connection Option.....	61
Figure 7-1: Indicative line route for the Burundi – Tanzania 220 kV Interconnector .....	63
Figure 9-1: Burundi – Tanzania 220 kV line Interconnection [not actual detailed route .....	77
Figure 10-1: Proposed Project Governance Structure (adapted from existing Power Pool governance structures) .....	80
Figure 10-2: Program implementation program .....	83
Figure 11-1: Pre-Feasibility Study Approval Process .....	84
Figure 11-2: Job creation strategy pillars .....	85
Figure 11-3: Resources mobilisation strategy pillars .....	86
Figure 11-4: Corridor development strategy.....	87

## Abbreviations list

AFD	French development agency
AfDB	African Development Bank
AfEES	African Energy Efficiency Strategy
AFREC	African Energy Commission
AfSEM	African Single Electricity Market
AU	African Union
AUC	African Union Commission
AUDA-NEPAD	African Union's Development Agency
BESS	Battery Energy Storage Systems
CAPP	Central African Power Pool
CEPA	Continental Energy Programme in Africa
CEREEAC	Regional Centre for Renewable Energy and Energy Efficiency for Central Africa
CMP	Continental Power System Master Plan
CO <sub>2</sub>	Carbon Dioxide
COMELEC	<i>Comité Maghrébin de l'Électricité</i>
SCO	<i>Community Scheme Ombud Service</i>
DFIs	Development finance institutions
EACREEE	East African Centre of Excellence for Renewable Energy and Energy Efficiency
EAPP	Eastern African Power Pool
EIB	European Investment Bank
EREA	Energy Regulators Association of East Africa
ESIA	Environment and social impact assessment
ETSAP	Energy Transition Strategy and Action Plan
EU	European Union
EUD	European Union Delegation
GHGs	Greenhouse Gases
GIZ	German Cooperation Agency
GTAF	Global Technical Assistance Facility
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IFIs	International financial institutions
IPP	Independent power production
IPT	Independent power transmission
IRB	Independent Regulatory Board
IRENA	International Renewable Energy Agency
KfW	German state-owned investment and development bank
KS	Knowledge Sharing
kWh	Kilowatt-hour
MDBs	Multilateral development banks
NKE	Non-Key Expert
PACE	Property assessed clean energy
PAP2	Second Priority Action Plan

PBO	Public Benefit Organisations
PIDA	Programme for Infrastructure Development in Africa
PSSE	Power System Simulator for Engineers
PV	Photovoltaic
SAPP	Southern African Power Pool
SDG	Sustainable Development Goal
SPLAT	IRENA's System Planning Test tool
T&D	Transmission & Distribution
TA	Technical Assistance
TAF	Technical Assistance Facility
TEI	Team Europe Initiative
TL	Team Leader
ToR	Terms of Reference
vRE	Variable Renewable Energy
WB	World Bank

# 1. Introduction

## 1.1 Background

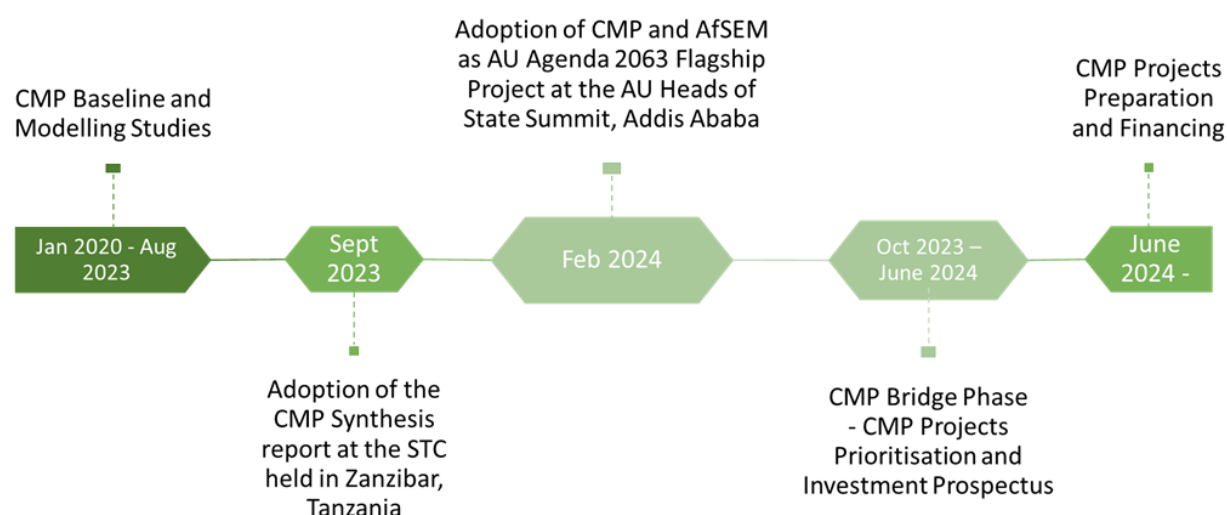
The overall objective of the Continental Energy Programme in Africa (CEPA) is to advance cross-border cooperation in power system and electricity market operation, support transmission network development at the national, regional and continental levels, and move forward Africa's renewable energy and energy efficiency agendas – thereby contributing to the achievement of SDG7 and other sustainable development goals. Since 2015, the European Union's (EU) Sustainable Energy Technical Assistance Facility (TAF) has supported energy programmes in Africa, including the collaborative work on the following three pan-African energy programmes:

- African Single Electricity Market (AfSEM),
- Continental Power System Master Plan (CMP), and
- African Energy Efficiency Strategy (AfEES).

These programmes have been advanced in collaboration with key African institutions in the energy sector, which include, among others, the regional Power Pools, the African Union Development Agency (AUDA-NEPAD), the African Energy Commission (AFREC), and the African Union Commission (AUC). The programmes have now received further support from the EU Continental Energy Programme in Africa (CEPA) 2025 – 2028, which is being implemented by the Stantec–GIZ consortium. Through the provision of high-level technical assistance (TA) and policy advice, CEPA will support the development and implementation of these energy programmes to help create a conducive environment for attracting public and private investment in energy access, renewable energy, and energy efficiency across the continent.

The AfSEM and the CMP were endorsed as flagship projects of the African Union (AU) Agenda 2063 at the 37th Ordinary Session of the AU Assembly of Heads of State and Government, held in February 2024 in Addis Ababa. This report focuses on the studies associated with the CEPA CMP programme. Figure 1-1 shows the CMP project development timeline. Post June 2024, the focus of the CMP project has shifted towards operationalisation, with an emphasis on advancing the preparation of priority CMP projects and identifying key ingredients to attract both public and private investment in these projects.

Figure 1-1: CMP Project Preparation Timeline



The CEPA programme focuses on the operationalisation of the CMP, which consists of 2 pillars:

- **Pillar I: master plan development**, including:
  - CMP update, to be developed during 2027-2028
  - Improvement of the CMP Mwanga energy information system database
  - Support to update the Regional Master Plans

- **Pillar II:** preparation of **pre-feasibility studies** during 2025 – 2028 for up to 20 transmission interconnection projects that are presently at the concept stage, as prioritised by the regional Power Pools, aiming at accelerating their funding and implementation.

## 1.2 Project Description

The current report pertains to a pre-feasibility study of the Burundi (Jiji-Mulembwe) – Tanzania (Kigoma) 220 kV Interconnector Project, which is part of Pillar II of the CMP.

Figure 1-2 depicts the proposed Burundi–Tanzania 220 kV Interconnector, a 145 km overhead transmission line planned to run from Jiji-Mulembwe, south-western Burundi, to Kigoma, north-eastern Tanzania. The preliminary line lengths indicate about 72 km of the interconnector section in Burundi and about 73 km in Tanzania.



Figure 1-2: Burundi – Tanzania 220 kV line Interconnector [not actual route, for illustration]

On the Burundi side, Horezo 220/110 kV substation has been established near the Jiji–Mulembwe Hydropower Plants (HPPs), stepping up the voltage from the hydropower station's output (110 kV) to 220 kV for transmission. The Jiji and Mulembwe Hydropower Projects (HPPs), commissioned in 2025, comprise two run-of-river hydropower plants: Jiji (32.5 MW) and Mulembwe (17 MW), located in Burunga Province, south-western Burundi. From Jiji-Mulembwe, a transmission line will be built to pass through a new Makamba 220 kV substation before traversing the border into Tanzania.

On the Tanzania side, the Kigoma substation (Kidahwe) will be the terminal end, equipped with a 400/220 kV transformation and associated busbars to integrate into Tanzania's 400 kV and 220 kV networks. The Kigoma region is being integrated into Tanzania's main transmission grid through a 400 kV line from Nyakanazi substation (part of a separate project, including a 132kV power evacuation transmission line from the ongoing construction of the 49.5 MW Malagarasi Hydropower Project).

## 1.3 Purpose of the Study

The purpose of the study was to conduct a pre-feasibility assessment of the interconnector project and to recommend the next steps for further development, provided no fatal flaws are identified at this stage. The pre-feasibility assessment comprised the following activities:

- Conduct a high-level assessment of the legal and regulatory frameworks in both countries and identify the key players and stakeholders in the electricity sectors of both countries.
- Evaluate the existing and future generation and transmission systems in both countries and determine the potential energy (GWh) and power (MW) flow exchanges across the planned interconnector,
- Conduct a high-level economic evaluation of the project to determine its potential benefits to both countries, and
- Recommend the next steps for the project development

During the early stages of the study, the CEPA team conducted a mission to Burundi and Tanzania from July 14 to 18, 2025, for meetings with key project stakeholders in both countries. The objectives and outcomes of the mission are presented in Annexe 1.

The structure of the present report follows the steps outlined in the Programme for Infrastructure Development in Africa (PIDA) Prefeasibility Studies Implementation Guidelines v. 2.0, as discussed in detail and agreed upon with AUDA-NEPAD between April and May 2025. The remainder of the report is structured as provided in Table 1-1.

*Table 1-1: Report Structure*

Section in Report	Name	Description
2	Stakeholders and Communication	Evaluate the key stakeholders and identify their influence and roles in the project development
3	Study Methodology	Presents how the Pre-feasibility study was conducted
4	Project Background	Presents the key project data in both countries
5	Analysis of countries' strategic objectives	Assess the alignment of the project with the countries' objectives
6	Technical and economic feasibility	Evaluation of the project's impacts, costs and benefits
7	Preliminary Environmental and Social Impact Assessment (ESIA)	Selection and assessment of the least impact line route
8	PPP Suitability and Affordability Screening	Assessing the project's potential to attract public and private investment
9	Project Screening	Screening the key elements of the project to determine the case for a full feasibility study
10	Project Management Plan and Project Governance	Develop the project implementation plan from full feasibility to execution
11	Preparation and Next Steps	Recommend the next steps in developing the project

## 2. Study Methodology

The developed study methodology enabled the assessment of the project's key elements to establish its purpose, ensuring that the interconnector addresses a specific need and aligns with the strategic objectives of both Burundi and Tanzania, as well as with regional and continental organisations such as the EAPP and AUDA-NEPAD. The methodology sought to illustrate how the project aligns with country and regional objectives and foster consensus among key stakeholders to secure strategic buy-in before making further investments. Figure 2-1 illustrates the applied study methodology.

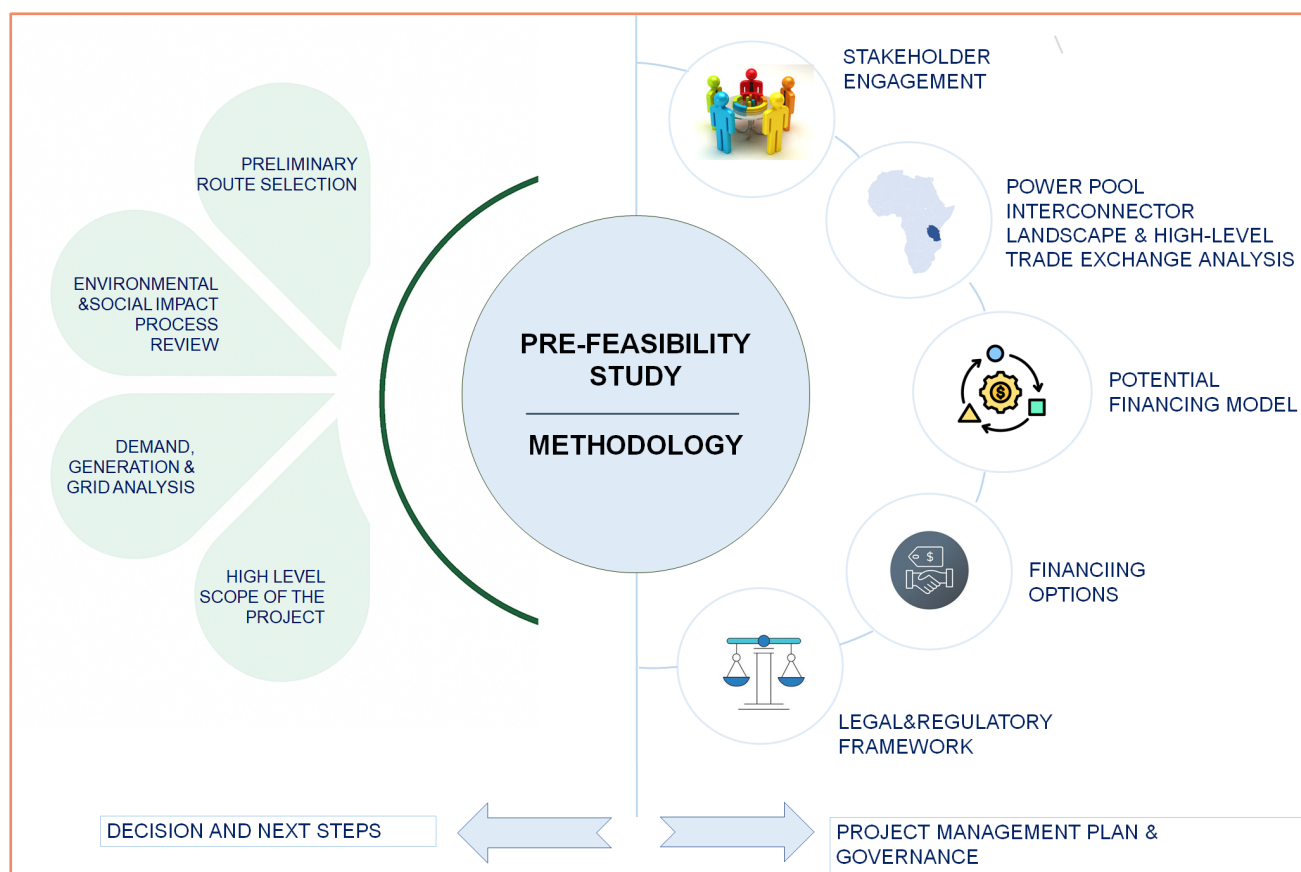


Figure 2-1 : Study Methodology

The Pre-Feasibility study methodology entailed identifying the project's key stakeholders through a desktop exercise, complemented by on-site missions to both Burundi and Tanzania to ascertain the level of priority and support for the project in both countries. The Burundi electricity market's potential to support the project's economics was investigated, considering existing and forecasted demand and supply in both countries and, to a limited extent, the region. The entire EAPP market was not analysed at this stage, as the project is primarily focused on imports from Tanzania. However, a detailed regional market analysis will be necessary at the Feasibility stage to quantify the project's influence on both country-to-country and regional electricity trade flows and economics.

A desktop review of the legal and regulatory frameworks in both countries, complemented by data-gathering missions to Burundi and Tanzania, was conducted to inform the effective implementation of the project in a legally compliant manner and to identify viable funding models. Furthermore, the review also informed the proposed project management plan and governance structure.

Moreover, the electricity transmission grids in both countries were evaluated to confirm the interconnector's power transfer capacity. A high-level assessment of the project's environmental and social impacts (ESIA) was conducted to verify the ESIA process in both countries and to identify the least-impact transmission line route that avoids sensitive areas, such as forest reserves and heritage sites, and overall minimises social and environmental impacts.

The study concluded with a Cost-Benefit Analysis (CBA) to estimate the project's economic viability and outlined the next steps in the project development, including estimated capital expenditure and financing requirements for various components from the Feasibility Study through implementation.

### 3. Stakeholders and Communication

#### 3.1 Stakeholder Analysis

Figure 3-1 and Figure 3-2 show the electricity sector structure in Burundi and Tanzania, respectively. The figures illustrate the key stakeholders in Burundi and Tanzania, along with their relationships. The figures also present a broad overview of their responsibilities.

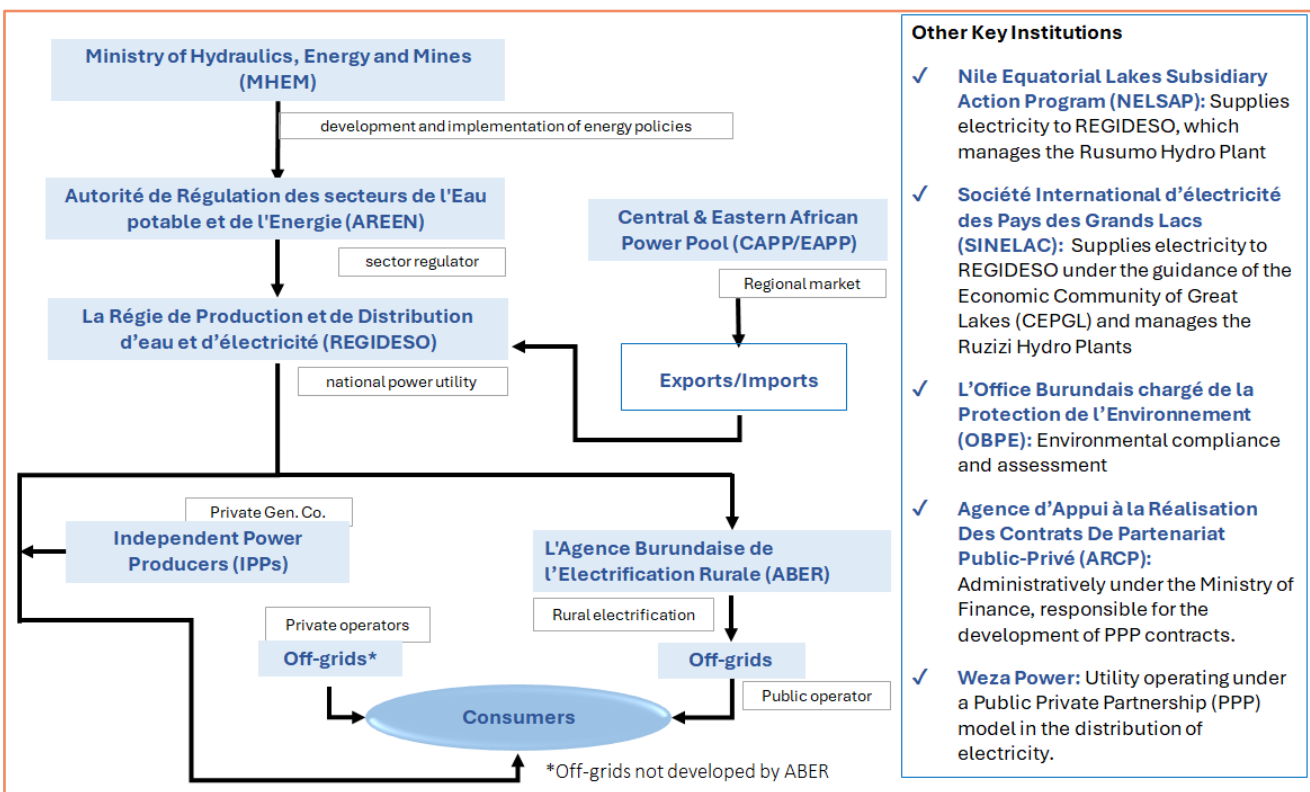


Figure 3-1: Burundi Electricity Sector Structure

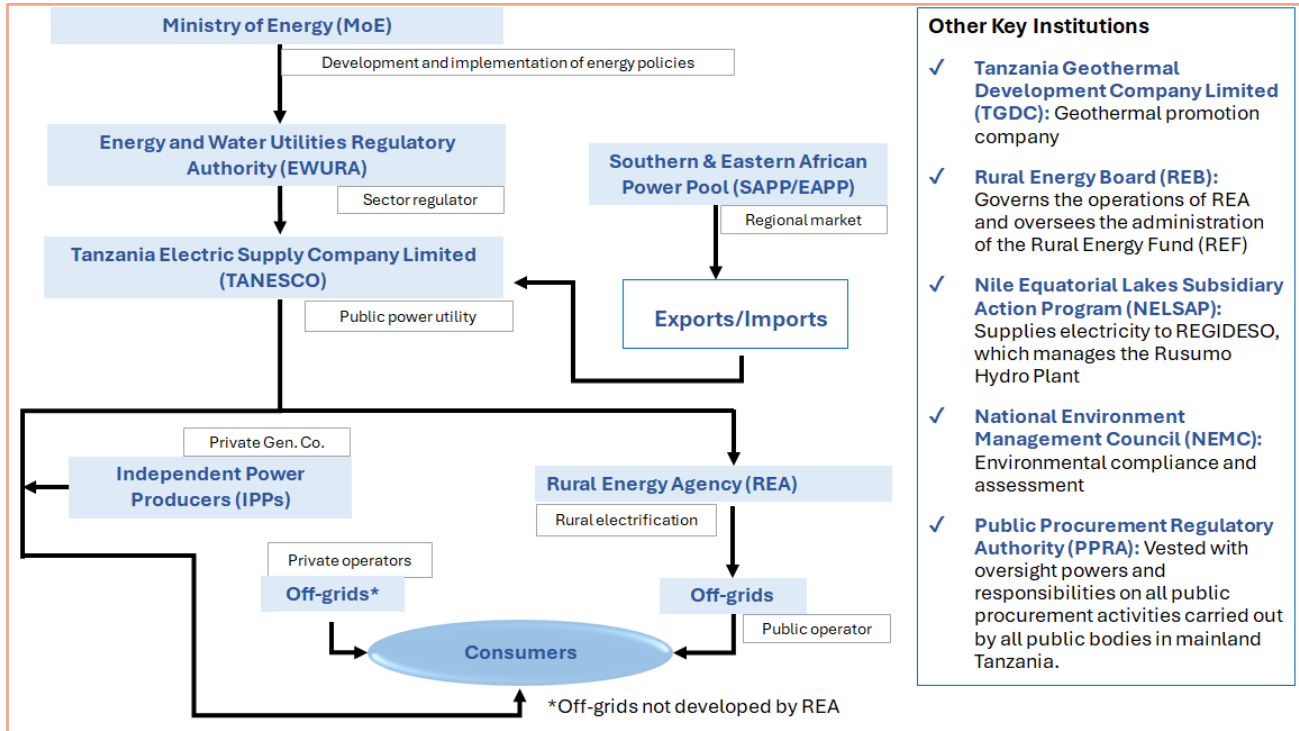


Figure 3-2: Tanzania Electricity Sector Structure

Table 3-1: Burundi Stakeholders – Role and Influence on Project

Stakeholder	Role	Interest/Concerns	Stakeholder importance (Low, Medium, High)	Stakeholder Goals	Project Risks influenced by Stakeholders
Ministry of Hydraulics, Energy and Mines ( <b>MHEM</b> )	<ul style="list-style-type: none"> <li>- Development and implementation of energy policies</li> <li>- Sectoral planning, coordination, and management.</li> </ul>	<ul style="list-style-type: none"> <li>- Financing and local capacity</li> <li>- Electricity market design, system operations and institutional architecture</li> <li>- Planning and investment coordination</li> </ul>	High	<ul style="list-style-type: none"> <li>- Reducing the cost of energy as a factor of production</li> <li>- Improving access and the quality of energy supply</li> <li>- Enhanced reliability and resilience through cross-border power trade</li> </ul>	<ul style="list-style-type: none"> <li>- Failure to approve project, planning, integration, and budgets</li> </ul>
Régie de Distribution d'Eau et d'Électricité ( <b>REGIDESO</b> )	<p>State-owned national utility responsible for:</p> <ul style="list-style-type: none"> <li>- generation, transmission, and distribution of electricity</li> <li>- Developing dispatch strategy</li> </ul>	<ul style="list-style-type: none"> <li>- Infrastructure readiness and adequacy</li> <li>- Technical and operational coordination and commercial operations</li> </ul>	High	<ul style="list-style-type: none"> <li>- Increase supply reliability and reduce outages</li> </ul>	<ul style="list-style-type: none"> <li>- Failure to support project implementation</li> <li>- Failure to coordinate technical operations with TANESCO/EAPP</li> </ul>
Burundian Agency for Rural Electrification ( <b>ABER</b> )	<p>State-owned enterprise responsible for:</p> <ul style="list-style-type: none"> <li>- Promotion of rural electrification - including small-scale hydropower, solar and wind energy</li> </ul>	<ul style="list-style-type: none"> <li>- Timely implementation</li> <li>- Cost efficiency</li> </ul>	Low	Power supply to villages in Burundi's Makamba/Rumonge provinces	<ul style="list-style-type: none"> <li>- Failure to collaborate with REGIDESO</li> </ul>
<b>Weza Power</b>	<ul style="list-style-type: none"> <li>- First national-level private distribution company</li> <li>- Owned by Anzana Electric Group, an investee of Gridworks Development Partners</li> </ul>	<ul style="list-style-type: none"> <li>- Timely implementation</li> <li>- Cost-efficiency</li> </ul>	Low	Connect 9 million people across peri-urban and rural areas by 2030	<p>Weza Power is an example of how PPPs may be deployed in the sector</p> <ul style="list-style-type: none"> <li>- Failure of investors to support the project</li> </ul>
Société Internationale d'Electricité des Pays des Grands Lacs –	<ul style="list-style-type: none"> <li>- A tripartite public institution established as a joint venture by Burundi, Rwanda and the DRC to</li> </ul>	<ul style="list-style-type: none"> <li>- Compliance with treaty obligations and harmonised infrastructure policy</li> </ul>	Low	Regional integration and infrastructure development	<ul style="list-style-type: none"> <li>- Failure to support REGIDESO</li> </ul>

<b>SINELAC</b>	develop and operate projects on the Ruzizi River - Supplies electricity to REGIDESO under the guidance of the Economic Community of the Great Lakes ( <b>CEPGL</b> )	- Regional power trade and economic growth			
Nile Equatorial Lakes Subsidiary Action Program ( <b>NELSAP</b> )	- Manages the Rusumo Hydro Plant and supplies electricity to REGIDESO (Burundi), Rwanda Energy Group Limited (REG), Rwanda, and TANESCO (Tanzania)	- Compliance with treaty obligations and harmonised infrastructure policy - Regional power trade and economic growth	Low	Regional integration and infrastructure development	- Failure to support REGIDESO
Autorité de Régulation des Secteurs de l'Eau potable, de l'Électricité et des Mines – <b>AREEN</b>	- Technical and economic regulation for the water and electricity sectors - Issuance of Licenses and Permits	Compliance with technical codes, regulations, and standards Execution of contractual provisions, regulations, and specifications	High	- Transparent and profitable development of the sector - Grid stability, fair pricing, bilateral agreements	Punitive regulations and introducing market barriers
Office Burundais pour la Protection de l'Environnement – <b>OBPE</b>	Responsible for environmental assessment and clearance	Biodiversity, water resources, land use, lives and livelihoods.	High	- Ensure environmental protection, social safeguards and legal compliance	Failure to issue EIA License

Table 3-2: Tanzania Stakeholders – Role and Influence on Project

Stakeholder	Role	Interest/Concerns	Stakeholder importance in the project (Low, Medium, High)	Stakeholder interest, goals and concerns	Project Risks influenced by Stakeholders
Ministry of Energy ( <b>MoE</b> )	- Overall coordination, planning, and policy in the sector	- Timely implementation - Community acceptance - Cost and operational efficiency - Financing and local capacity	High	- Increase electricity connectivity to 75% by 2030 - Increase the share of renewable energy in the generation mix to 75%,	- Failure to strengthen PPP legal and regulatory frameworks, or securing financing for the project

		- Electricity market design, system operations and institutional architecture		which will require adding over 1,800 MW - Enhance readiness for regional interconnection and power trade, establishing Tanzania as a control area for EAPP/SAPP	- De-prioritising the project
Energy and Water Utilities Regulatory Authority ( <b>EWURA</b> )	- Oversees the technical and economic regulation in the electricity and water sectors - Issuance of Licenses and Permits	- Compliance with technical codes, regulations and standards for safe operations - Fair pricing - Execution of contractual provisions, regulations, and specifications	High	- Transparent and profitable development of the sector - Grid stability, fair pricing, bilateral agreements	- Failure to participate in harmonisation of regulatory frameworks for the EAPP/SAPP
Tanzania Electric Supply Company - <b>TANESCO</b>	- State-owned vertically integrated utility, conducting generation, transmission, distribution, supply, bulk power sale to Zanzibar, and cross-border trade	- Infrastructure readiness and adequacy. - Reliable grid, customer growth and effective utilisation of assets - Technical and operational coordination and commercial operations	High	- Export surplus power and earn revenue from the use of their assets - Grid stability, safe operations and reliability	- Failure to establish an appropriately resourced trading unit or to install critical equipment
Rural Energy Agency ( <b>REA</b> )	- Responsible for promoting and facilitating access to modern energy services in rural areas	- Timely implementation - Cost efficiency	Low	Power supply to villages in the Kigoma region	- Failure to collaborate with TANESCO
National Environment Management Council – <b>NEMC</b>	- Oversee the environmental clearance and compliance of the Tanzanian section of the project	- Biodiversity, water resources, land use, lives and livelihoods.	High	Ensure environmental protection, social safeguards and legal compliance	Failure to issue EIA License

### Partner Coordination & Other Stakeholders

Consultations between development partners and the Governments of Burundi and Tanzania are organised within formal dialogue frameworks, particularly within the Partners Coordination Group, which is subdivided into thematic groups on technical and sectoral issues.

For example, the Ministry of Hydraulics Energy and Mines in Burundi leads the energy sector working group in discussing future operations with development partners including the AfDB, World Bank (WB), European Union (EU), KfW/GIZ, French Development Agency (AFD), Dutch, Belgian, Chinese and Japanese International Cooperation Agency (JICA), UNDP and the Government of India. For the energy sector, a sector group meets quarterly to ensure that assistance programs are harmonised to avoid overlap of activities and duplication of effort.

S/No.	Stakeholder	Role	Interest/Concerns	Stakeholder importance in the project (Low, Medium, High)	Stakeholder interest, goals and concerns	Project Risks influenced by Stakeholders
1	African Development Bank (AfDB)	<ul style="list-style-type: none"> <li>- Technical Assistance for the development of the electric power transmission plan and PPPs for T&amp;D</li> <li>- Regional energy generation and transmission Project financing, environmental and social safeguards</li> </ul>	<ul style="list-style-type: none"> <li>- Effective fund utilisation, timely execution, safeguard compliance</li> <li>- Effective utilisation of generation and transmission assets, including Rusumo Falls HEP, NELSAP Projects (regional interconnection), Ruzizi III (245MW), Jiji and Mulembwe (48MW) HEP projects</li> </ul>	High	<ul style="list-style-type: none"> <li>- Support regional integration (Vision 2063) through the CMP and AfSEM</li> <li>- Finance the development of transmission infrastructure</li> </ul>	Failure to finance or provide TA to the project
2	Government of Burundi and the Government of Tanzania	<ul style="list-style-type: none"> <li>- All the arms of governments – Executive, Legislature and Judiciary – are expected to provide policy direction, high-level buy-in, legal and regulatory certainty and dispute resolution mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>- National growth and competitive advantages</li> <li>- Job creation, land compensation issues</li> </ul>	High	<ul style="list-style-type: none"> <li>- Support socio-economic development</li> <li>-</li> </ul>	Failure to create a conducive environment for private sector investment; failure to legislate and facilitate land acquisition
3	World Bank	<ul style="list-style-type: none"> <li>- Project financing, technical assistance, environmental and social safeguards</li> </ul>	<ul style="list-style-type: none"> <li>- Project bankability, cost recovery, regional benefit-sharing</li> <li>- Partnering with AfDB, IFC, and the Rockefeller Foundation in the M300</li> </ul>	High	<ul style="list-style-type: none"> <li>- Provide concessional finance and support regulatory reforms</li> <li>- Accelerate energy access by 2030</li> </ul>	Failure to finance or provide TA to the project

			initiative covering both countries			
4	East Africa Community ( <b>EAC</b> ), East African Power Pool ( <b>EAPP</b> ) and Nile Basin Initiative ( <b>NBI</b> )/The Nile Equatorial Lakes Subsidiary Action Program Coordination Unit <b>NELSAP-CU</b>	Regional economic growth and Integration of national grids, regional power trading	<ul style="list-style-type: none"> <li>- Biodiversity, water resources, land use, lives and livelihoods</li> <li>- Regional power trade and economic growth</li> <li>- Compliance with treaty obligations and harmonised infrastructure policy</li> </ul>	High	<ul style="list-style-type: none"> <li>- Regional integration and infrastructure development</li> </ul>	Failure to support the project
5	Other Development Partners, DFIs, MDBs, etc EU, EIB, UNDP, AFD, JICA, KfW/GIZ, BII, British High Commission/UKAid, USG, China, Belgium, EDCF Korea EXIM Bank, the Royal Netherlands' Government, European Union, Denmark, Royal Norwegian Embassy, etc	Technical and financial assistance for energy sector projects in the region	<ul style="list-style-type: none"> <li>- Project bankability, cost recovery, regional benefit-sharing</li> <li>- Economic Growth, Social Impact and Bilateral Trade</li> </ul>	High	<ul style="list-style-type: none"> <li>- Support regional integration</li> <li>- Finance the development of transmission infrastructure</li> <li>- Provide TA</li> </ul>	Failure to bridge the financing gap and mobilise resources for the project
9	Media, Civil Society Organisations, and the Public	The media plays a vital role in shaping discourse and setting the agenda.	<ul style="list-style-type: none"> <li>- Environmental protection, fair compensation, public benefits, e.g., jobs</li> <li>- Cost efficiency</li> </ul>	Medium	<ul style="list-style-type: none"> <li>- Transparency and public accountability</li> </ul>	Failure to buy into the project

## 3.2 Communication Strategy

Recognising the centrality of effective and efficient communication and external relations in achieving the project development objectives, the communication strategy aims to ensure that all stakeholders, including the public in both countries, understand, recognise, and support the project's role in the economic transformation of the two countries and the region.

The communication strategy will aim to:

- Support stakeholder awareness and buy-in during feasibility and project preparation phases,
- Promote transparency in planning, decision-making, and compliance,
- Facilitate cross-border cooperation and alignment between national and regional actors,
- Ensure local communities and project-affected persons (PAPs) are informed, consulted, and engaged in the process, and
- Build confidence among partners, regulators, DFIs/MDBs and the private sector about project readiness.

Table 3-3 lists the stakeholders targeted for project information, identifies the communication tools or channels to be used, and specifies the focus of the communication.

*Table 3-3: Target Stakeholders and Communication Focus*

Category	Stakeholder	Tools/Channels	Strategic Communication Focus
Internal – Government	The Governments of Burundi & the United Republic of Tanzania - Ministries, Departments & Agencies	Project Information Memorandum (PIM), Pre-Feasibility Study Report, Ministries of Energy websites, and stakeholder workshops	Formal communication with the stakeholders to ensure policy alignment, outline envisaged project economic benefits, present opportunities for Public Private Partnerships, and report project progress
Internal - Utilities	Utilities (REGIDESO, TANESCO)	Project Information Memorandum (PIM), Pre-Feasibility Study Report, Ministries of Energy websites, and stakeholder workshops	Defining the project scope, ensure that the project meets required planning standards for system operations and regional grid coordination & synchronisation
Internal – Energy Regulators	Energy Regulators (AREEM, EWURA, Regional Regulators (IRB))	PIM and Pre-Feasibility Study Report	Operational, commercial & institutional readiness for regional power markets & trade; Tariff structure, grid compliance & standards
External – DFIs/MDBs/IFIs	Development Partners, Banks, Financing Institutions	PIM and Pre-Feasibility Study Report	Project preparation and financing requirements, envisioned project development milestones, environmental & Social impact considerations, and transparency in procurement strategy
Internal – Host Communities/PAPs	Local Communities	Public Participation, Public notices, Ministries of Energy websites, radio announcements/Simplified information brochures	Public awareness of the Environmental and Social Impact Assessment process (ESIA)

Internal – Environmental Regulators	Environmental Regulators (OBPE, NEMC)	PIM and Pre-Feasibility Study Report.	Ensure that the ESIA findings are evaluated, mitigation strategies, alternative options, and benefits are considered
External – Local & International Media, NGOs, CSOs, PBOs	Media & Civil Society, Public Benefit & Non-Governmental Organisations	Press Releases/Media Briefs, Government Website, Stakeholder Workshops	Public and media engagement
External – Regional Organisations	Regional Entities (EAPP, EAC, NELSAP, SINELAC/CEPGL)	PIM and Pre-Feasibility Study Report.	Power trade alignment, Asset Pricing/Tariffs, planning coordination

Table 3-4 presents the envisaged stakeholders' roles in the communication strategy.

*Table 3-4: Roles and Responsibilities in Communication*

Stakeholder/Responsible	Role in Communication
Project Implementation Unit (PIU) comprising stakeholders from Burundi and Tanzania	Lead coordination and execution of strategy
Burundi and Tanzania ministries responsible for Energy	Political engagement, media oversight
AREEN / EWURA	Technical input, consumer information, and regulation
REGIDESO / TANESCO	Points of Contact (POCs), Technical briefings
Partner Coordination Unit/ Communication Officers	Partner visibility, compliance reporting, and impact

The broad thematic areas and their respective focus are provided below.

- Regional Integration - this project strengthens East African energy security, economic integration, cohesion, and cross-border trade,
- Energy Access - Burundi and Tanzania are collaborating to provide their people with reliable and affordable electricity,
- Community Benefits - local communities will benefit from jobs, improved infrastructure, and enhanced energy services,
- Environmental & Social Responsibility - All necessary safeguards will be implemented to protect people, property, the environment, and interests, and
- Transparency - Commitment to open communication and stakeholder engagement throughout the project.

## 4. Project Background

### 4.1 Demand forecast in Burundi

Future demand growth in Burundi will be driven by the need to support increased development across various sectors of the economy, including residential, commercial, industrial, and transportation. The increase in electricity demand in recent years has been influenced by population growth, urbanisation, and technological advancements, and these factors are expected to continue driving electricity demand.

Figure 4-1 shows the peak demand (MW) forecast for Burundi, extracted from the Burundi Master plan, 2017<sup>1</sup>. The peak demand is expected to grow at a Compounded Annual Growth Rate (CAGR) of 6.3% from 92 MW in 2025 to about 208 MW by 2040. The figure also shows the projected peak demand in Burundi based on the CMP 2023 – 2040 Report.

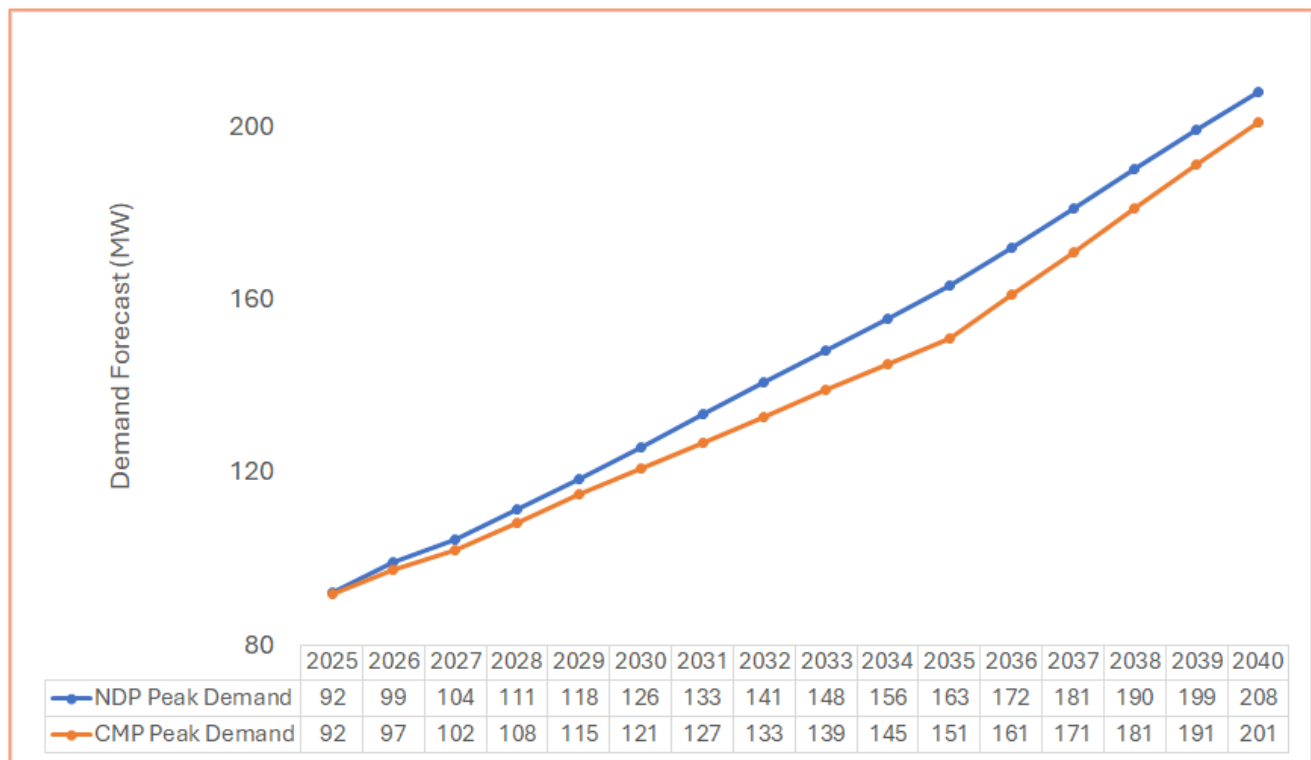


Figure 4-1: Burundi: Peak Demand Forecast

The NDP peak demand forecast was used to model demand values for network analysis in PSS®E. In PSS®E, the future peak demand was disaggregated to the substation level for the study years. The distribution of peak demand per substation was proportional to the current demand level at each substation, with substations with the highest demand maintaining their relatively higher levels compared to those with lower demand.

Figure 4-2 shows the energy demand (GWh) forecast for Burundi, growing at a CAGR of about 6.5% from 475 GWh in 2025 to about 1,138 GWh by 2040. The figure also shows the projected peak demand in Burundi based on the CMP Report. The NDP energy demand forecast was used in the energy modelling conducted in the SPLAT/MESSAGE software.

<sup>1</sup> Burundi: National Development Plan (NDP), 2017

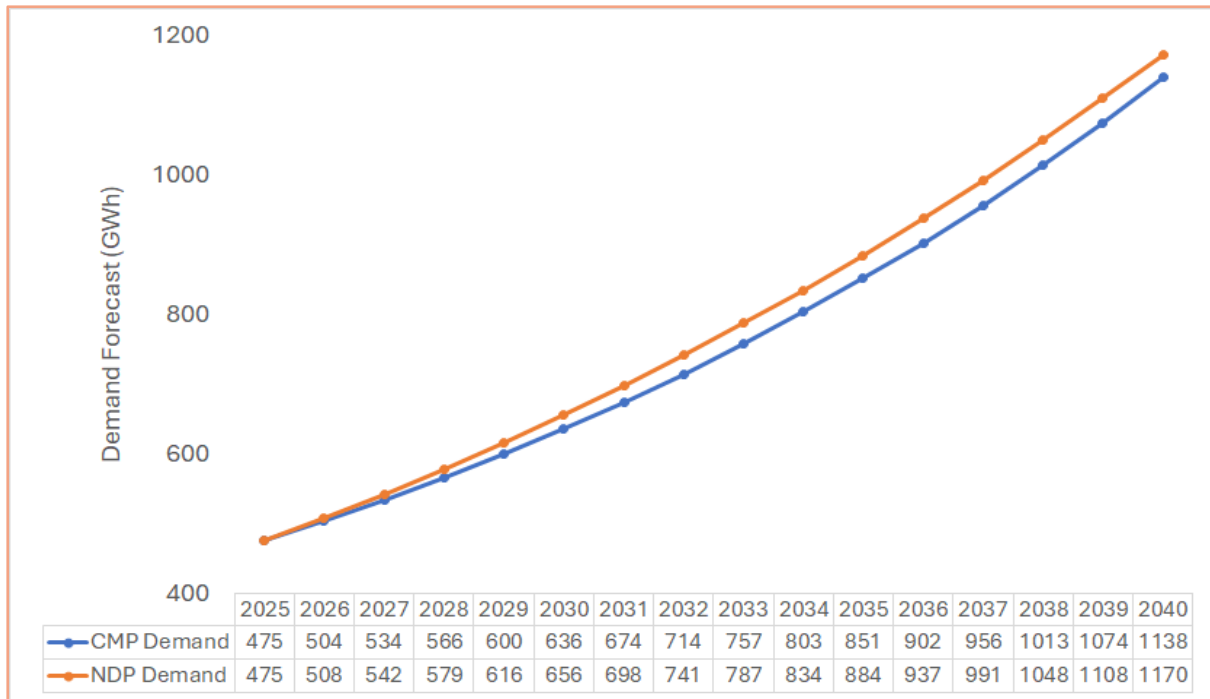


Figure 4-2: Burundi: Energy Demand Forecast

## 4.2 Demand forecast in Tanzania

The peak demand forecast used in this pre-feasibility study was based on the Base-Case Scenario as defined in the 2024 Power System Master Plan Update Report<sup>2</sup> for Tanzania.

Figure 4-3 shows the peak demand (MW) forecast for the Base-Case Scenario, growing at a CAGR of 8.5% from 2,507 MW in 2025 to about 8,483 MW by 2040.

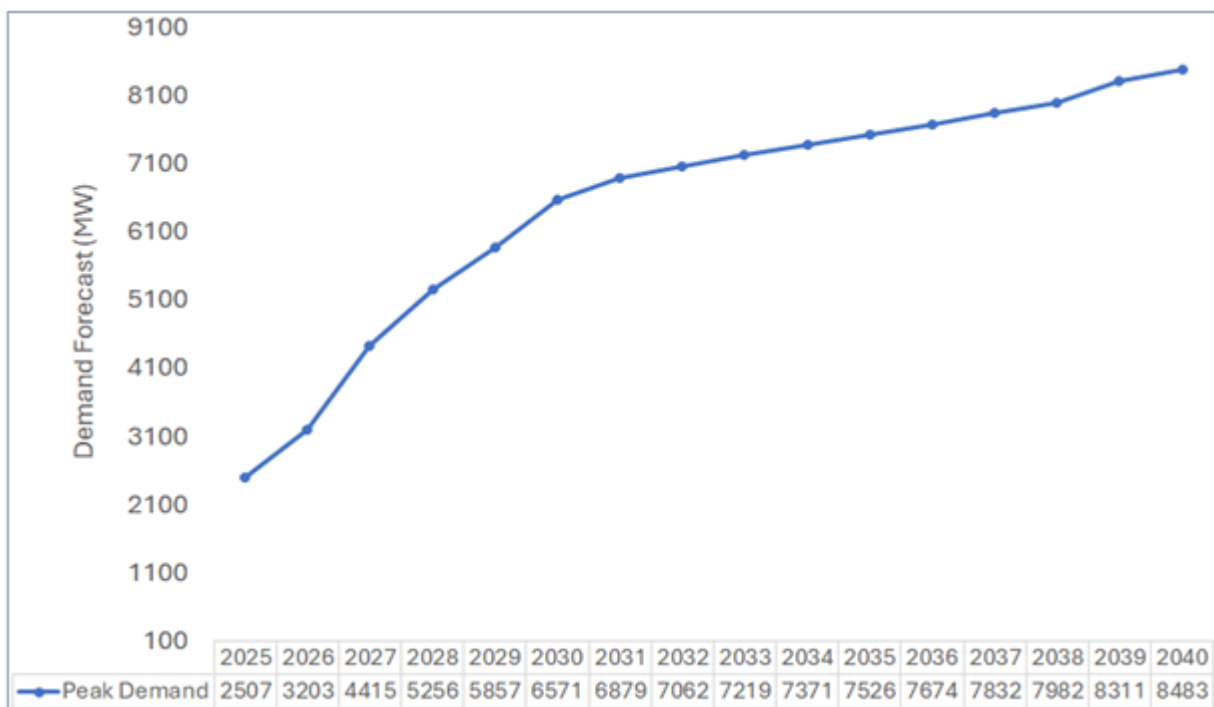


Figure 4-3: Tanzania: Peak Demand Forecast (Base-Case Scenario)

<sup>2</sup> Tanzania: Power System Master Plan 2024 Update, Ministry of Energy.

Figure 4-4 shows the energy demand (GWh) forecast for the Base-Case Scenario, growing at a CAGR of 7.4% from 17,875 GWh in 2025 to about 52,400 GWh by 2040.

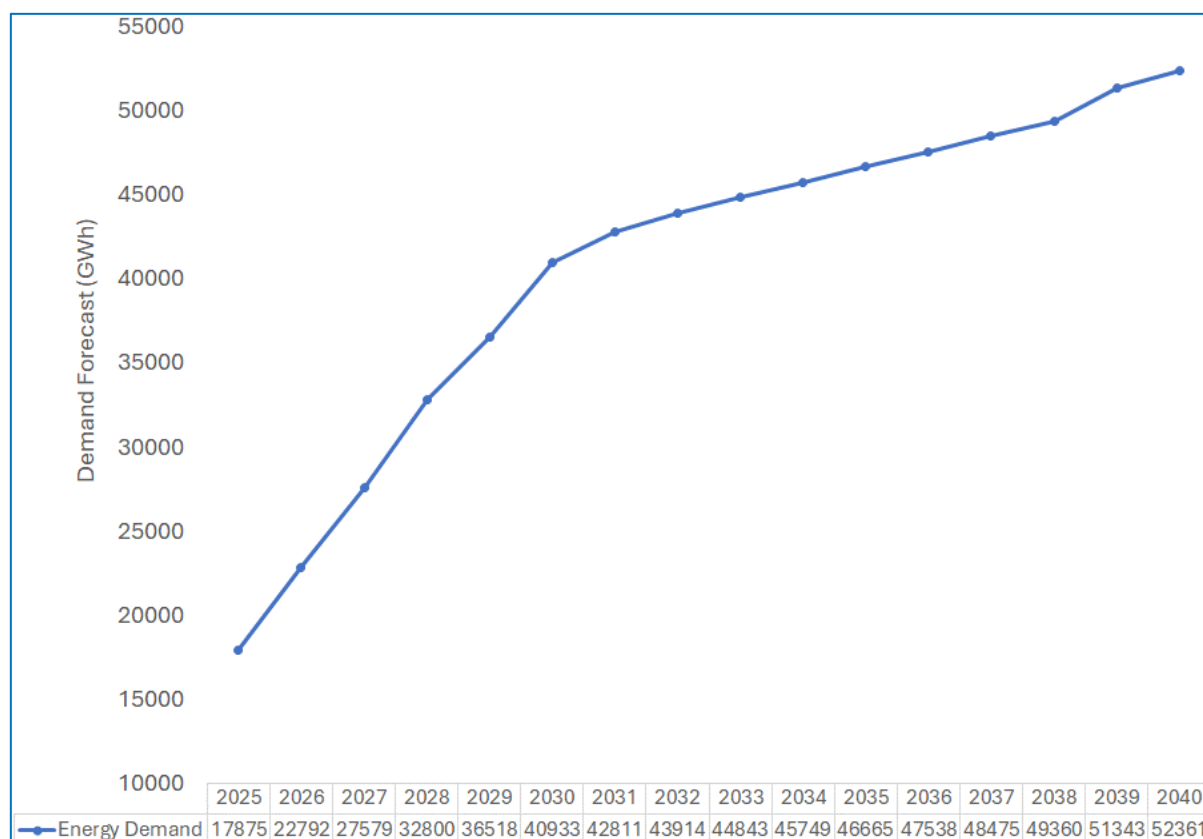


Figure 4-4: Tanzania: Energy Demand Forecast (Base-Case Scenario)

The forecast for Tanzania was based on the historical pattern of electricity consumption for each tariff category, as well as a projection that considered emerging issues that could not be captured by historical energy and peak demand profiles.

### 4.3 Burundi - Existing & Future Generation and Transmission Plans

Table 4-1 and Table 4-2 lists the existing, committed, and future generation power plants within the REGIDESO system. Existing power plants are those that are currently operational. Committed power plants are defined as those that have reached financial closure and/or are presently under construction. Future power plants are those planned but have not yet reached financial close, still in various stages of development. In the table, 'installed capacity' refers to the total rated installed capacity for each power plant.

Table 4-1: List of existing generation power plants in Burundi in 2025

POWER PLANT	TECHNOLOGY	NO. OF UNITS	UNIT CAPACITY (MW)	INSTALLED CAPACITY (MW)
Rwegura	Hydro DAM	3	6	18
Ruvyironza	Hydro ROR	3	0.5	1.5
Mugere	Hydro ROR	4	2	8
Nyemanga	Hydro ROR	4	0.7	2.8
Kabu 16	Hydro ROR	2	10	20

POWER PLANT	TECHNOLOGY	NO. OF UNITS	UNIT CAPACITY (MW)	INSTALLED CAPACITY (MW)
Ruzibazi	Hydro ROR	2	7.5	15
Jiji	Hydro ROR	3	10.83	32.5
Mulembwe	Hydro Dam	3	5.66	17
Combined Small Hydros <= 1MW (Gikonge (1MW, Kayenzi (0.8MW), Marangara (0.28MW), Buhiga (0.47MW), Nyamyotsi (0.3MW), Kigwena, Bulezi, Ryarusera, Nyabikere, Kayongozi	Hydro	-	3.83	3.83
<b>In-country Hydro Total (MW)</b>				<b>118.63</b>
Gigawatt (Mubuga)	Solar	-	7.5	7.5
CTH (Interpetrol Contract)	Diesel	-	30	30
CTH of REGIDESO	Diesel	-	5	5
<b>Other Resources Total (MW)</b>				<b>42.5</b>
Rusumo (Burundi's share: 33% of installed capacity (80 MW)) – Shared with Tanzania and Rwanda	Hydro	-	26.7	26.7
Ruzizi I (Burundi imports hydro power from the DRC, which owns Ruzizi I)	Hydro	-	3.5	3.5
Ruzizi II (Burundi's share: 33% of installed capacity (36 MW)) – Shared with DRC and Rwanda	Hydro	3	12	12
<b>Shared Hydro Total (MW)</b>				<b>42.2</b>
<b>Total Installed Capacity (MW)</b>				<b>203.33</b>

Table 4-2: List of committed and future generation power plants in Burundi

POWER PLANT	TECHNOLOGY	EXPECTED YEAR OF SERVICE	PLANNED INSTALLED CAPACITY (MW)
<b>Committed Power Plants</b>			
Songa Energy	Ruyvi (102)	Hydro	Commissioned in Nov 2025
	Mule (037)	Hydro	2027
Tembo Power	Dama (011)	Hydro	2027
	Sigu (015)	Hydro	2027
Mpanda	Hydro	2027	10.4
Kirasa	Hydro	2028	16
Total (MW)			<b>58.55</b>
<b>Planned Power Plants</b>			

POWER PLANT	TECHNOLOGY	EXPECTED YEAR OF SERVICE	PLANNED INSTALLED CAPACITY (MW)
Rushiha	Hydro	2035	12
Masango	Hydro	2035	9
Kagu	Hydro	2035	12
Muyo 029 & Muyo 033	Hydro	2035	11.14
RUZB12, 14,21, 28	Hydro	2035	15.5
Nyaki	Hydro	2035	6.84
Ruvubu	Hydro	2040	59.5
Big Mulembwe	Hydro	2040	25
NYE 006, 010, 029	Hydro	2040	7
Nuclear Power Plant	Nuclear	Beyond 2040	200
Total (MW)			<b>357.98</b>
<b><i>Planned or Shared Imports</i></b>			
Ruzizi III (Burundi's share: 33% of installed capacity (206 MW)) – Shared with DRC and Rwanda	Hydro	2028	68.7
Import of energy from Ethiopia (MOU signed)	Hydro	2027	200
Energy Import from Tanzania (MOU signed)	Hydro	2030	200
Total (MW)			<b>468.7</b>
<b>Committed and Planned Generation Capacity (MW) by 2040</b>			<b>885.23</b>

In addition to the projects identified above, the energy sector in Burundi has identified thermal and solar projects for development in the short to medium term. The interconnection with Tanzania is expected to increase the hosting capacity for solar PV in Burundi.

### Transmission development plan

Figure 4-5 depicts the existing and planned 220 kV and 110 kV backbone network in Burundi.

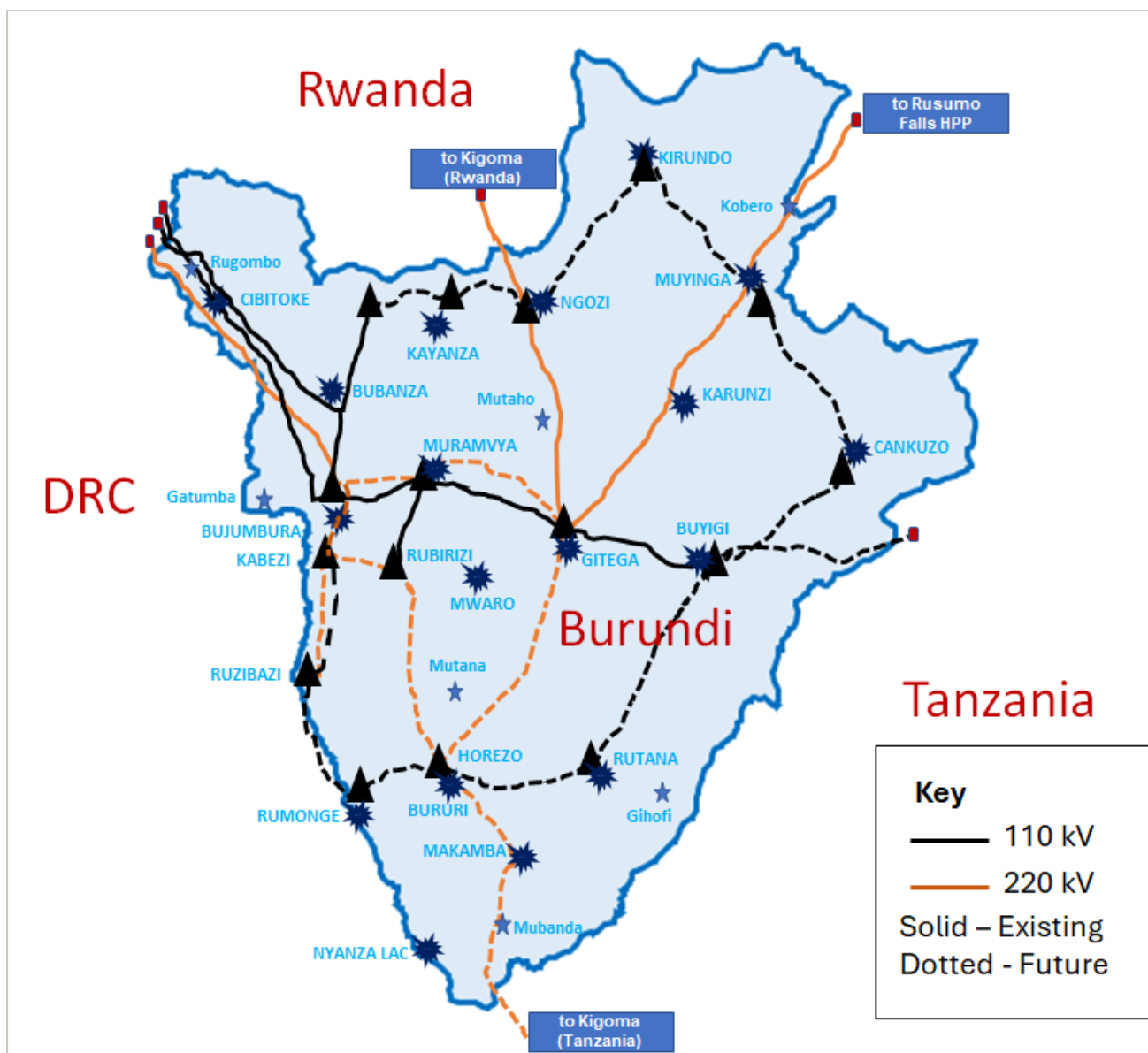


Figure 4-5: Burundi Transmission Development Plan (2025 – 2040)

The Jiji-Mulembwe (Burundi) – Kigoma (Tanzania) 220 kV interconnector project is assumed to be completed by 2030. The transmission reinforcement plan provided up to 2030 is provided in Table 4-3. Depending on the speed of project development, the plan may be developed in phases up to 2040.

Table 4-3: Burundi Planned Transmission Development Projects (2025 – 2040)

Study Year	Project Name and Description
Recently completed	<ul style="list-style-type: none"> <li>220 kV transmission line from Rusumo Falls Hydro Power Plant (HPP) to Gitega substation (completed 2023)</li> <li>220 kV transmission line from Kigoma (Rwanda) to Gitega substation (completed 2025)</li> <li>220 kV transmission line from Kamanyola (DRC) to Bujumbura substation for Ruzizi III HPP (completed 2025)</li> </ul>
2030	<ul style="list-style-type: none"> <li>220 kV transmission line from Rubirizi to Izege to Horezo and then to Makamba substations</li> <li>220 kV transmission line from Kabezi to Rubirizi substations</li> </ul>
	<ul style="list-style-type: none"> <li>110 kV lines connection 10 substations from Rwegura-Kayanza-Ngozi-Muyinga-Cankuzo-Ruyigi-Rutana-Bururi-Rumonge to Ruzibazi</li> </ul>

- 110 kV line from Muramvya – Ijenda substations
- 110 kV line from Zege to Ruyigi substations.

## 4.4 Tanzania - Existing & Future Generation and Transmission Plans

Table 4-4 and Table 4-5 lists the existing generation power plants connected to the TANESCO grid.

Table 4-4: List of existing generation hydro power plants in Tanzania in 2025

POWER PLANT NAME	NO. OF UNITS	UNIT CAPACITY (MW)	INSTALLED CAPACITY (MW)
Mtera	2	40	80
Kidatu	4	51	204
Julius Nyerere HPP	9	235	2 115
Hale	2	10.5	21
Kihansi	3	60	180
New Pangani Falls	2	34	68
Nyumba ya Mungu	2	4	8
Combined Small Hydros <= 5MW (Andoya (1MW), Darakuta (0.32MW), Matembwe (0.59MW), Yovi (0.95 MW), Luponde (0.9MW), Uwemba (0.84MW), Mwenga (4MW), Tulila	-	-	13.6
Rusumo (Tanzania's share: 33% of installed capacity (80 MW)) – Shared with Burundi and Rwanda	-	26.7	26.67
<b>TOTAL HYDRO PLANTS (MW)</b>			<b>2716.27</b>

Table 4-5: List of existing generation thermal (gas) power plants in Tanzania

POWER PLANT NAME	NO. OF UNITS	INSTALLED CAPACITY (MW)
<b>TANESCO Units</b>		
Ubungo I	12	102
Ubungo II	3	129
Ubungo III	4	92.5
Kinyerezi I	8	335.00
Kinyerezi II	8	248.22
Mtwara I	13	30.6
Mtwara II (TM16)	1	20
Songas Import	6	189
Tegeta	5	45
Somanga	3	7.5
<b>TOTAL GAS PLANTS (MW)</b>		<b>1198.82</b>

The TANESCO reserve capacity units include distributed generation (DG) plants fuelled by diesel and HFO. These include the following with their corresponding installed capacity: Biharamulo (2.72 MW), Zuzu (7.44MW), Nyakato (63 MW), Songea (5.74 MW), Ludewa (1.27 MW), Mbinga (1 MW), , Ngara (1.25 MW), , Liwale (0.85 MW), Tunduru (1.05 MW), Kigoma (8.75 MW), Kasulu (4.55 MW), Inyonga (1.93 MW), Kibondo (2.5 MW) and Loliondo (1 MW). The combined reserve capacity is 103.05 MW, of which 50.25 MW is available, supplied by Zuzu (5 MW), Nyakato (29 MW), Kigoma (8.75 MW), Kibondo (2.5 MW), Kasulu (2.5 MW), and Loliondo (2.5 MW) DGs.

The IPP units include the two bagasse plants: TANWAT (1.5 MW) and TPC (9 MW). Furthermore, the 5 MW Wazi solar PV plant has been commissioned. The total installed generation from hydro, gas, HFO, diesel, biomass, and solar plants is 4033.64 MW.

Moreover, there are diesel-fuelled DGs connected off-grid, including Mafia (3 MW), Mpanda (5.41 MW), Inyonga (1.64 MW), Bukoba (2.56 MW), and Sumbawanga (5 MW). Additionally, there are 304 MW of generation from captive power plants, primarily used to meet demand requirements at the respective facilities.

As depicted in Figure 4-6, Tanzania will, based on the Power Sector System Master Plan, require internal generation capacities reaching 8.5 GW, 15.4 GW, and 19.7 GW in the short-term (2024-2028), medium-term (2029-2038), and long-term (2039-2050), respectively.

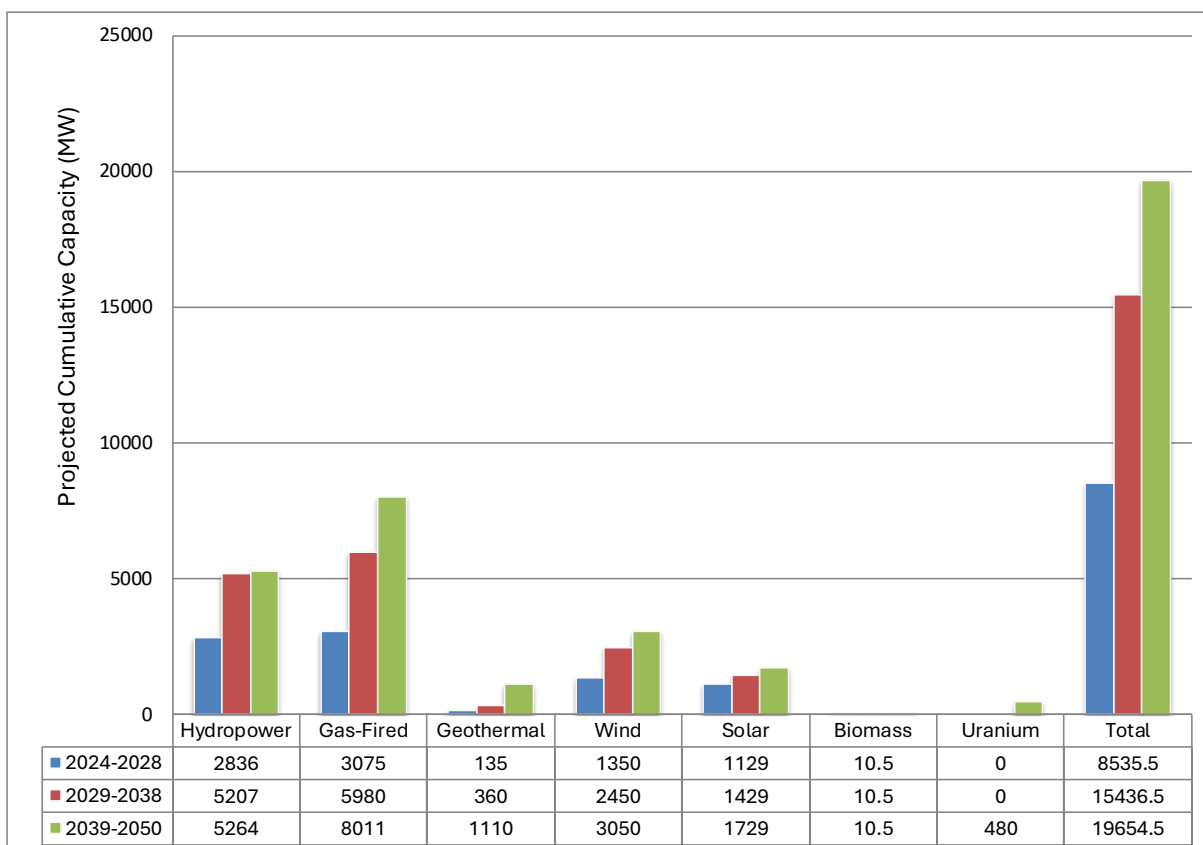


Figure 4-6: Tanzania - Projected cumulative capacity per technology up to 2050

## Transmission development plan

Figure 4-7 depicts the existing and planned 400 kV and 220 kV backbone network south of Lake Victoria towards the Kigoma region in Tanzania. A detailed list of all planned projects, including full country electricity infrastructure maps, is provided in the Power System Master Plan 2024 Update Report.

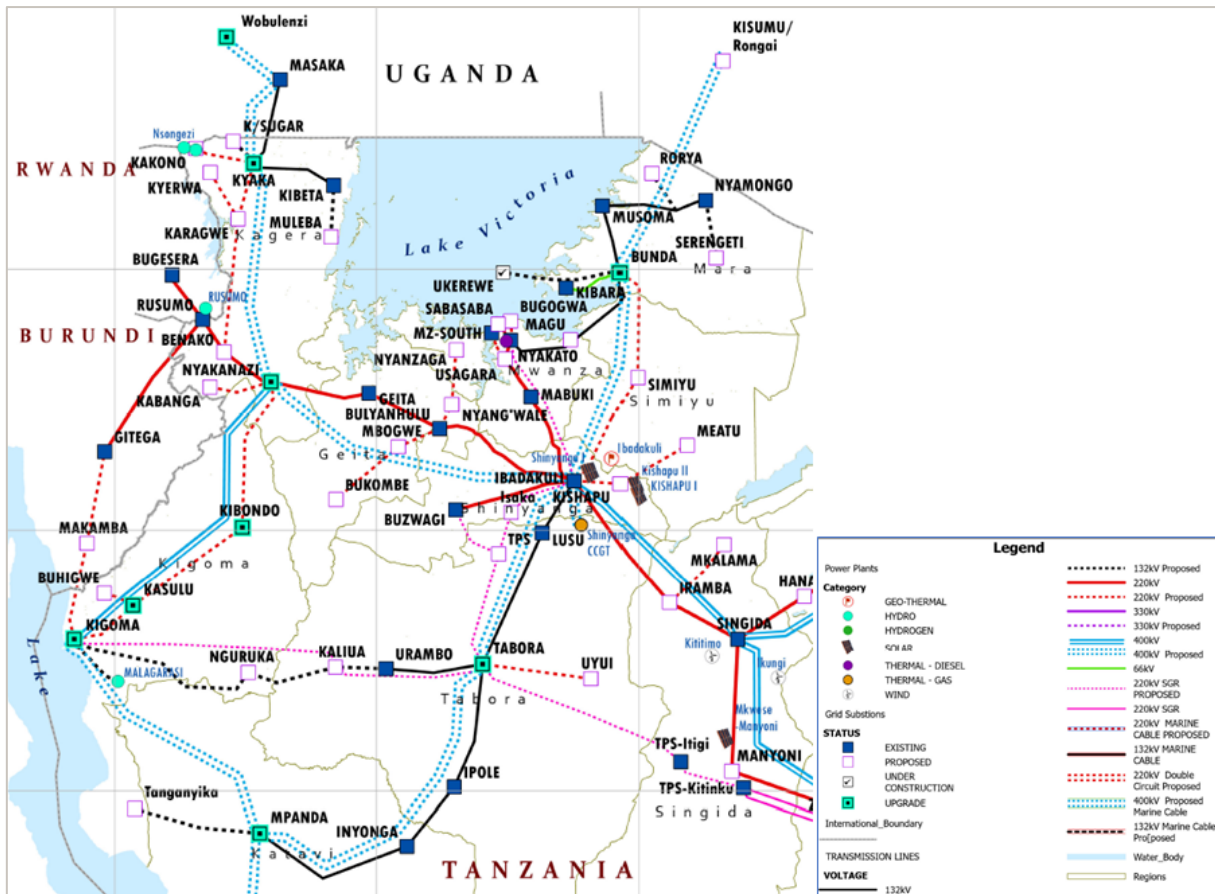


Figure 4-7: Transmission Development Plan in the North Western Tanzania (2025 – 2040) [Extract from the Power System Master Plan 2024 Update]

The transmission reinforcement plan for the north-western part of Tanzania (study area) for the 2030, 2035, and 2040 study years is provided in Table 4-6.

Table 4-6: Tanzania - Planned Transmission Development Projects (2025 – 2040)

Study Year	Project Name and Description
Recently completed or under construction	<ul style="list-style-type: none"> <li>280 km 2 x 400 kV transmission lines from Nyakanazi to Kigoma substation (under construction) rated at a normal and contingency rating of 1900 MVA and 2375 MVA, respectively.</li> <li>116 km 132 kV transmission line from Urambo to Nguruka substations rated at a normal and contingency rating of 121 MVA and 151 MVA, respectively.</li> </ul>
2030	<ul style="list-style-type: none"> <li>166 km 220 kV transmission line from Kyaka to Benako substations rated at a normal and contingency rating of 610 MVA and 762 MVA, respectively.</li> <li>148 km 132 kV transmission line from Kigoma to Nguruka substations rated at a normal and contingency rating of 121 MVA and 151 MVA, respectively.</li> </ul>
2035	<ul style="list-style-type: none"> <li>246 km 400 kV transmission line from Kigoma to Mpanda substations, rated at a normal and contingency rating of 1900 MVA and 2375 MVA, respectively.</li> <li>350 km 220 kV transmission line from Kigoma to Tabora substations, via Kaliua, rated at a normal and contingency rating of 305 MVA and 381 MVA, respectively.</li> </ul>
2040	<ul style="list-style-type: none"> <li>89 km 220 kV transmission line from Kasulu to Kibondo substations rated at a normal and contingency rating of 261 MVA and 327 MVA, respectively.</li> </ul>

## 4.5 Regulatory conditions and tariff levels in Burundi

### 4.5.1 Electricity Regulatory Framework

The electricity sector in Burundi is governed by the Electricity Act No. 1/5 of 22 March 2024, which is an amendment to the earlier law of 2015 (No. 1/13, 2015). The electricity sector, like in many African countries, is dominated by a state-owned utility, REGIDESO, which has the mandate to provide electricity in both urban and rural areas. It is also responsible for water production. The law grants exclusive rights to REGIDESO for the transmission of electricity throughout Burundi, as outlined in Articles 68 and 69, which also confers the responsibility of interconnectors to the state company. Article 74 also extends this to transmission lines built by the Rural Electricity Agency. Under Article 93, the principles of cost-reflective tariffs are stipulated, and the mechanism of any tariff is to be further outlined in the Regulations.

The key institution in energy regulation in Burundi is the Water and Energy Regulatory Authority (Autorité de Régulation des secteurs de l'Eau potable et de l'Energie (AREEN). Overall, the Regulatory framework in Burundi has been improving in all areas, such as regulatory governance and substance. Data from the latest Regulatory Index surveys by the African Development Bank show a modest improvement, from 0.463 to 0.537, on a scale of 0 to 1.0, with a score of 1.0 indicating the highest rating. Key weakness includes the lack of mandatory publication of regulatory decisions. Burundi also scores moderately in the Regulatory Substance Index (0.610), representing a 27% improvement.<sup>3</sup>

### 4.5.2 Licensing

Burundi has introduced reforms in its electricity sector aimed at attracting private investment. The Electricity Act of 2024 provides for the private sector to obtain licensing (Article 9) for activities within the electricity sector. The law covers not only private sector investments in generation but also in transmission and distribution. The Law specifies three licensing regimes covering Declarations, Authorisations (licences) and PPPs (Table 4-7).

Table 4-7: Summary of Licensing Regimes in Burundi

Licensing Framework	Infrastructure	Conditions	Approval
<b>Declaration</b>	Technology-neutral, but typically limited to less than 500 kW, refers to small-scale or distributed generation.	To be determined by Regulations	Ministry responsible for Energy
<b>Authorisation (License)</b>	Generation	Licences granted are not transferable without permission. Trading (buy/sell) should be conducted with licensed entities, and the state bears no liability.	Minister responsible for Energy
<b>Public-Private Partnerships/ Concessions</b>	Technology neutral but subject to approval, Primary sources of energy and Renewables. Generation, Transmission and Distribution applicable.	A contract sets the conditions and terms of the partnership.	ARCP, the administrative body under the Ministry of Energy and Finance, evaluates and approves.

<sup>3</sup> ERI Report of the African Development Bank, 2024

### 4.5.3 Tariff Setting

AREEN has the mandate to set tariffs based on the latest electricity law of 2024. However, the independence of the process needs further reform in line with best practice. The law states that the Ministries responsible for Energy and Finance will each publish the tariff via a joint Regulation, following advice from the Regulator. This implies that political approval is required for tariff changes. AREEN is vested with authority under Article 163 of the Electricity Amendment Act of 2024 (Law No. 1/05), also to set, in coordination with the Ministry responsible for Energy, the wholesale tariff and transmission charges (wheeling charges).

The principles of tariff setting are also set in the law through Article 164, which outlines that the tariff must cover costs, specifically;

- Return on investment,
- Cover the cost of production or purchase of power and related costs,
- Salaries and wages,
- Taxes, levies, and Regulatory costs, and
- Public service obligations and related expenses.

Article 160 mandates inter-operator tariff setting between two license operators; however, these must be justified and approved by the regulator, AREEN, to ensure open access principles are preserved. All operators must submit their contracts to the Regulator to ensure that fair competition is maintained impartially.

Regarding the regional and continental markets, AREEN is also assigned a mandate as a national regulator to approve transmission pricing for transit and interconnection transmission lines involved in these markets. Although this is inward-focused, such powers should eventually be transferred to a regional regulator who would ideally set international transmission prices.

### 4.5.4 Competitive Electricity Market.

The law mandates AREEN to develop regulations on eligibility for participation in the electricity market, regulatory accounting and the unbundling of state-utility (REGIDESO) activities.

### 4.5.5 Conclusion about the Regulatory Conditions and Tariff levels

Burundi has implemented essential reforms to strengthen the regulatory framework within the electricity sector. Nonetheless, tariffs remain modest, investment proceeds at a slow pace, and the tariff approval process is subject to oversight and approval by the Ministerial authorities, specifically the Ministries responsible for Finance and Energy, respectively. Like many African nations, the government exercises caution when increasing tariffs due to the generally low-income levels in the country. When tariffs fail to reflect costs accurately, a negative cycle ensues that discourages both private and public investment, ultimately leading to insufficient system maintenance and expansion.

Equally important is access to the network, where open access principles are reiterated throughout the legislation, with AREEN given the mandate to approve any tariff or network access charges to prevent tariffs from being used as a barrier to connection.

Overall, institutional strengthening is crucial for the effective functioning of the regulatory framework. Tariff setting should be guided by clear guidelines and a methodology published with strong public consultation components. This will enhance transparency and serve as an incentive for investment. Further sector reforms may be necessary to boost competition, and concessions might be a viable option, particularly for rural electrification, where access rates are among the lowest in Africa.

Table 4-8 presents the risk matrix for the Burundi current regulatory framework.

Table 4-8: Risk Matrix of Current Regulatory Framework

Regulatory Instrument	Risk	Mitigation
Tariffs	Moderate	The regulatory environment could be enhanced by granting AREEN more independence in tariff setting and allowing for a periodic cost-recovery mechanism to address verifiable costs not addressed by approved tariffs.
Minister’s Prerogative on banning imports or exports	Major	Additional Regulations on the procedure for such effectiveness should be defined and published.
License	Minor	Exclusivity for the State Utility should be restricted to policy, rather than being enshrined in law, as it demonstrates a lack of flexibility in adapting to rapidly changing sector dynamics.
Legislation (Electricity Law)	Moderate	Further reforms should be explored, such as the unbundling of public utilities
Institutions	Moderate	Building capacity will provide the necessary management and technical skills to review applications, determine tariffs, and protect both investors and consumers.

## 4.6 Regulatory conditions and tariff levels in Tanzania

### 4.6.1 Electricity Regulatory Framework

Tanzania’s electricity sector is regulated by the Energy and Water Utilities Regulatory Authority, EWURA. The Electricity Act, 2008 (Cap. 131), provides the legal basis for regulating generation, transmission, distribution, supply, transformation, cross-border trade, and rural electrification. EWURA is an autonomous multi-sectoral regulatory authority established by the EWURA Act, Cap 414-2006, of the laws of Tanzania.

The regulatory functions of EWURA in relation to the electricity supply industry include, amongst others, licensing and registration, tariff review and rate approval, approving PPAs, and a mandate to develop subsidiary regulatory tools (rules, regulations, codes, guidelines). Apart from EWURA, the sector is also regulated by the Fair Competition Act of 2003<sup>4</sup> which plays a vital role in supporting Tanzania’s efforts to liberalise its electricity sector, where Independent Power Producers (IPPs) and private actors increase their participation, the Act ensures fair competition, deters abuse of dominance, and protects consumers from unfair practices. The Act was amended by the Fair Competition (Amendment) Act, 2024 — Act No. 13 of 2024, to create better provisions for its effective implementation.<sup>5</sup>

The Electricity Regulatory Index (ERI) for Africa, launched by the African Development Bank (AfDB) in 2018, is a composite index measuring the development of electricity sector regulatory frameworks across African countries. The ERI evaluates Regulatory Governance (RG), Regulatory Substance (RS) and Regulatory Outcomes (RO). Tanzania ranked 5th out of 43 African countries evaluated in the ERI 2024, based on regulatory governance, substance, and outcomes. Some of the strong points that Tanzania scored highly on were having a national electrification plan that sets out a least-cost electrification pathway, including grid, mini-grid, and off-grid systems, that clearly demarcates areas for each system. The regulator also made provisions in the tariff for investment by entities in each system. Its Regulatory Governance index score is 0.927, which is close to the highest ranking of 1.0, indicating the high empowerment of EWURA as an independent regulator.

### 4.6.2 Licensing

Both private and public entities intending to participate in the electricity industry are expected to comply with the provisions of the **Electricity Act, 2008, Cap 131**. Specifically, Section 8 of the Act requires any person or company seeking to engage in generation, transmission, distribution, supply, system operation,

<sup>4</sup> OAG MIS | The Fair Competition Act, 2003

<sup>5</sup> The Fair Competition Amendment Act 2024.pdf

cross-border trade, physical and financial trade in electricity, or electrical installation activities to apply for a licence from EWURA.

Exemptions may apply only where the Authority has explicitly granted them, or where the activity is exempted under Section 18 (3) or (4) of the Act. In line with Section 5, EWURA is mandated to award licences to qualified entities undertaking or intending to undertake such licensed activities. EWURA issues licences (Table 4-9) for electricity activities above 1 MW, and registration is for electricity activities below 1 MW.<sup>6</sup>

*Table 4-9 : Summary of Licences in Tanzania*

Category	Description / Coverage	Key Notes
<b>Generation License</b>	Construction & operation of power plants (IPP, utility-scale)	Technical & financial requirements; subject to tariff & performance obligations
<b>Transmission License</b>	Ownership & operation of HV transmission network	National Grid Operator (TANESCO), but open to others under licence
<b>Distribution License</b>	Operation of MV/LV networks & retail distribution	Obligations include network expansion, quality of service, and tariff reporting
<b>Supply (Retail) License</b>	Selling electricity to end-users (separate from distribution ownership)	Ensures consumer protection, fair pricing, and safety compliance
<b>System/Market Operation License</b>	Operation of power system & market (including cross-border)	Linked to system operator role and regional power trade (EAPP, AfSEM)
<b>Cross-Border Trade License</b>	Import/export of electricity	Requires coordination with regional power pools (EAPP, SAPP)
<b>Small Power Project (SPP)</b>	Mini-grids and small-scale generation (e.g., <10 MW)	Simplified registration instead of a full licence; standardised PPA/tariff
<b>Exemptions / Provisional License</b>	Very small, off-grid, pilot, or community schemes	Must register with EWURA; issued a provisional licence or exemption certificate
<b>Electrical Installation License</b>	Licensing of contractors for installation works	Covers electricians, contractors, and inspectors for compliance and safety

### 4.6.3 Tariff Setting

The process of applying and setting electricity tariffs in Tanzania involves a licensee (TANESCO or IPP) submitting a price to the EWURA for approval. The application must adhere to the prescribed formats, including essential technical and financial details. EWURA then reviews the proposed price, verifying the accuracy of the input data. EWURA assesses cost reflectiveness, whether the proposed price covers costs, allows for a reasonable return, and maintains the utility's viability. EWURA subsequently conducts stakeholder consultations to enable the public to share their opinions and input. After review and any necessary adjustments, EWURA issues a tariff order, which sets the new rates or approves the proposed ones. The tariffs are implemented as of a specified date, and tariff reviews are conducted every three years.

<sup>6</sup> EWURA | Electricity Licensing and Registration

Where EWURA discovers that any tariff charge, term, or condition of electricity service is not in compliance with the Act, it may require changes to the tariff, charge, term, or condition of electricity service and require the licensee to compensate the affected customers in amounts established by the Authority. EWURA is largely empowered as an independent regulator based on the AfDB's Regulatory Governance index.

#### **4.6.4 Competitive Electricity Market.**

The Electricity Act, 2008, provides the legal foundation. The EWURA Act and the 2016 Market Re-Organisation Regulations (GN No. 292) are the most direct instruments for introducing competition in the electricity market. However, TANESCO remains a largely dominant, vertically integrated utility in mainland Tanzania. It handles the bulk of the generation, transmission, and distribution of electricity.

#### **4.6.5 Conclusion about the Regulatory Conditions and Tariff levels**

Tanzania has strengthened the role of EWURA as an independent regulator. EWURA sets the tariffs based on the latest approved tariff structure, whereby the tariff levels vary by customer category. The customer categories are divided into domestic tariffs, general usage, and low, medium, and high voltage, and are charged at different prices. The residential electricity price in Tanzania is TZS 229.590 per kWh, equivalent to USD 0.093. The electricity price for businesses is TZS 236.370 kWh or USD 0.096. These retail prices were collected in December 2024 and include the cost of power, distribution, and transmission, as well as all applicable taxes and fees.<sup>7</sup> The tariffs are approved every three years upon application by TANESCO.

### **4.7 Wholesale Tariff for the interconnection project**

#### **4.7.1 Burundi**

In the Electricity Act of 2024, Chapter VII of the Act makes special provisions for the import and export of electricity, and a licence is required for each activity. The conditions of the licence and permitting process are, however, to be promulgated further by Decree (Article 102). However, the law provides for emergency powers for the Minister responsible for Energy, following advice from the Regulator (AREEN), to temporarily restrict import and export activities for national energy security considerations, such as prioritising local demand conditions or during emergencies that may harm the network.

Currently, cross-border tariffs are negotiated and agreed upon by member states and are part of their Energy Exchange Agreements or Power Purchase Agreements. The rules set by the EAPP guides wheeling charges. The cross-border tariff levels are confidential between the countries, and information on the tariff levels is not publicly available.

#### **4.7.2 Tanzania**

Tanzania's policy and legal framework actively promotes cross-border electricity trade, anchored in the Electricity Act of 2008, EWURA regulations, and regional integration commitments under the EAPP and SAPP. As of June 2024, TANESCO held a licence for Cross-Border Electricity Trade in accordance with sections 5 and 8(1)(f) of the Electricity Act, Cap. 131. The licence covers cross-border trade with countries and power pools.

Like Burundi, cross-border tariffs are negotiated and agreed upon by member states and are part of their Energy Exchange Agreements or Power Purchase Agreements. The EAPP rules govern wheeling charges.

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<sup>7</sup> Tanzania electricity prices, December 2024 | GlobalPetrolPrices.com

### 4.7.3 Cross-Border Cost Allocation

Based on the precedent set in recently completed projects in the EAPP region, project financing is apportioned to each country based on the length of the interconnector and associated substations/power infrastructures within each country

## 4.8 Regional Transmission Grid Connections

Burundi and Tanzania are both members of the Eastern African Power Pool (EAPP). Although Burundi and Tanzania are also members of the Central African Power Pool (CAPP) and Southern African Power Pool (SAPP), respectively, the Burundi–Tanzania interconnector is being developed under the auspices of the EAPP. The EAPP, whose General Secretariat is based in Addis Ababa, Ethiopia, was established in 2005 to coordinate cross-border electricity trade and interconnections among countries of the Eastern Africa region. The pool comprises thirteen (13) member countries, including Burundi, Djibouti, the Democratic Republic of the Congo (DRC), Egypt, Ethiopia, Kenya, Libya, Rwanda, Sudan, Tanzania, Uganda, as well as Somalia and South Sudan, which have recently joined.

The region is endowed with rich resources for electricity generation, with hydropower being the dominant source in most countries, except for Egypt, Libya, Sudan, South Sudan, and Somalia, where oil and gas are the primary sources. Kenya, which already produces approximately 1 GW from its geothermal resources, has the region's largest geothermal potential. The region, in which the Great Rift Valley is located has the most extensive geothermal resource potential. Furthermore, Egypt is constructing the largest nuclear power plant in Africa (4,800 MW), which will complement the Koeberg 1,920 MW nuclear power plant in South Africa, the only large existing nuclear power facility in Africa.

Due to its geographical location, the EAPP will play a pivotal role in facilitating both intra-regional electricity trade within the African continent and intercontinental trade with the Middle East and Europe. Figure 4-8, extracted from the CMP Synthesis Report (2023), shows that the EAPP is strategically positioned as a gateway to the following regions:

- Southern African Power Pool (SAPP) through Tanzania,
- Central African Power Pool (CAPP) via the DRC,
- North African regional through Libya, and

- Europe and the Middle East through Egypt.

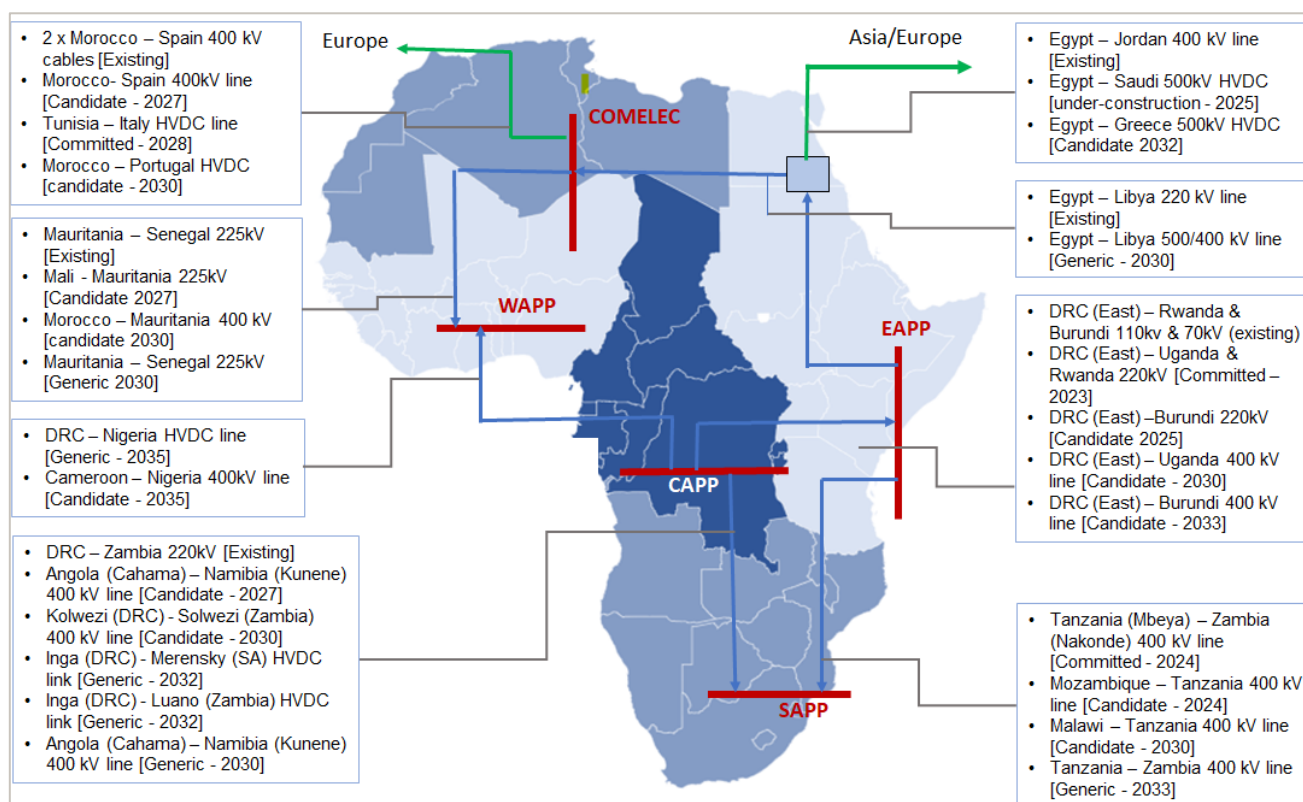


Figure 4-8: Existing and planned interconnections between African regions and with Europe and the Middle East

Tanzania and Burundi are presently connected to other EAPP countries. Burundi is also interconnected with the Democratic Republic of the Congo (DRC), and approximately 3 MW is imported by REGIDESO from the State Electricity Company of the Democratic Republic of the Congo (SNEL) via the joint hydroelectric power plant of Ruzizi I, located along the Ruzizi River, through a 70 kV transmission line. Additionally, Burundi imports power from another hydroelectric plant, Ruzizi II, situated along the Ruzizi River, which is managed by the Great Lakes Community (Communauté Economique des Pays des Grands Lacs or CEPGL), whose members include Burundi, Rwanda, and the DRC. The hydro plant is operated by a special company, SINELEC (Société Internationale d'Electricité des Pays des Grands Lacs) and supplies 13.3 MW to Burundi.

Through the Rusumo HPP, three beneficiary countries, including Tanzania and Burundi, are connected at the 220 kV voltage level as follows:

- Burundi: Rusumo to Muyinga - Gitega (160 km overhead line (OHL)),
- Rwanda: Rusumo to Bugesera – Shango (118 km OHL), and
- Tanzania: Rusumo to Nyakanazi (94 km OHL).

The recently completed 220 kV line from Kigoma (Rwanda) to Ngozi connects Burundi to Rwanda. Additionally, as part of the Ruzizi project, a 220 kV line is planned to run from Kamanyola in the DRC to Bujumbura in Burundi.

Tanzania is presently connected to Kenya through the recently commissioned (2024) 400 kV line from Isinya (Kenya) to Singida (Tanzania). Furthermore, there are 400 kV interconnections planned from Tanzania to Zambia, Malawi and Mozambique, as well as Jiji-Mulembwe (Burundi) – Kigoma (Tanzania) 220 kV interconnector, which is the subject of this pre-feasibility study. Tanzania, due to its strategic location, will serve as a gateway for electricity trade between the Eastern and Southern African Power Pools.

Figure 4-9 shows the existing and future interconnections from Burundi and Tanzania.

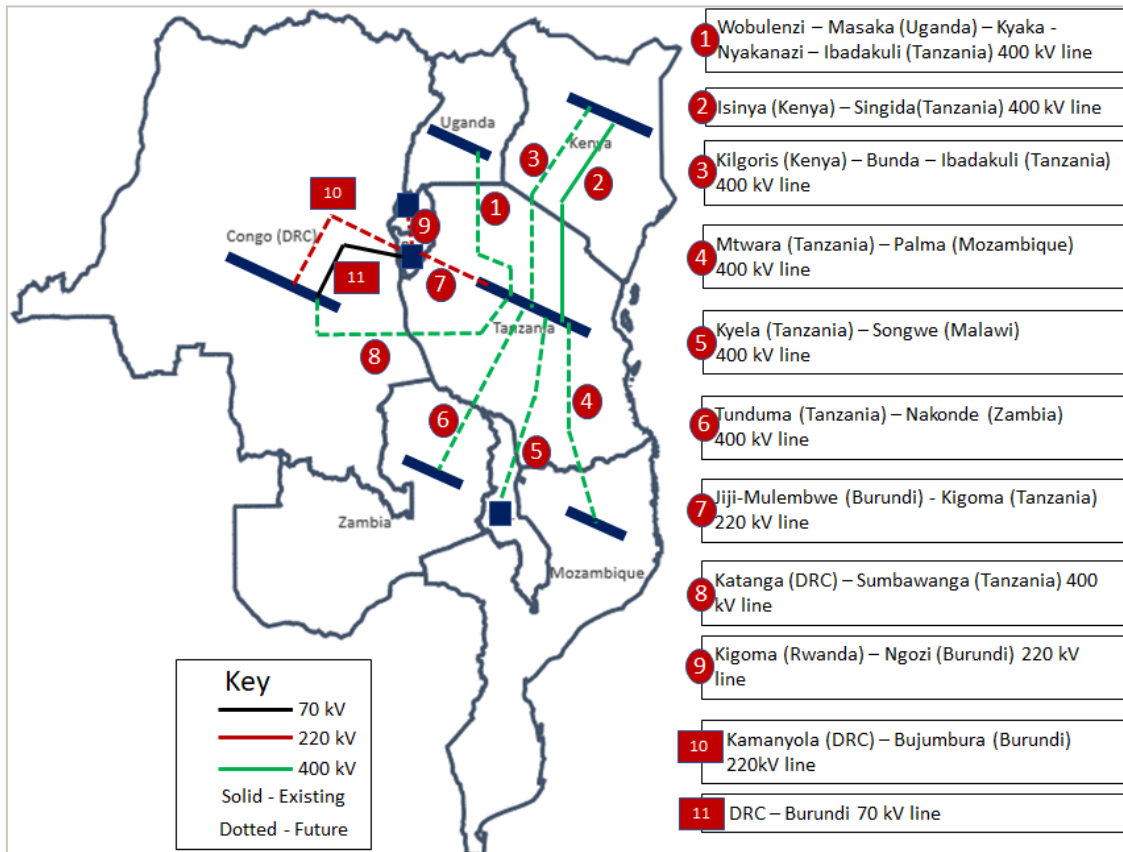


Figure 4-9: Existing and planned interconnections from Burundi and Tanzania.

## 5. Analysis of Country Strategic Objectives

### 5.1 Alignment with Strategic Goals

#### 5.1.1 Burundi

The Burundi National Development Plan (PND) 2018–2027 prioritises investment in the energy sector as a driver of socioeconomic transformation. It emphasises the development of renewable energy resources, the expansion of electricity access, and the establishment of a reliable and affordable supply to stimulate industrial and social development. Complementing this, the country's National Energy Compact (M300) aims to attract over USD 1 billion in private capital for modernised grid infrastructure in line with the 2015 Electricity Act. The plan, backed by the World Bank and African Development Bank, targets universal energy access by 2030, and identifies regional interconnections as critical for bridging supply gaps and enabling access to affordable and clean electricity. Burundi's energy sector further reinforces these objectives by promoting the adoption of renewable energy, decentralising electrification programs to rural areas, and enhancing national energy security through diversified supply options.

While progress has been made, including ongoing efforts to improve governance and transparency, private developers continue to face delays in negotiating Power Purchase Agreements (PPAs) and securing the necessary licenses, highlighting the need for stronger institutional alignment between investor priorities and government objectives.

As of 2025, Burundi had an installed generation capacity of 203 MW, including 49.5 MW from the Jiji and Mulembwe Hydropower Projects (HPPs), commissioned in 2025. National targets require at least 200 MW of new capacity by 2027, with prospects of exceeding 400 MW through regional imports from Ethiopia and Tanzania. The proposed Burundi–Tanzania interconnector directly contributes to these strategic goals. By linking Burundi to a more extensive regional grid, the project:

- Improves security of supply by diversifying sources and reducing dependence on limited domestic capacity and costly diesel generation.
- Supports industrial growth by providing reliable, lower-cost electricity for manufacturing and services.
- Advances universal access targets by facilitating broader electrification, particularly in underserved areas.
- Aligns with regional integration objectives, positioning Burundi as an active participant in the Eastern Africa Power Pool (EAPP) and enabling long-term access to competitive regional power markets.

In this way, the interconnector is not only consistent with Burundi's national energy priorities but also acts as a catalyst for achieving the country's development, industrialisation, and electrification goals within the PND 2018–2027 framework.

#### 5.1.2 Tanzania

Tanzania's Development Vision (TDV) 2025 and the Power System Master Plan 2024 prioritise reliable, affordable electricity to drive industrialisation and rural electrification. With capacity projected to grow to more than 8,000 MW by 2030, large-scale hydropower and renewable energy sources will underpin growth.

Tanzania's National Energy Compact also sets ambitious targets:

- Achieve universal energy access by 2030.
- Expand renewable generation to power industrialisation and rural transformation.
- Strengthen cross-border interconnections to position Tanzania **as a net exporter of** electricity in the EAPP.

The interconnector will:

- Create export opportunities aligned with National Energy Compact commitments.
- Enhance grid resilience through reserve sharing.
- Drive industrial demand growth in support of TDV 2025.
- Expand access, especially in underserved border regions.

## 6. Technical and Economic Feasibility

### 6.1 Generation Impacts

The project's impacts were assessed using the SPLAT/MESSAGE models for Tanzania and Burundi, as well as the PSS@E network models for both countries. The projected trade flows (GWh) were derived from the optimisation conducted in the updated SPLAT–Africa models. The models for Burundi and Tanzania were updated based on the latest data on existing and candidate generation projects.

The PSS@E models for 2030 and 2040 for both countries were developed, and combined models for both countries were created. The models were used to calculate the peak network losses projected over the interconnector and the maximum power transfers (in MW) achievable across the interconnector.

#### 6.1.1 Typical exchange levels between countries and optimal generation dispatch with the projected interconnection

The projected net energy exchanges from Tanzania to Burundi are provided in Table 6-1. It should be noted that significant trade exchanges are expected if demand growth accelerates, in line with the projected demand growth outlined in the Burundi National Development Plan for 2027. Burundi has an electricity access level of about 11.6% ([World Bank, 2023](#)), and high demand growth is projected as electricity access improves among its population of 12 million.

Table 6-1: Projected power exchanges (GWh)

Year	Power Exchanges (Tanzania >>>>Burundi) - GWh High Demand Growth Scenario in Burundi
2030	95
2031	102
2032	110
2033	117
2034	124
2035	131
2036	138
2037	145
2038	152
2039	160
2040	167
2041	218
2042	269
2043	320
2044	371
2045	423
2046	474
2047	525
2048	576
2049	627
2050	678

## 6.1.2 Gains on generation costs due to the interconnection

The simulated annual system costs of electricity production in USD cents per kWh with and without the Burundi–Tanzania interconnector are provided in Figure 6-1. The annual system costs comprise annualised capital investment costs, variable costs, operating and maintenance costs, and fuel costs.

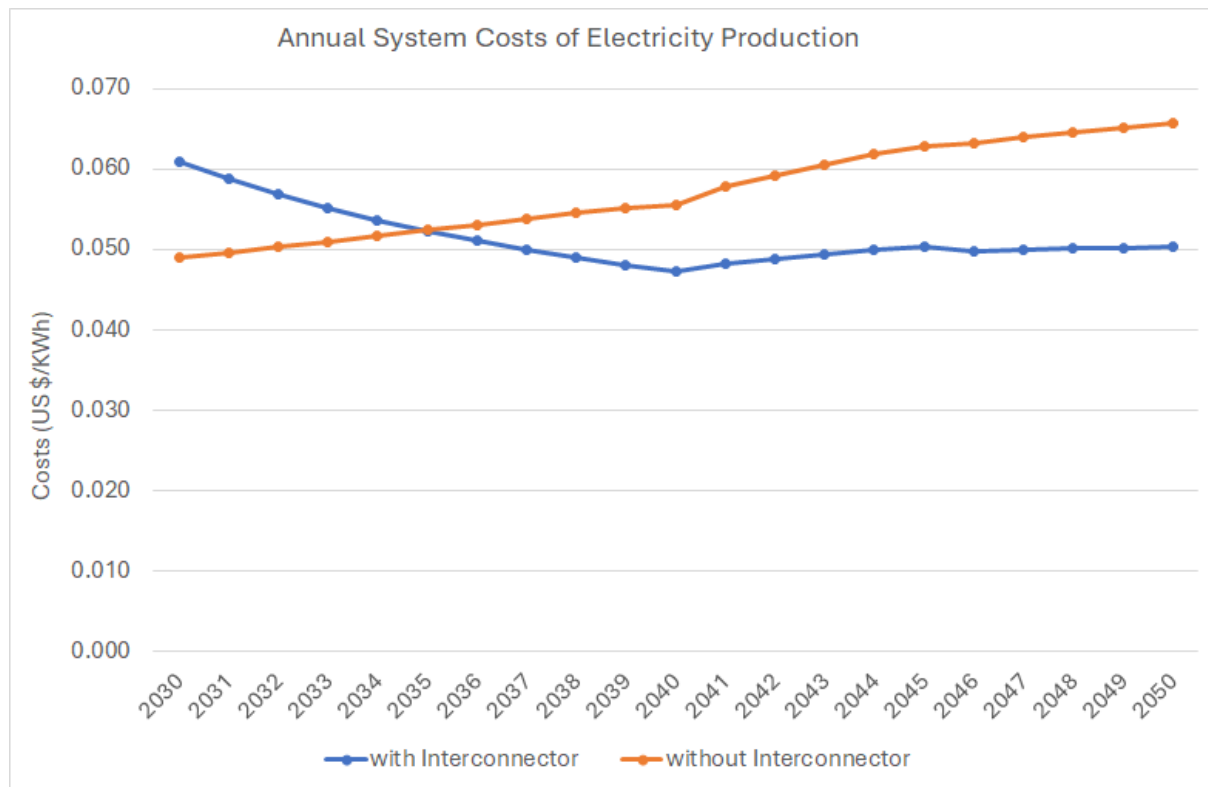


Figure 6-1: Comparison of the electricity production costs in Burundi with and without the interconnector

The graph indicates that, although the annual system costs are higher when the interconnector is built, the costs of overall production will reduce as the utilisation of the interconnector grows over the lifetime of the project. The annual system costs are projected to decrease from approximately USD 0.061/kWh to USD 0.05/kWh for the case with the interconnector, while without the interconnector, the costs increase from USD 0.49/kWh to USD 0.66/kWh.

## 6.1.3 Reduction of greenhouse gases (GHGs)

Figure 6-2 show the projected CO<sub>2</sub> emissions in the two systems of Burundi and Tanzania with and without the interconnector. Although the CO<sub>2</sub> emissions increase, the overall CO<sub>2</sub> intensity per megawatt-hour (MWh) of electricity produced has decreased, as shown in Figure 6-3.

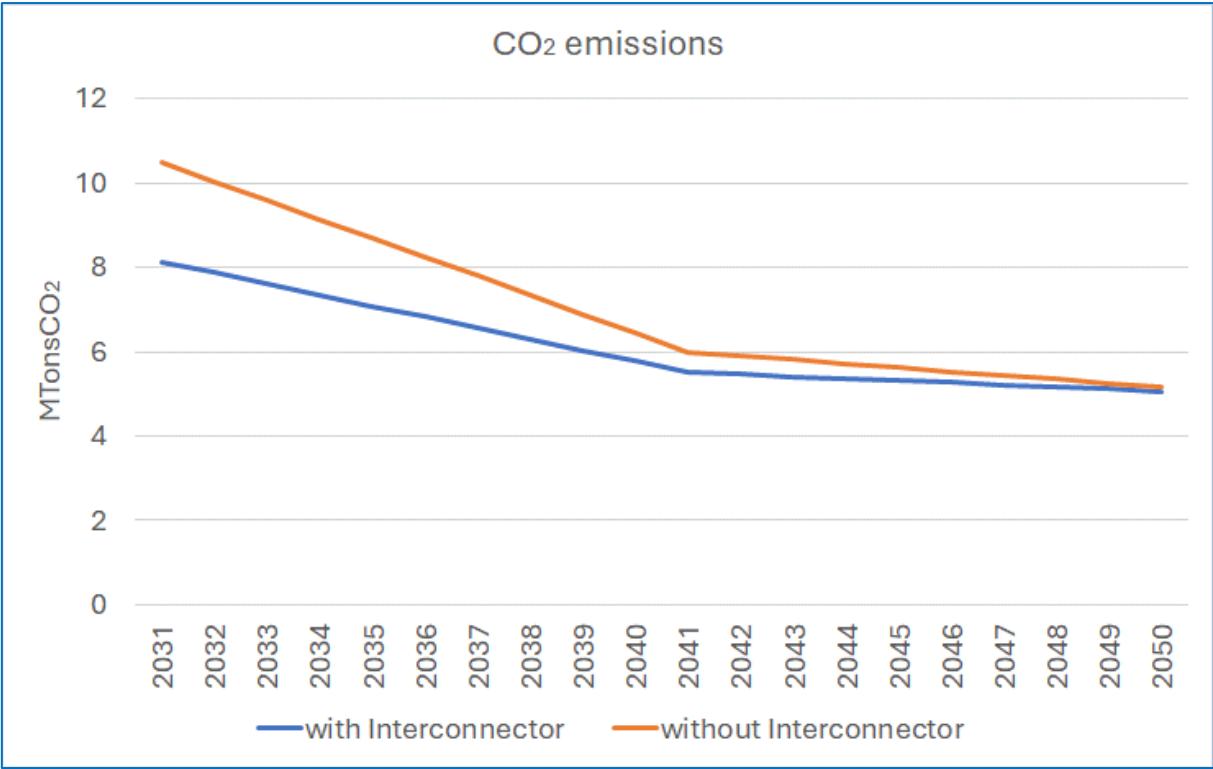


Figure 6-2: CO2 emissions in tonnes with and without interconnector

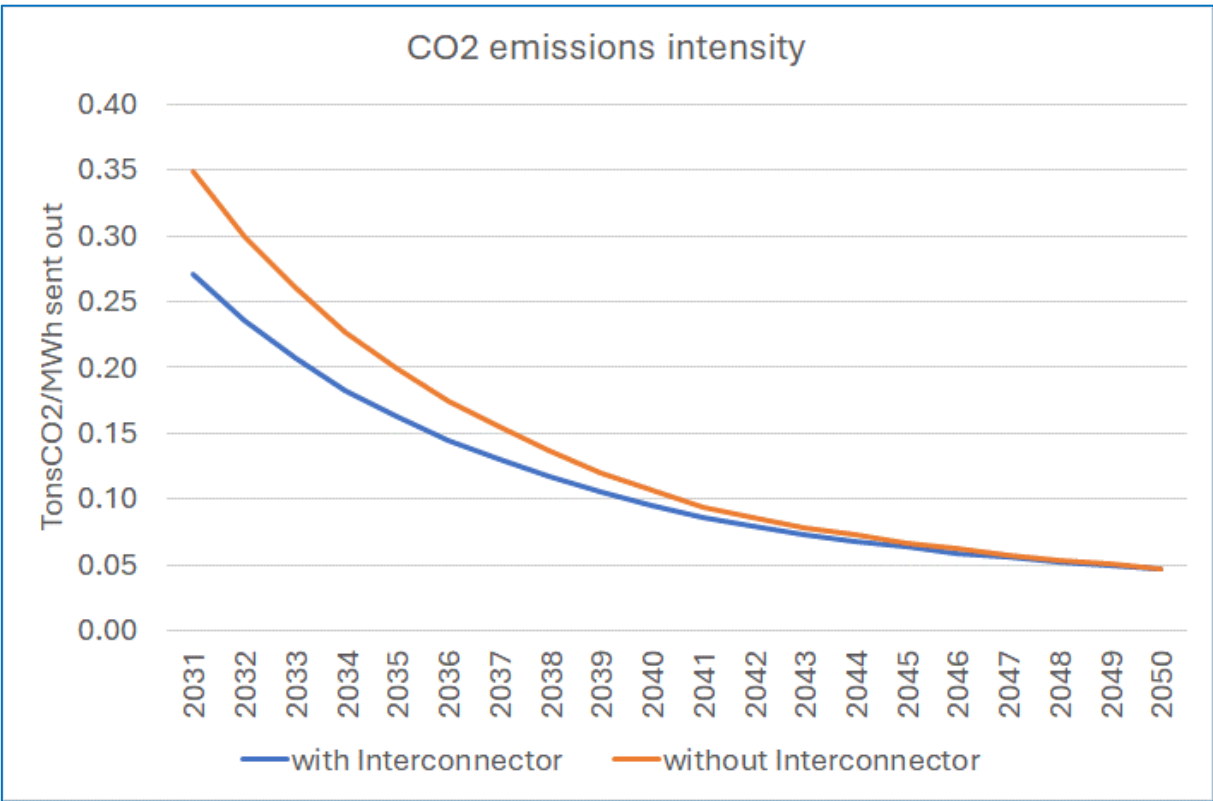


Figure 6-3: CO2 emissions intensity per MWh produced with and without interconnector

## 6.2 Transmission Grid Impacts

Grid analysis was conducted under system-healthy (N-0) and N-1 contingency conditions for the peak loading condition, which represents the network state when the majority of electricity exchange is expected to occur. The planning limits applied are based on the EAPP Planning guidelines and the planning codes in Burundi and Tanzania.

### Definitions

The following definitions were applied for the network operating conditions:

- System healthy (N – 0) means the normal operation of the power system with all the circuits and equipment available and in service.
- N-1 contingency means that one circuit or one plant item is tripped and locked out of service from the system healthy condition.

### Voltage and thermal planning limits

The following criteria, in Table 6-2, Table 6-3 and \*Values in the PSS®E network model were used Table 6-4, was applied to equipment loadings and voltage levels.

*Table 6-2: Voltage planning limits*

Network Condition	Acceptable Voltage Limits
System healthy	0.95 - 1.05 pu
N-1 contingency before corrective actions	0.90 – 1.10 pu

*Table 6-3: Line loading planning limits*

Network Condition	Acceptable Line Loading Limits
System healthy	Rate 1 (Nominal Rating)
N-1 contingency	Rate 2 (Emergency Rating), typically higher than the Nominal rating*

*\*Values in the PSS®E network model were used*

*Table 6-4: Transformer loading planning limits*

Network Condition	Acceptable Transformer Loading Limits
System healthy	Rate 1 (Nominal Rating)
N-1 contingency	Rate 1 (Nominal Rating)

### 6.2.1 Grid computations

Figure 6-4 illustrates the strategic significance of the Burundi–Tanzania interconnector for future power trade in the EAPP. In the interim, from after its commissioning, the project is expected to facilitate power transfer from Tanzania to Burundi. However, Burundi intends to import power from Ethiopia and the region, and this could be possible through the following two routes:

- Ethiopia>Kenya>Tanzania>Burundi (through the Kigoma – Jiji Mulembwe interconnector),
- Rwanda/Tanzania > Burundi (through the Rusumo interconnection), and
- Ethiopia >Kenya>Uganda>Rwanda>Burundi

The project will also facilitate power flow from Rwanda and the DRC into Tanzania, heading towards the Southern African Power Pool. The strategic future significance of this interconnector was also highlighted in the CMP studies, which identified Burundi as a vital transit route for bulk generation anticipated from the Grand Inga Hydro Project towards the SAPP region via Tanzania.

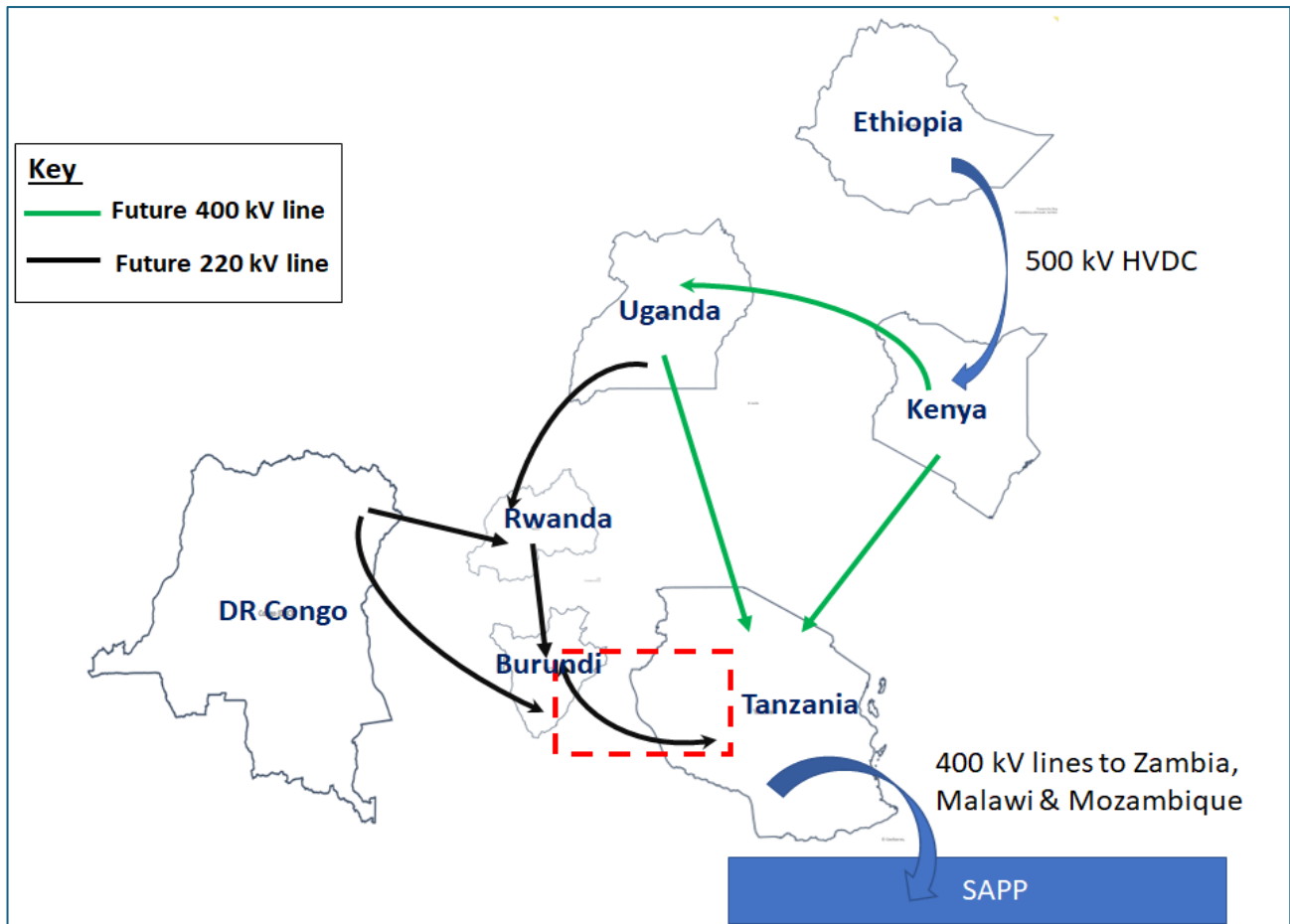


Figure 6-4: Strategic position of the Burundi – Tanzania Interconnector

The study results for the power flows in the Burundi and Tanzania networks directly impacted by the interconnection, as represented in the PSS@E software, included the 400 kV and 220 kV networks in Tanzania, from Nyakanazi to Kigoma (Tanzania) and in Burundi, from Makamba to Horezo and other connections to Jiji-Mulembwe HPP, Rusumo, Gitega, Ngozi and Rubirizi. The following are the key outcomes of the analysis:

- The results obtained for the network for the connection year 2030 indicate that a maximum power transfer of approximately 200 MW is achievable over the Kigoma–Burundi 220 kV transmission line under system healthy (N-0) conditions.
- For N-1 contingency events, the most severe outage in Burundi is the loss of the Horezo–Gitega 220 kV line. Therefore, a second Gitega–Horezo 220 kV line is recommended to enhance network security and ensure continued power flow under this N-1 contingency. Under this contingency, only 90 MW can be transferred from Tanzania to Burundi.
- The network limitations are due to low voltage limit violations at the 220 kV substations in Burundi as the network loading increases.

Power flows across the Burundi – Tanzania interconnector for maximum power transfer under system healthy conditions (N-0), and under the most onerous N- 1 outages are presented in Figure 6-5 to **¡Error! No se encuentra el origen de la referencia.** below.

The study focused on the power transfers from Tanzania to Burundi. The transfers from Burundi to Tanzania were limited to the 110/220 kV transformers at Horezo, set at 250 MVA, in line with the Tanzania–Burundi maximum transfers under system healthy conditions. The larger Tanzania system will be able to absorb larger capacities from Burundi, with the limitation being the Burundi system. Therefore, the transfers from Burundi to Tanzania are limited to 240 MW due to the outage of one of the 110/220 kV transformers at Horezo.

## 6.2.2 Sensitivity on the sizing of the project interconnection

In this study, a comparison was made between the 400 kV double-circuit line and the 220 kV double-circuit line. Figure 6-8 depicts the maximum power transfer with the 400 kV connection. The results with the 400 kV line indicate a maximum transfer of 226 MW, compared to 200 MW with the 220 kV double-circuit line. The maximum transfer is similar for 220 kV and 400 kV connections because the limit is Burundi's network's ability to absorb higher levels of generation without requiring significant strengthening of the future 220 kV circuits. To absorb larger generation levels and support increasing demand, further network reinforcements will be required by building additional 220 kV lines to achieve N-1 redundancy in the network. Figure 6-9 shows the limited transfers of about 88 MW under the Horezo–Gitega 220 kV outage (N-1).

The double-circuit option is chosen over a single circuit to ensure N-1 reliability across the interconnector, as there is presently no interconnector between Tanzania and Burundi. A single circuit line is not preferred because its outage would separate the two systems and limit the power transfer. Additionally, the need to ensure the frequency stability of Burundi, which is a smaller system compared to Tanzania, would result in limited transfers between the two countries to maintain frequency stability in the event of a sudden loss of the interconnector.

A Twin Sorbus conductor, 220 kV, double-circuit overhead line is recommended, with a normal rating of 1,045 MVA and an emergency (full) rating of 1,306 MVA.

## 6.2.3 Impact on power losses

The interconnector peak losses are approximately 4 MW, representing about 2.5% of the power transferred from Kigoma to Horezo, and about 50 MVar of reactive losses during the power transfer.



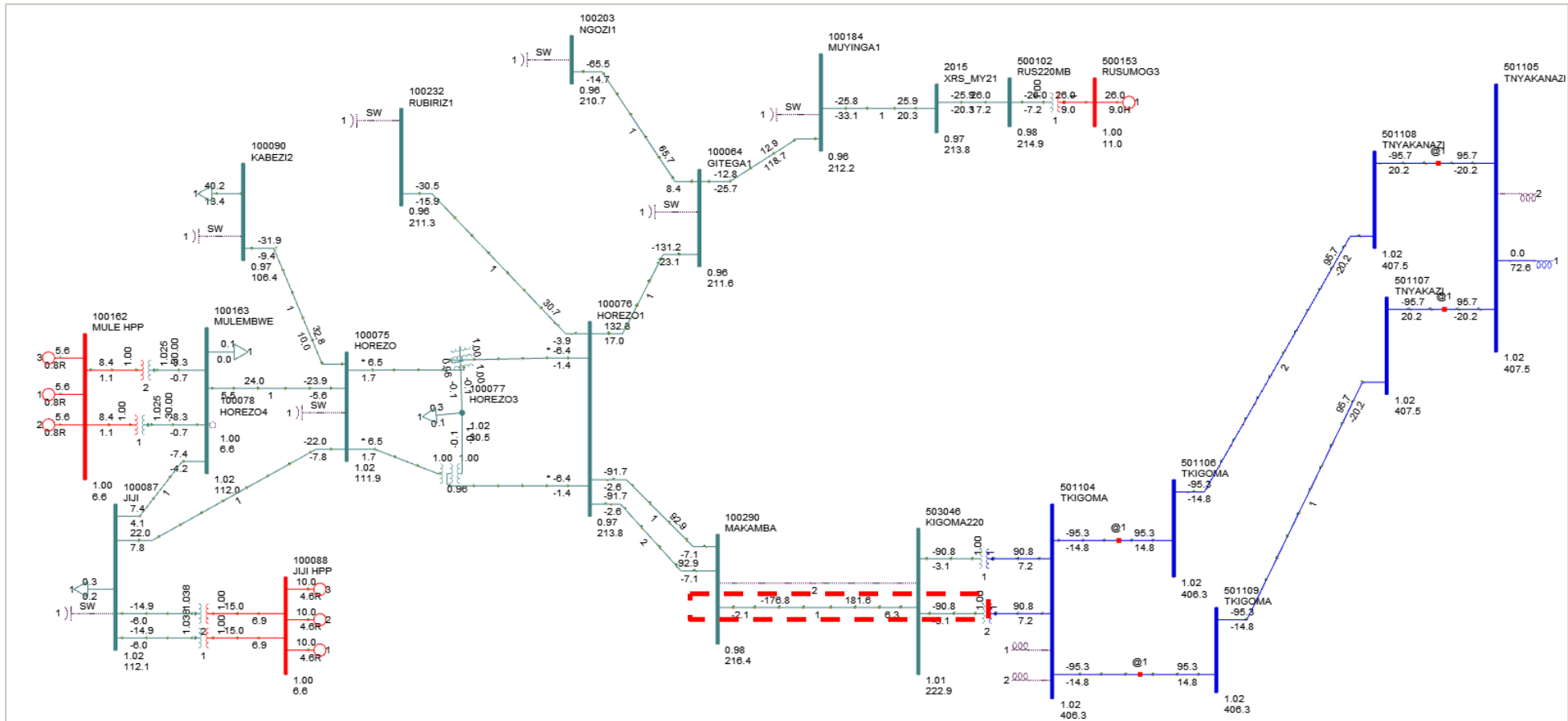


Figure 6-6: 220 kV option - Maximum transfer on 181 MW under the Kigoma – Makamba 220 kV outage condition (N-1)

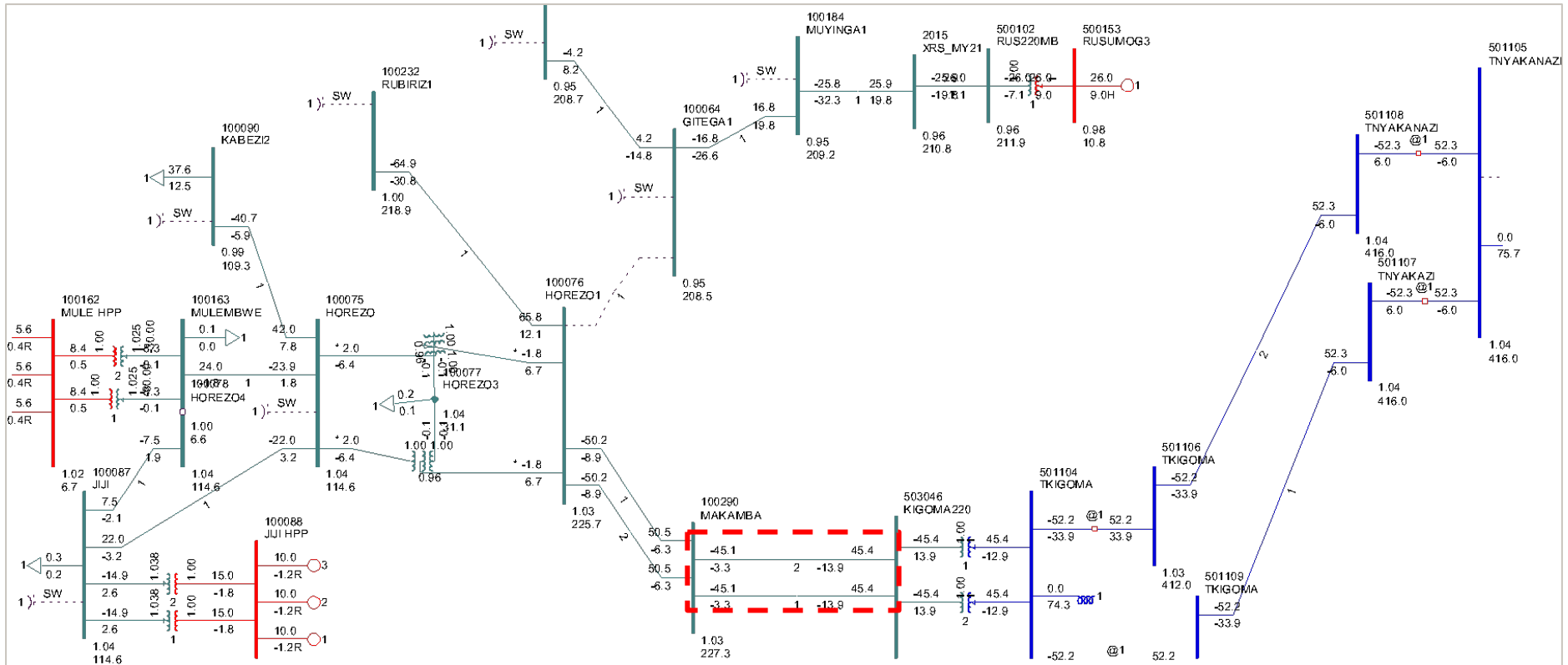


Figure 6-7: 220 kV option - Maximum transfer on 90 MW under the Horezo – Gitega 220 kV outage condition (N-1)

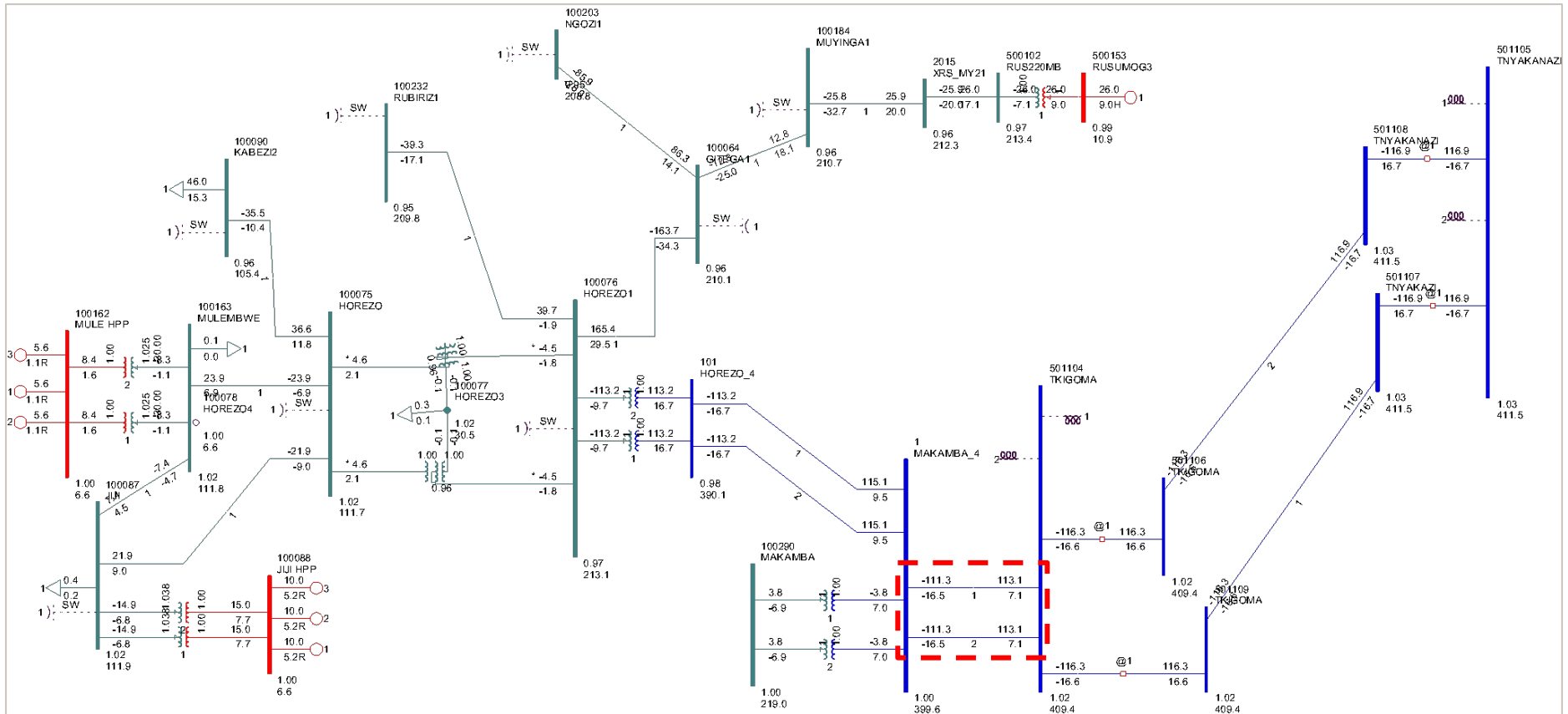


Figure 6-8: 400 kV option - Maximum transfer of 226 MW across the Burundi – Tanzania 220 kV interconnector (Tanzania >>> Burundi)

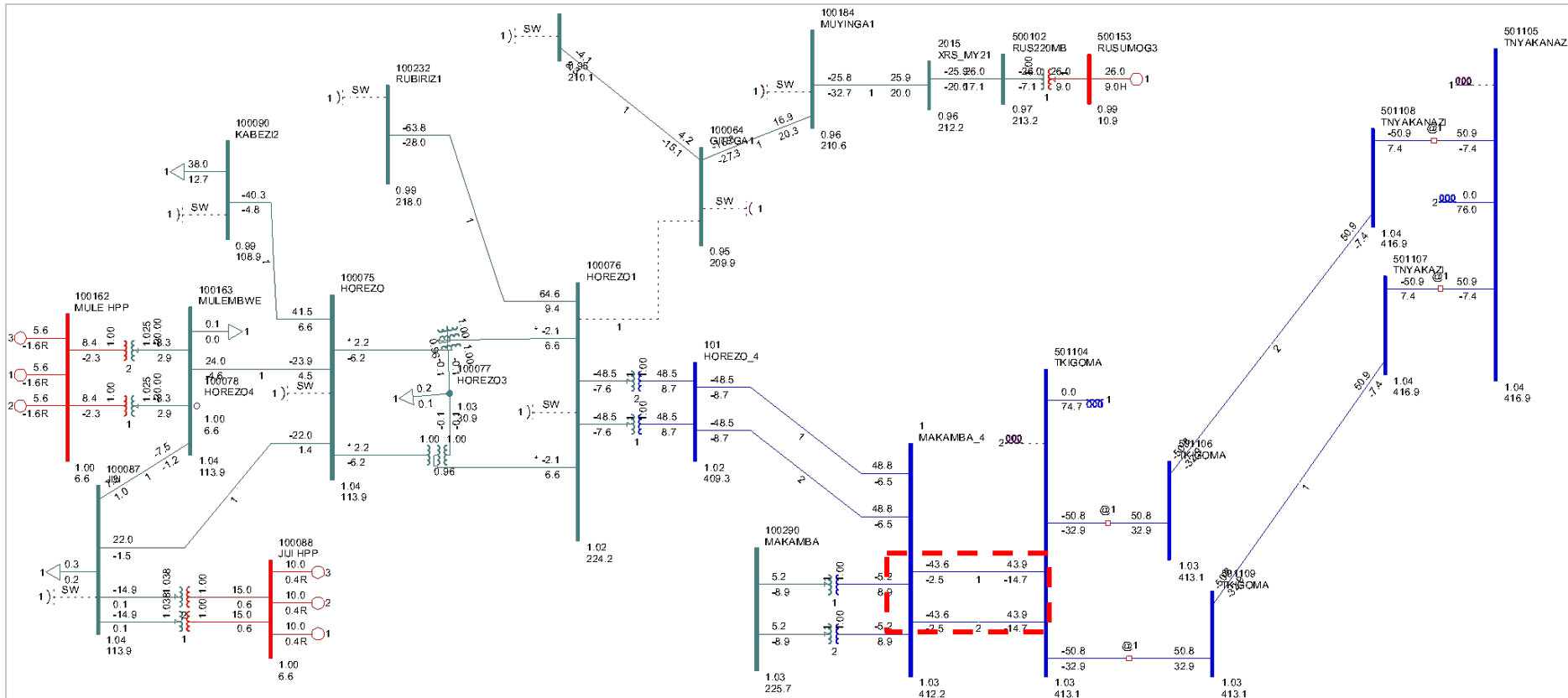


Figure 6-9: 400 kV Option - Maximum transfer on 88 MW under the Horezo – Gitega 220 kV outage condition (N-1)

## 6.3 Economic Analysis and New Business Opportunities

### 6.3.1 Guidelines on Project Appraisal

**Tanzania** has established clear guidelines for project planning and appraisal, particularly when projects involve external financing:

- The “**Guidelines for Project Planning and Negotiations for Raising Loans, Issuing Guarantees and Receiving Grants**” (2020), issued by the Tanzanian Ministry of Finance, guides the preparation and appraisal of projects when seeking loans, grants, or guarantees. Although the publicly available summary does not detail specific appraisal metrics, it indicates that the government adheres to formalised frameworks for project assessment<sup>8</sup>.
- For **public-private partnerships (PPPs)**, Tanzania’s latest Public-Private Partnership Act and Regulations (2023) lay out precise requirements for both **pre-feasibility and feasibility studies**, including their structure, scope, and contents. These include sections on:
  - Executive summary, background, and project description.
  - Preliminary technical, economic, financial, commercial, institutional, legal, environmental/social analyses.
  - Statement of compliance with PPP regulations and required approvals.<sup>9</sup>

For **Burundi**, publicly available information is more limited regarding centrally mandated, standardised project appraisal frameworks. Findings include:

- **Sector-specific analyses** in collaboration with government ministries.
- The energy sector in Burundi shows signs of openness to engage the private sector through PPP laws, potentially easing market entry. However, the country’s low Ease of Doing Business ranking (166 out of 190) suggests that bureaucratic hurdles exist. Collaboration with established stakeholders, both private sector developers and government entities, can create opportunities for new investors to enter the market.

While Tanzania has instituted robust, formal project appraisal systems across government and PPP frameworks, including cost–benefit analysis and IRR measures, Burundi’s process is less documented. There is limited information on robust, government-wide, standardised techniques (e.g., mandatory IRR, NPV, or cost–benefit frameworks) for comparing all projects.

### 6.3.2 Public sector strategic objectives

The Burundi–Tanzania Interconnector project was evaluated against the strategic objectives of the Governments of Burundi and Tanzania, as published in national development plans and energy compacts.

Table 6-5 summarises the policy targets in both countries and the envisaged contribution of the Burundi–Tanzania interconnector towards achieving those objectives.

*Table 6-5: Projected Contribution to the Public Sector objectives*

Policy/Framework	Priority / Target	Contribution of the Burundi–Tanzania Interconnector
Burundi National Development Plan (PND 2018–2027)	Expand access, develop renewables, secure affordable supply	Provides reliable imports to bridge supply gaps; supports electrification and industrialisation; reduces reliance on diesel.
Burundi National Energy Compact (2025)	Universal access by 2030; scale up renewable	Enables cost-effective imports to accelerate universal access; facilitates

<sup>8</sup> repository.mof.go.tz

<sup>9</sup> pppcentre.go.tz

	generation; strengthen regional interconnections	renewable integration by providing balancing capacity through EAPP.
Tanzania Development Vision 2025 (TDV 2025)	Industrialisation driven by reliable energy; rural electrification	Creates stable demand growth through exports; supports electrification in underserved regions; enhances industrial competitiveness.
Tanzania National Energy Compact (2021)	Universal access by 2030; expand renewables; position as net electricity exporter	Operationalises Tanzania's goal of becoming a regional power exporter; supports access expansion and renewable integration.
Eastern Africa Power Pool (EAPP)	Regional integration; cross-border trade; shared reserves	Strengthens grid interconnectivity; enables power trading and system stability; optimises use of regional hydro and renewable resources.
Agenda 2063 (African Union)	Integrated infrastructure; sustainable, inclusive growth	Advances cross-border energy infrastructure; supports inclusive development and regional cooperation.
SDG-7 (Affordable & Clean Energy)	Universal access; renewable energy scale-up; energy efficiency	Directly contributes to universal access targets; enables clean energy trade; supports affordability through reduced costs.
Nationally Determined Contributions (NDCs)	Low-carbon growth; renewable integration; resilience	Reduces fossil fuel reliance; supports renewable integration; contributes to emissions reduction and resilience in both countries.

The Burundi–Tanzania interconnector is not only a transmission investment but a strategic response to critical gaps in electricity access, system reliability, regional integration, and climate resilience. By closing these gaps, the project directly contributes to national energy strategies, the EAPP regional integration agenda, and the UN High-Level Dialogue on Energy Compacts' commitments for universal access by 2030.

*Table 6-6: Projected contribution to addressing existing challenges in both countries*

Identified Gap	Country Context	How the Interconnector Addresses It
Electricity Access Deficit	Burundi: ~12% access (rural <5%). Weak, fragmented grid. Tanzania: ~40%+ access, but rural areas lag.	Provides Burundi with access to Tanzania's diversified supply and regional pool, supporting expanded electricity access in underserved border areas.
Generation Mix & Reliability Challenges	Burundi: Over 90% hydropower, seasonal shortages and blackouts. Tanzania: More diversified (hydro, gas, solar, wind).	Bridges Burundi's deficit with Tanzania's surplus and future generation projects, stabilising supply in both countries.
Regional Market Integration Gaps	Both are members of the Eastern Africa Power Pool (EAPP), but limited transmission links constrain power trade.	Closes a missing link in the EAPP corridor, enabling cross-border trade and regional energy security.
Economic and Social Service Gaps	Burundi: Limited electricity restricts industrial growth, agro-processing, digital services, and public services. Tanzania: Border regions are underserved.	Supports shared economic growth, strengthens power for schools, hospitals, and water services, creating jobs.
Climate Resilience & Sustainability Gaps	Burundi: Reliance on hydropower vulnerable to climate variability. Tanzania: More diversified but still climate-exposed.	Enhances resilience by integrating diverse resources and providing backup supply.

### 6.3.3 Cost-Benefit Analysis

The cost-benefit analysis was conducted considering both the direct and indirect benefits of the interconnector project in Burundi and Tanzania. The **direct benefits** of the Project are summarised below:

- **Improved electricity supply reliability:** The line will traverse rural areas on both sides of the border (southern Burundi and western Tanzania). The presence of the interconnector will facilitate the extension of power to villages in Burundi's Makamba/Rumonge provinces, as well as Tanzania's Kigoma region.
- **Reliability and Redundancy:** The 220 kV tie will establish an alternative supply route to the one created through the Rusumo project. This will contribute to voltage support and frequency stability in a synchronised East African grid
- **Enhancing Regional Power Trade:** The line will interconnect the grids of Burundi and Tanzania, which in turn link into the larger East/Southern African grid. This enables cross-border electricity trade between the two countries and reduces technical losses from optimised power flows along a high-voltage corridor,
- **Burundi has a small, hydro-dependent grid that suffers from chronic energy shortfalls, particularly during dry seasons; connecting to Tanzania opens the possibility of importing power to address these deficits. Conversely, during periods when Burundi's hydropower has surplus (or new plants come online), Burundi could export power to Tanzania.**
- **Burundi's high generation costs, often reliant on diesel backup, could be offset by importing cheaper power. For Tanzania, which is commissioning large generation projects such as the 2,100 MW Julius Nyerere Dam, exporting surplus power to neighbouring countries can generate revenue. In the long term, the line contributes to the vision of an EAPP where countries trade power freely, improve energy security, and foster economic interdependence (promoting stability and cooperation). The new corridor will enhance the electricity trade within the EAPP region through its connection to Tanzania, which will also connect to the SAPP.**
- **This interconnector is strategically crucial for establishing a regional electricity market in East Africa. It will tie to other planned links (e.g., Tanzania–Zambia, Tanzania–Kenya, Uganda–Tanzania) to form a continuous grid linking the EAPP and SAPP regions. Such integration is expected to reduce electricity costs through economies of scale and resource sharing.**
- **The project will lower carbon emissions in Burundi by replacing electricity generated from fossil fuels with hydroelectric power from Tanzania.**

The **indirect benefits** of the project are summarised below:

- **Job creation:** Short-term employment during construction (civil works, line erection, substation upgrades) and permanent jobs for operation and maintenance
- **Economic growth:** Lower energy costs and improved reliability will stimulate local industries, small businesses, and cross-border trade
- **Environmental impact:** Access to clean hydropower reduces reliance on diesel generators, lowering greenhouse gas (GHG) emissions and local pollution. Burundi has relied on diesel generation for peak demand; connecting to Tanzania through at 220 kV will significantly enhance power availability for the region.
- **Regional integration:** Supports East African Power Pool (EAPP) objectives of energy security, trade, and cooperation.

### Comparison of project alternatives

Three alternatives were considered for the cost-benefit analysis. Each option was assessed against capital costs, operation, and maintenance (O&M) costs, technical performance, system integration, and alignment with regional planning frameworks. Three alternatives considered are described below.

#### Alternative 1: Do Nothing Option

- Assessment: The peak demand in Burundi continues to be supplied by internal generation sources within Burundi.

#### Alternative 2: 220 kV double-circuit overhead line (145 km) – Base Option

- Assessment: Balances cost and capacity, fully compliant with EAPP regional standards and provides sufficient flexibility for future demand without incurring excessive upfront investment.

#### Alternative 3: 400 kV double-circuit overhead line (145 km)

- Assessment: Technically robust but requires high upfront costs. The demand requirements in Burundi and expected power flows may not be able to support the investment at the 400 kV voltage level.

The high-level Cost-Benefit Analysis (CBA) was conducted on the three alternatives.

The CBA was conducted in accordance with World Bank Guidelines.<sup>10</sup> The formulas to calculate the economic benefits are provided in [Annexe 2](#). The key economic parameters from the CBA are the Economic Net Present Value (ENPV), Economic Internal Rate of Return (EIRR), and the Benefit-to-Cost Ratio (BCR). Projects financed by the World Bank, in whole or in part, must present economic returns with or without the impact of GHG emissions using valuations of the global cost of carbon as set out in the World Bank guidelines. The impact of carbon emissions was therefore included in the CBA analysis.

The CBA assumptions applied, and the assumptions for calculating the CAPEX for the alternatives are presented in Table 6-7 and Table 6-8, respectively. The CAPEX provided in Table 6-9 were based on the Tanzania Power System Master Plan Update (2024).

Table 6-7: CBA Assumptions

Parameter	Units	Value
Commissioning Year	Number	2030
Economic Life	Number	40
Discount Rate (real)	%	10
Loss Factor on Interconnector	%	2.5
Base Year for Prices	Number	2025
Capacity Cost per MW-year:	EUR per MW/yr	60 345
CAPEX	EUR	Depends on the Alternative
O&M Fixed Per cent of Capex	%	1.5
O&M Variable	EUR/MWh	0.017
Environmental & Social Costs - Per cent of Capex	%	1.5
Annual E&S Monitoring Cost - Per cent of Capex	%	0.01
Carbon Factor tCO <sub>2</sub> _per_MWh	Number	0.7

Table 6-8: CAPEX Assumptions

Parameter	Units	Cost (EUR Million)
400 kV double circuit line	EUR/km	0.35
220 kV double circuit line	EUR/km	0.25
400 kV feeder bay	EUR/feeder bay	1.47
220 kV feeder bay	EUR/feeder bay	1.12
110/220 kV transformer (150 MVA)	EUR/unit	1.33
400/220 kV transformer (150 MVA)	EUR/unit	1.66
110/220 kV transformer bay	EUR/transformer bay	1.21
400/220 kV transformer bay	EUR/transformer bay	1.55

<sup>10</sup> World Bank: Guideline for Economic and Financial Analysis of Regional Electricity Projects

Table 6-9: CAPEX for Alternatives 2 and 3

Parameter	Quantity	Cost (EUR Million)
<b>Alternative 2: 220 kV double-circuit overhead line (145 km) – Base Option</b>		
8 x 220 kV feeder bays (two at Horezo, near Jiji-Mulembwe HPP and Kigoma, and four at Makamba)	8	8.96
145 km x 220 kV double circuit line (Horezo to Kigoma)	145	36.25
4 x 110/220 kV transformer bays (two at Horezo and Makamba)	4	4.84
4 x 110/220 kV transformers (150 MVA), two at Horezo and Makamba	4	5.32
Estimated CAPEX (EUR m)		55.37
Fees for ESIA, Advisory Services, Owners' Engineers, and Contingencies		8.31
Total Project Cost (EUR m)		<b>63.68</b>
<b>Alternative 3: 400 kV double-circuit overhead line (145 km)</b>		
8 x 400 kV feeder bays (two at Horezo, near Jiji-Mulembwe HPP and Kigoma, and four at Makamba)	8	11.76
145 km x 400 kV double circuit line (Horezo to Kigoma)	145	50.75
4 x 110/220 kV transformer bays (two at Horezo and Makamba)	4	4.84
4 x 110/220 kV transformers (150 MVA), two at Horezo and Makamba	4	5.32
4 x 220/400 kV transformer bays (two at Horezo and Makamba)	4	6.20
4 x 220/400 kV transformers (150 MVA), two at Horezo and Makamba	4	6.64
Assumed that a 400/220 kV transformation will be established as part of a separate TANESCO project	-	-
Estimated CAPEX (EUR m)		85.51
Fees for ESIA, Advisory Services, Owners' Engineers, and Contingencies		12.83
Total Project Cost (EUR m)		<b>98.34</b>

The total project costs above for both alternatives were used in the CBA. Based on the grid simulation, power transfers of about 100MW is achievable for the 220 kV and 440 kV alternatives, respectively. The power transfer limit from Burundi to Tanzania is about 240 MW for both alternatives.

## Results of the CBA Analysis

The CBA analysis was conducted for the three alternatives. For each alternative, the CBA parameters for the Economic Net Present Value (ENPV), Economic Internal Rate of Return (EIRR), and Benefit-to-Cost Ratio (BCR) are provided for three scenarios: (1) without considering carbon benefits, (2) with low carbon benefits, based on a low shadow carbon price (SPC), and (3) with high carbon benefits, with high SPC.

Table 6-10 shows the results of the CBA analysis conducted at a 10% discount rate.

Table 6-10: CBA results for the three alternatives

CBA results		Alternatives		
		Alternative 1: Do Nothing	Alternative 2: 220 kV double-circuit OHL	Alternative 3: 400 kV double-circuit OHL
Economic Net Present Value (ENPV) EUR m	No SPC	-54.73	54.87	17.76
	Low SPC	-54.34	55.38	18.28
	High SPC	-54.02	55.50	18.40
Economic Internal Rate of Return (EIRR)	No SPC	-	18.7%	11.9%
	Low SPC	-	18.8%	11.9%
	High SPC	-	18.9%	12.0%
Benefit-to-Cost Ratio (BCR)	No SPC	-	1.80	1.17
	Low SPC	-	1.81	1.17
	High SPC	-	1.82	1.18

Sensitivities were tested for a higher discount rate of 15% and reduced power exports (@ 15% discount rate). The power exports were reduced by 80% under the assumption of lower demand growth in Burundi. Table 6-11 shows the results of the CBA sensitivities.

Table 6-11: CBA sensitivity results for the three alternatives

CBA results		Alternative 2: 220 kV double-circuit OHL		Alternative 3: 400 kV double-circuit OHL	
		15% Discount Rate	Reduced exports	15% Discount Rate	Reduced exports
Economic Net Present Value (ENPV) (EUR m)	No SPC	14.98	13.41	-19.09	-20.66
	Low SPC	15.37	13.79	-18.70	-20.27
	High SPC	15.64	14.07	-18.42	-19.99
Economic Internal Rate of Return (EIRR)	No SPC	18.7%	18.4%	11.9%	11.6%
	Low SPC	18.8%	18.5%	11.9%	11.6%
	High SPC	18.9%	18.6%	12.0%	11.7%
Benefit-to-Cost Ratio (BCR)	No SPC	1.24	1.21	0.80	0.79
	Low SPC	1.25	1.22	0.81	0.79
	High SPC	1.25	1.23	0.81	0.79

The CBA results indicate that the **220 kV double-circuit option is preferred** compared to the 400 kV and do-nothing options. With the power flows decreased and the discount rate increased, the 400 kV option shows a negative ENPV and a BCR below 1.0.

### 6.3.4 Scope of Works of the Burundi-Tanzania 220 kV Interconnector

Figure 6-10 depicts a single-line diagram of the interconnector Project.

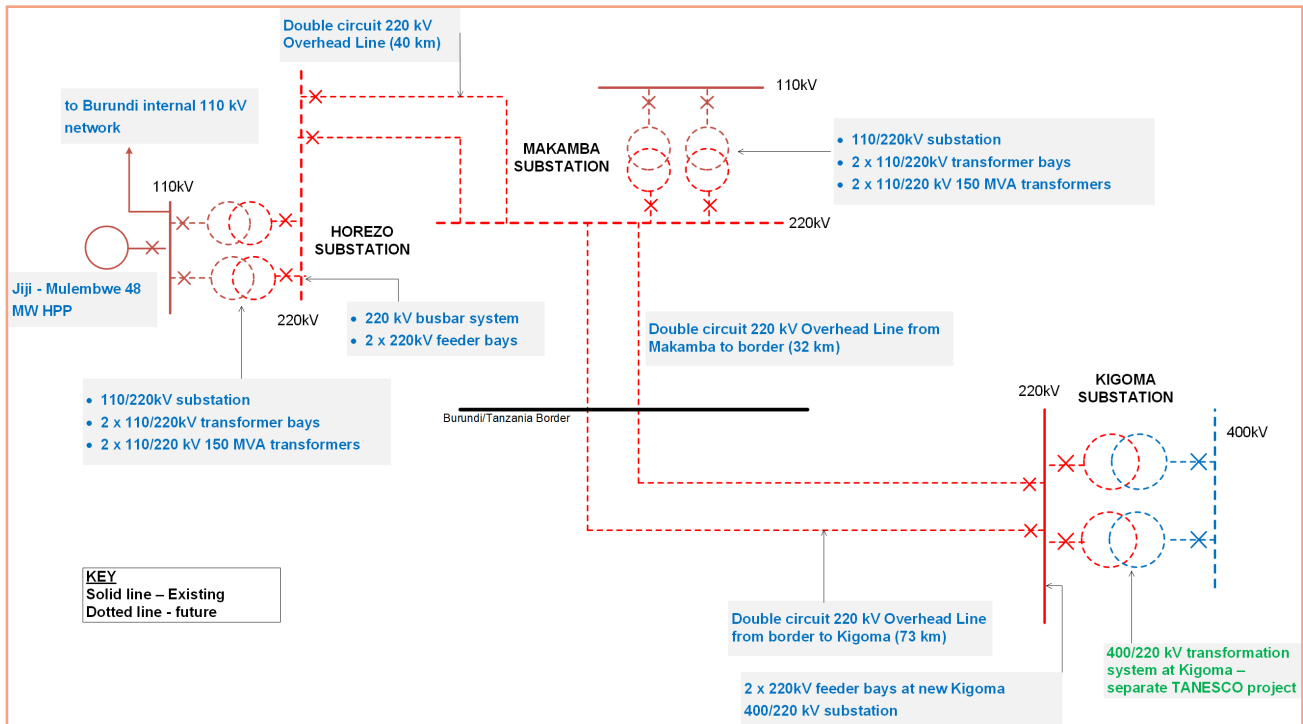


Figure 6-10: Preferred 220 kV Connection Option

The scope of work for the interconnector project consists of:

- Establishing a 220 kV busbar system at Horezo substation (near Jiji-Mulembwe HPP) and Makamba substation,
- 4 x 110/220 kV transformer bays (two at Horezo and Makamba),
- Installing 4 x 110/220 kV 150 MVA transformers (two at Horezo and Makamba),
- Establishing 8 x 220 kV feeder bays (two at Horezo and Kigoma, and four at Makamba), and
- Constructing a 145 km 220 kV double circuit overhead line from Horezo, via Makamba, in Burundi, to Kigoma in Tanzania (line sections in Tanzania and Burundi are both approximately 72 km).

The estimated capital cost for the scope of work is about **EUR 64 million**.

Although the Burundi–Tanzania interconnector originates at the Horezo substation in Burundi and terminates in Kigoma, Tanzania, studies have shown that the transmission strengthening required in Burundi to maximise the interconnector is to build a double-circuit 220 kV line from Horezo to Gitega.

## 7. Preliminary Project Environmental and Social Impact Assessment (ESIA)

### 7.1 Least impact line route

The proposed interconnector between Burundi and Tanzania will be a 145 km, 220 kV transmission line connecting from the new Jiji and Mulembwe hydropower complex in Burundi to a substation in Kigoma, Tanzania. Kigoma is on the eastern shore of Lake Tanganyika, a freshwater lake that also lies to the west of Tanzania. The Jiji and Mulembwe HPP plants, as well as the proposed substation locations, are located in Burunga (formerly Bururi) Province, south-east Burundi. Key infrastructure associated with the interconnector includes transmission lines and towers, access roads, and terminal substations.

Although a full ESIA is required to determine the environmental and social impacts of the interconnector, this report presents a preliminary analysis of the least-impact line route, determined through a desktop exercise. Figure 7-1 depicts the derived preliminary route for the interconnector, traversing from the Jiji-Mulembwe HPP, passing through the Makamba and Mabanda areas, then proceeding to the Burundi-Tanzania border at Mugina, and then to Kigoma via Buhigwe.



Figure 7-1: Indicative line route for the Burundi – Tanzania 220 kV Interconnector

The preliminary line lengths are:

- Burundi section: Horezo substation, near Jiji-Mulembwe, via Makamba substation, in Burundi to the Burundi/Tanzania Border at Mugina – **72 km**
- Tanzania section: Burundi/Tanzania Border at Mugina to Kigoma, in Tanzania – **73 km**

The line lengths in each country are the same.

The preliminary least-impact line route was based on minimising environmental/social risk and construction logistics. The following are the considerations for Burundi :

- The route avoids sensitive habitats by keeping south/east of Bururi Forest Nature Reserve and Vyanda Reserve and limits biodiversity offsets and steep-slope towers.
- Avoids dense settlements around Bururi by staying in lower-density agricultural mosaics across Makamba, to reduce the number of projects affected persons and simplify land acquisition and compensation.

The following are the considerations for Burundi:

- The route avoids the Gombe National Park to the west,
- Avoids the sensitive Lake Tanganyika shores

### 7.1.1 Geographical and Institutional Boundaries

The project falls under the purview of the Government of Burundi's Ministry of Hydraulics, Energy, and Mines and the Government of Tanzania's Ministry of Energy. The implementing agencies will be REGIDESO and TANESCO, respectively, being the utilities responsible for the development and maintenance of transmission infrastructure in the two countries.

**Burundi:** Burunga Province (formerly Bururi, Rutana and Makamba Provinces). Burunga is the largest of the five provinces in Burundi, covering approximately 6,206 sq. km and home to over 2.2 million people. The province's capital is Makamba, and its largest town is Rumonge. Burunga borders Lake Tanganyika to the west and Tanzania's Kigoma Region to the east and south.

**Tanzania:** Kigoma Region (Kigoma, Uvinza, Kasulu districts). The region is one of Tanzania's 31 provinces, with Kigoma as the headquarters. It borders the Burunga province in Burundi and lies in north-western Tanzania, on the eastern shore of Lake Tanganyika. The region lies on a plateau that slopes from the northeast at about 1,750 metres (5,740 ft) down to 800 metres (2,600 ft) at the shore of Lake Tanganyika.

The project area is characterised by a tropical climate with a distinct long wet rainy season beginning from late October to May, followed by a prolonged dry season from June to September. The area features a mix of paved and unpaved roads that require upgrades to facilitate the transportation of line construction materials. There are rail and road transport facilities at Kigoma. Steep slopes, forest reserves, national parks, protected wetlands, floodplains, river crossings, and human settlements characterise the terrain.

### 7.1.2 Land availability

#### Land Acquisition Needs

- Right of Way (RoW) for the line: based on 40 - 60m width over the about 145 km line length
- Substations: ~6–20 hectares per substation.
- Temporary Uses: Campsites, access roads, material laydowns.

#### Land Ownership

- Tanzania: State-owned; managed under Land Act No. 4 of 1999 and Village Land Act No. 5 of 1999. They govern land tenure, administration, and transfer.

- Burundi: Mix of customary and titled land; governed by Land Code 2011/2021. Most land along the transmission corridor will likely be under customary tenure — meaning PAPs may lack formal titles. National expropriation law tends to compensate only titleholders; others may be given disturbance allowances or left uncompensated, unless donor-funded safeguards (e.g., World Bank OP 4.12, IFC PS5) are applied.

### Availability and Constraints

- Rural Areas: Land is generally available but may be occupied.
- Challenges: Land fragmentation, informal tenure, compensation disputes.
- Approach: Conduct RAP; ensure participatory mapping and grievance redress systems.

## 7.2 Environmental and Social Impact Assessment (ESIA) Process

### 7.2.1 Governing laws

The institutions responsible for the ESIA process in Burundi and Tanzania are the National Environment Management Council (NEMC) (Tanzania), Office Burundais pour la Protection de l'Environnement (OBPE).

#### National Environmental Legislation Overview

##### Tanzania

- Environmental Management Act (2004): Full EIA mandatory for transmission lines.
- Land Act (1999) and Village Land Act 1999: Covers land acquisition and compensation.
- Forest and Wildlife Acts: Require special permits in protected areas.
- Occupational Health and Safety Act (2003): Regulates workplace safety.

##### Burundi

- Environmental Code (2019): Requires ESIA for energy infrastructure.
- Land Code (2011/2021): Sets land tenure, acquisition, and compensation.
- Biodiversity & Forestry Laws: Govern conservation zones and species protection.

### 7.2.2 Conducting ESIA – Procedures and Processes

##### Tanzania

Section 81 of the Environmental Management Act, Cap 191, requires all developers of projects identified in the 3rd Schedule of the Act and detailed in the 1st Schedule of the EIA and Audit Regulations of 2005, to undertake Environmental Impact Assessment (EIA).

Section 82 of EMA Cap 181 requires that the EIA be carried out before the commencement or financing of the project. Procedures for carrying out the EIA, identified under the EIA and Audit Regulations of 2005, identify nine key steps to be followed in the EIA process in Tanzania.

Table 7-1 presents a summary of the ESIA process in Tanzania.

Table 7-1: Summary of the Tanzania ESIA process

Step	Responsible	Description
1: Registration	Developer	Register the proposed project with NEMC by applying for the Environmental Impact Assessment (EIA) certificate, filling in a Preliminary Environmental Assessment Registration Form. Use Environmental Experts when filling in the registration form and preparing the project (Regulation 6(3)).
2: Screening	Developer & Consultant	Return three copies of the duly filled application form plus 10 copies of the Project Brief for screening by NEMC as per EIA & Audit Regulations, 2005. Screening report approved within <b>45</b> days (Regulation 10(1)).
3: Scoping	Consultant	Contract an Environmental Expert/EIA Consultant to prepare a Scoping Report and Terms of Reference (TORs) and submit to NEMC for approval before the EIA study—approval within <b>14</b> days (Regulation 13(2)).
4: Environmental Assessment	Consultant	Conduct the EIA study as per approved TORs, EMA Cap. 191, and 2005 Regulations. Duration depends on project complexity.
5: Review	NEMC & Technical Advisory Committee (TAC)	Submit Environmental Impact Statement (EIS)/EIA Report with submission form to NEMC for review by TAC. Site visits may be done at the proponent's cost. Review within <b>60</b> days (Section 87(1) EMA Cap. 191).
6: Recommendations of TAC	Consultant	Consultant incorporates TAC comments and recommendations into the final EIS.
7: Submission to The Minister	Consultant & NEMC	Final EIS submitted to NEMC for scrutiny; NEMC forwards recommendations to Minister for Environment.
8: Approval of the EIS	Minister for Environment	Minister approves/disapproves the EIS within <b>30</b> days (Section 92(1) EMA Cap. 191).
9: Issuance of Certificate	NEMC & Developer	Signed EIA Certificate issued with General and Specific Conditions to be adhered to by Developer.

For a 220 kV transmission line, an environmental approval is granted over an approved corridor spanning the line length and a width of 1km.

The NEMC grants the project owner the right to negotiate actual Right of Way (RoW) (usually 40–60 m width) or servitude to build the transmission line within this approved corridor. To ensure fairness, the land costs are evaluated by the government and independent land evaluators based on designated land use.

## Burundi

The Environmental Code, 2000 (Law No. 1/010 of 30 June 2000), serves as the basis of environmental legislation in Burundi. It mandates that development projects must undergo an EIA to address environmental impacts, requiring proponents to submit an Environmental Impact Statement (EIS).

Decree No. 100/22 of 7 October 2010 subsequently determined the implementation conditions and arrangements of the environmental impact assessment procedure. According to Article 2, Paragraph 1 of the Decree, environmental impact assessments, when prescribed, are subject to prior administrative authorisation by the Ministry of the Environment for planned works. Failure to conduct the impact assessment and ensure its validation in compliance with the Environmental Code, as well as any related authorisation by the Ministry of the Environment, is a substantive procedural flaw that vitiates the authorisation process. The procedure mirrors that in Tanzania, in many respects.

The Directorate General of Environment and Forests (DGEF) under the Burundi Office for Environmental Protection (OBPE), operating within the Ministry of Environment, Agriculture, and Livestock, oversees the EIA process.

The policies and procedures of the African Development Bank likely to be triggered by this project are the Environmental Policy of the African Development Bank Group, 2004, the involuntary displacement Policy,

2003, the Gender Policy, 2001, the policy and guidelines of the Cooperation with civil society, 2001 and the Environmental and Social Assessment Procedures (ESAP) for operations related to Public Sector, 2001.

Policies and guidelines of the World Bank: Environmental Assessment (OP / BP / GP 4.01) and Involuntary Resettlement (OP / BP 4.12) would apply in the context of environmental and social impact assessments.

## Environmental Impact Categories

The relevant environmental impacts to be studied during a full ESIA include:

<b>Impact Category</b>	<b>Description</b>
Biodiversity	Vegetation clearing, disruption of wildlife corridors
Soil & Erosion	Soil disturbance, especially on slopes
Water Resources	Pollution risks during river crossings
Air & Noise	Emissions and dust from equipment and vehicles
Waste	Construction waste, potentially hazardous materials
Visual & Aesthetic	Towers may affect the landscape view
Social	Relocation, disruption to livelihoods, and community safety risks

Some of the preliminary environmental and social impact mitigations will include:

- Route optimisation to avoid sensitive ecosystems and dense populations.
- Reforestation and erosion control in cleared areas.
- Implementation of RAP and stakeholder engagement plans.
- Health and safety protocols for workers and communities.
- Compliance monitoring and periodic environmental audits.

## 8. PPP Suitability and Affordability Screening

### 8.1 Burundi

#### 8.1.1 Private Sector Participation

Although the legal framework exists through PPP Frameworks, private sector participation has been slow due to several reasons.

The following are two examples of private companies active in the Burundian energy sector.

- **Weza Power** is a private utility operating under a Public Private Partnership (PPP) model in the distribution of electricity. It's the result of a multi-year development partnership between Virunga Power (a Gridworks investee company) and the Government of Burundi. It is owned by Anzana Electricity (formerly Virunga Power), which operates small hydro facilities in East and Southern Africa, and the Government of Burundi. It aims to use both RE and conventional power to expand the grid and improve access.<sup>11</sup> Weza Power, despite being in its early stages of operation, has garnered significant funding support from leading partners, including the African Development Bank (ADB), IFC, and the US government.
- **Mubuga Solar Power Station** is a grid-connected 7.5 MW solar power plant. It was constructed in 2021 and has been operating as a small IPP since then.

A transmission line, like all other public infrastructure, must demonstrate that it is economically, technically, and environmentally feasible. It must also be built and operated within an appropriate legal and regulatory framework. The feasibility of the Burundi-Tanzania transmission line is considered under the following limited PPP screening assessment (Table 8-1).

*Table 8-1: Basic screening of the PPP suitability of the Interconnection project in Burundi*

Question/Area of Interest	Response	Suitability
Is there a legal framework for PPP that allows for private sector participation in transmission line?	<ul style="list-style-type: none"> <li>• Electricity Laws               <ul style="list-style-type: none"> <li>○ Law No.1/05 2024</li> <li>○ Law No.1/13 2015</li> </ul> </li> <li>• PPP Law               <ul style="list-style-type: none"> <li>○ Law No.1/19 2019</li> </ul> </li> <li>• Public procurement laws               <ul style="list-style-type: none"> <li>○ No.1/04 2018</li> </ul> </li> </ul>	Yes
Strategic significance/political interest	The Project is likely to receive high-level public interest due to its strategic nature. The project strengthens regional electricity connectivity.	Yes
Technical feasibility/complexity	Technologies to build transmission lines are well established, and no complexity is anticipated. However, the project may require Resettlement Action Plans (RAPs) for project-affected persons.	Yes
The project's size and scope are significant to justify investment costs	The project is about 150 km of 220 kV transmission line and is of significant size in both scope and distance	Yes
Is there appetite for or existing PPPs in the Energy Sector?	PPPs exist in generation and in the distribution network. A PPP for an interconnector would be new in Burundi.	Partial

<sup>11</sup> <https://gridworkspartners.com/2024/04/23/ifc-partnership-weza-power/>

Commercial viability	The electricity demand remains low due to the country's low electricity access levels. However, electricity demand is expected to increase, driven by improving access levels and industrialisation. The prevalence of private and public sector off-takers, as well as their financial reliability, could underpin the project's viability.	Partial
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## 8.1.2 Testing PPP Suitability

Table 8-2 summarises the risks associated with developing the interconnector through private sector participation.

Table 8-2: High level risk assessment

Theme	Risk factor	Risk assessment
Policy and Regulatory	Ease of market entry	The energy sector in Burundi shows signs of openness to engage the private sector through PPP laws, potentially easing market entry. However, the country's low Ease of Doing Business ranking (166 out of 190) suggests that bureaucratic hurdles exist. Collaboration with established stakeholders, both private sector developers and government entities, can create opportunities for new investors to enter the market.
	Clarity of investment priorities	The National Development Plan (PND) 2018-2027 outlines clear investment priorities for the energy sector, emphasising the development of renewable energy resources and the expansion of electricity access. The Ministers' Sector Strategy report further reinforces these priorities by focusing on promoting renewable energy adoption, decentralising electrification programs, and securing energy supplies. However, the delays and uncertainties faced by private sector developers in executing PPAs and obtaining necessary licenses suggest potential challenges in aligning investor priorities with government objectives.
	Certainty of cash flow	REGIDESO, the public utility, struggles to collect unpaid bills, leading to cash flow uncertainties. The government's commitment to energy sector development is evident; however, cash flow uncertainties persist, as exemplified by delays in payments to private sector developers. Improving payment mechanisms and addressing governance issues are crucial for mitigating risks and enhancing investor confidence in the sector.
Power Sector Context	Sectoral track record	The 2015 Electricity Act aims to increase private sector participation in generation. The sector has seen significant progress, with ongoing efforts to improve transparency and international relations. Challenges persist, including low consumer purchasing power and limited access to the grid. An interim PPP has been signed for a private distribution company (Weza Power) to take over rural distribution (up to 70% of the country). Off-grid solutions are also being explored.
	Sectoral growth	The adoption of renewable energy sources, such as hydro and solar, is increasing to reduce diesel dependency. Efforts to expand grid distribution and boost energy demand are ongoing, yet challenges persist regarding affordability and industry development.
Country Context	Governance and political	Governance reforms are progressing, and increased transparency could accelerate the economic and governance efforts. The country is stable, and while the rule of law is generally respected, challenges persist in its implementation.

	<b>Business environment</b>	Access to financing from international financial institutions (IFIs) may be limited, affecting the availability of funding support for investment projects in the electricity sector.
	<b>Macro-economic framework</b>	Inflation remains relatively high, prompting a policy focus on containment. Policy emphasises fiscal consolidation to address economic challenges. Real GDP growth is expected to accelerate, driven by investment in capital projects and export earnings from the mining and agricultural sectors. Foreign exchange risk is manageable, with a policy aimed at strengthening FX reserves. All this contributes to structural issues affecting the electricity sector.
	<b>Banking and capital markets</b>	Burundi faces economic challenges due to underdeveloped banking and capital markets, which limit access to financial services and hinder investment opportunities and growth. Foreign aid is often crucial for the development of infrastructure and energy projects.
<b>Project Context</b>	<b>Project Size</b>	Burundi has recently completed the 48 MW Jiji-Mulembwe HPP with its associated 110kV lines. Additionally, 220 kV networks have been constructed from Rusumo to Gitega, demonstrating the country's ability and experience in developing 220 kV line projects.
	<b>Construction Considerations</b>	The experience of contractors who have recently undertaken the construction of the 220 kV lines in Burundi will mitigate the risk of insufficient contractor country presence and experience, which often drives up project costs.

Private sector participation could succeed in Burundi under a PPP arrangement. However, models such as the Independent Power Transmission (IPT) model, where the private sector mobilises all the financing, could prove difficult for an interconnector project.

### 8.1.3 Affordability Considerations

The scope of **PPP** contracts covered by the law (**Article 3**) is broad and includes 'design, financing, construction or transformation, operation, management, upkeep or maintenance of works, equipment or intangible assets' as part of a public service. Whilst the ARCP has the mandate to regulate PPP contracts, it also has the final mandate to determine the remuneration of the private sector participant under **Article 7**.

However, the remuneration of the investors is limited to any of the following:

- i. Performance-based contract with payments linked to achieving mutually agreed performance output, milestones or service delivered throughout the term contract;
- ii. Revenue sharing of the amounts collected from the operating revenues of the asset or service under the contract; and
- iii. A fixed fee or amount paid by the public partner and may include a supplementary variable linked to revenue sharing or performance.

## 8.2 Tanzania

### 8.2.1 Private Sector Participation

Tanzania has successfully attracted private investment in its electricity sector. The following are two examples of private companies active in the Tanzanian energy sector. **Songas** is an IPP owned by Globeleq, with a few shares by the Government entities, while **Symbion Power** is an Independent Power Producer.

**Songas** is a leading Tanzanian gas-to-power company which generates 189 MW of electricity. Using gas from the Songo gas reserves, Songas also processes and transports natural gas to other power

generators and industrial customers. Since July 2004, Songas has been a key provider of essential electricity to the Tanzanian grid. By utilising the country’s own natural gas resources, the Songas facility continues to supply the most cost-effective energy to the region and provides an alternative source of generation. Globeleq owns 54% of the shares in Songas and operates the plant. The Government of Tanzania owns more than 40% of the shares in Songas through shareholdings held by TANESCO, TPDC and TDFL. Globeleq is a leading independent power producer which operates and develops power projects in Africa. Globeleq is owned by CDC (70%) of the UK and Norfund (30%) of Norway.<sup>12</sup>

**Symbion Power** is a New York-based Independent Power Producer (IPP) that develops, builds, and operates generation, transmission, and distribution projects. Symbion has built, owned, and operated three thermal power plants in Tanzania with a total capacity of 217 MW. The power plants include a 120 MW natural gas-fired power plant in Ubungo, Dar es Salaam and two emergency power plants at Dodoma (55 MW) and Arusha (50 MW) that deliver power to the national grid<sup>13</sup> The contracts for these power plants expired, and they were acquired by TANESCO.

Other small power producers (SPPs) include Tanganyika Wattle Company Ltd (1.5 MW), TPC Ltd (9 MW), Andoya (1 MW), Mwenga (1 MW), Tulila (5 MW), Yovi (0.95 MW), Matembwe (0.59 MW), Darakuta (0.32 MW), Luponde (0.9 MW), and the Kigoma Solar project (5 MW).<sup>14</sup> .

The feasibility of the Burundi-Tanzania interconnector is considered under the following limited PPP screening assessment (Table 8-3).

Table 8-3: Basic screening of PPP suitability of the interconnection project in Tanzania

Question/Area of Interest	Response	Suitability
Is there a legal framework for PPP that allows for private sector participation in transmission line?	The Public Private Partnership (Amendment) Act No. 4 of 2023 (PPP Amendment Act), which amended the Public Private Partnership Act, Cap. 103 R.E. 2019 (PPP Act) became operational in 2023. The changes introduced by the PPP Amendment Act demonstrate the Government’s continued proactive approach towards making Tanzania a preferred investment destination.	Yes
Strategic significance/ political interest	The Project is likely to receive high-level public interest due to its strategic nature. The project strengthens regional electricity connectivity.	Yes
Technical feasibility /complexity	Technologies to build transmission lines are well established, and no complexity is anticipated. However, the project may require Resettlement Action Plans (RAPs) for project-affected persons.	Yes
The project’s size and scope are significant to justify investment costs	The project is about 150 km of 220 kV transmission line and is of significant size in both scope and distance	Yes
Is there appetite for or existing PPPs in the Energy Sector?	PPPs exist in generation, and most interconnectors have been implemented through concessional loans. A PPP for an interconnector would be new in Tanzania, and structuring such a PPP involving two countries may be complex.	Partial
Commercial viability	Tanzania has a strategic goal to be an electricity exporter in the region, and its strategic location between the southern and eastern African electricity networks will make it a hub for power exchange. However, the viability of the project will	Partial

<sup>12</sup> About Songas

<sup>13</sup> Ubungo, Dodoma, and Arusha Power Plants | 225MW | Symbion Power – Symbion Power

<sup>14</sup> TANESCO Financial Statements for the year Ended June 2023  
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	depend on a credible off-take market and sufficient demand in Burundi.	
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## 8.2.2 Testing PPP Suitability

Table 8-4 summarises the risks associated with developing the interconnector through private sector participation.

Table 8-4: High level risk assessment

Theme	Risk factor	Risk assessment
Policy and Regulatory	Ease of market entry	Tanzania has a PPP Act (2010, amended 2018) and regulations that outline frameworks for private participation. However, approval processes can be lengthy and bureaucratic. Political will exists to promote PPPs, but inconsistent application of rules may deter investors.
	Clarity of investment priorities	Tanzania's Development Vision 2025 and national investment plans highlight infrastructure, energy, and transport as PPP priorities. However, shifting sectoral priorities and delays in project approval sometimes create uncertainty for investors.
	Certainty of cash flow	State utilities (such as TANESCO) face financial constraints and have struggled to make timely payments in past PPP projects. This creates risks around revenue certainty. The government is working to enhance cost-reflective tariffs and strengthen payment guarantees.
Power Sector Context	Sectoral track record	Tanzania has successfully executed large-scale PPPs (e.g., energy and road projects). However, challenges in project execution, land acquisition disputes, and delays in reaching financial close show an uneven track record.
	Sectoral growth	Strong demand for energy, transport, and ICT creates growth opportunities for PPPs. However, affordability remains a challenge, with limited consumer purchasing power affecting the sustainability of user-pay models.
Country Context	Governance and political	Tanzania has a strong legal system, but has recently experienced political challenges. Perceptions of bureaucratic inefficiencies and a lack of transparency in procurement processes remain concerns for the implementation of PPPs.
	Business environment	Access to financing from international financial institutions (IFIs) may be limited, affecting the availability of funding support for investment projects in the electricity sector. Tanzania was ranked 141 out of 190 economies in the World Bank's Ease of Doing Business 2020 report (score: 54.5)
	Macro-economic framework	Tanzania's economy is growing steadily (with GDP growth of over 5% in recent years). Inflation and forex volatility are moderate risks but generally manageable. Government debt levels are increasing, which could affect fiscal space for PPP guarantees.
	Banking and capital markets	The financial sector is expanding, but long-term financing instruments are limited. A heavy reliance on international financial institutions and development partners is necessary for the viability of PPPs.
Project Context	Project Size	Tanzania has experience with large PPP projects (e.g., Dar es Salaam Bus Rapid Transit, gas-to-power projects). Project complexity across the transport, power, and port sectors demands robust capacity-building. Additionally, the 400 kV networks established within Tanzania and

		extending from Kenya into Tanzania demonstrate the country's ability and experience in developing high-voltage transmission line projects.
	<b>Construction Considerations</b>	Local contractor experience is improving, but large PPPs often depend on foreign firms with higher capacity. Risks include delays due to land disputes, procurement inefficiencies, and inadequate local supply chains.

Private sector participation could succeed in Tanzania under a PPP arrangement. However, new models such as the Independent Power Transmission (IPT) model, in which the private sector mobilises all financing, could prove problematic for an interconnector project.

### 8.2.3 Affordability Considerations

The Electricity Act, 2008 (Cap. 131) grants EWURA authority over electricity tariff regulation. The EWURA Act, Cap. 414 formalises EWURA's role as an independent regulator responsible for tariff approvals and rate-setting. EWURA reviews and regulates rates either on application or at its own initiative.

The Energy and Water Utilities Regulatory Authority (Tariff Application and Rate Setting) Rules, 2017, made under Section 40 of the EWURA Act, govern matters related to tariff applications, rate setting, and approvals in the water sector, electricity, and natural gas sub-sectors in Tanzania Mainland. EWURA is adequately positioned to handle the tariff approvals for the Power Purchase Agreement that will be required between Burundi and Tanzania.

## 8.3 Outcome of the PPP Suitability Test

While PPPs have been successfully implemented in the electricity sector in Burundi and Tanzania, they have primarily been in the generation sector. In contrast, the development of the transmission sector remains under the monopoly of the state-owned power utilities, TANESCO (Tanzania) and REGIDESO (Burundi).

The concerns with implementing a PPP for the Burundi–Tanzania Interconnector include:

#### Policy and Regulatory

Burundi and Tanzania each have PPP frameworks, but their regulatory requirements, licensing procedures, and approval processes may differ, which could potentially lead to delays or conflicts. Harmonising agreements and ensuring energy market alignment via the Eastern African Power Pool is possible but may be bureaucratically complex if a private sector investment is involved in the interconnector.

#### Financial and Cash Flow

Both REGIDESO (Burundi) and TANESCO (Tanzania) have histories of delayed payments to IPPs, raising concerns about the stability of revenue for a PPP interconnector. Revenues in local currencies versus debt in foreign currency also create foreign exchange exposure. Both countries have relied on international donors and development partners to fund large infrastructure projects, such as transmission lines. Attracting private capital in an interconnector would be a pilot project.

#### Project-specific issues

A transmission interconnector requires coordinated land acquisition, resettlement, and environmental clearances in two jurisdictions, which could be a significant source of risk that discourages private investment. Suitable operation will depend on adequate cross-border coordination and tariff agreements, and an underdeveloped institutional capacity could create long-term operational risks for the private sector.

#### Summary

In summary, the main concerns of a PPP for the Burundi–Tanzania Interconnector include regulatory alignment, financial sustainability, creditworthiness of power utilities, governance differences, and

technical and operational risks. While such projects support regional integration and grid stability, investors will likely demand strong guarantees, donor involvement, and harmonised cross-border governance frameworks to mitigate risks. While there could be attempts to explore PPPs for in-country transmission networks, there may be limited appetite in both countries for a PPP on an interconnector. Both countries' legal and institutional frameworks are equipped to handle infrastructure projects developed through concessional financing.

## 8.4 Preparation for Next Stage

The following activities will be required to facilitate full Project Feasibility Studies:

- Drafting Terms of Reference (ToRs) for Stage 2, which entails conducting a detailed Feasibility Study, including ESIA,
- Environmental and Social Impact Assessment (ESIA) studies,
- Resettlement Action Plan (RAP), and
- Comprehensive economic and financial analyses.

## 9. Project Screening

### 9.1 Summary

The Burundi (Jiji-Mulembwe) – Tanzania (Kigoma) 220 kV interconnection is a 145 km overhead transmission line planned to run from Jiji-Mulembwe in south-western Burundi to Kigoma in north-eastern Tanzania. The direct benefits of the Burundi–Tanzania interconnection include improved reliability and redundancy of electricity supply, enhanced regional power trade, reduced power deficits, cheaper power supply, support for a regional electricity market in East Africa, and lower carbon emissions.

While PPPs have already been successfully implemented in the electricity sector in Burundi and Tanzania, these have been largely in electricity generation. In contrast, the development of the transmission grids still remains under the monopoly of the state-owned power utilities. The key concerns of a PPP for the Burundi – Tanzania Interconnector lie in regulatory alignment, financial sustainability, power utility creditworthiness, governance differences, technical execution and operational risks. Consumer affordability is a challenge in Burundi and Tanzania, with limited purchasing power affecting the sustainability of user-pay models. A further PPP-related challenge is the slow pace of industrial development in Burundi.

Burundi has implemented essential reforms to strengthen the regulatory framework within the electricity sector, but further sector reforms may be necessary to boost competition. Tanzania has adequately strengthened the role of its independent electricity sector regulator. Based on the precedent set in recently completed interconnection projects in the EAPP region, project financing is apportioned to each country based on the length of the interconnector within its territory.

The CBA results from this pre-feasibility study indicate that the 220 kV double-circuit option for the Burundi (Jiji-Mulembwe)–Tanzania (Kigoma) interconnection is better than the 400 kV or do-nothing options. The Economic Internal Rate of Return (EIRR) in this case is 19% even without considering carbon benefits, leading to a Benefit-to-Cost (BCR) ratio of 1.8. The estimated capital cost of the Burundi–Tanzania 220 kV double-circuit interconnection is about EUR 64 million.

## 9.2 Project Description

The Burundi (Jiji-Mulembwe) – Tanzania (Kigoma) 220 kV interconnection is a 145 km overhead transmission line planned to run from Jiji-Mulembwe in south-western Burundi to Kigoma in north-eastern Tanzania (Figure 9-1).

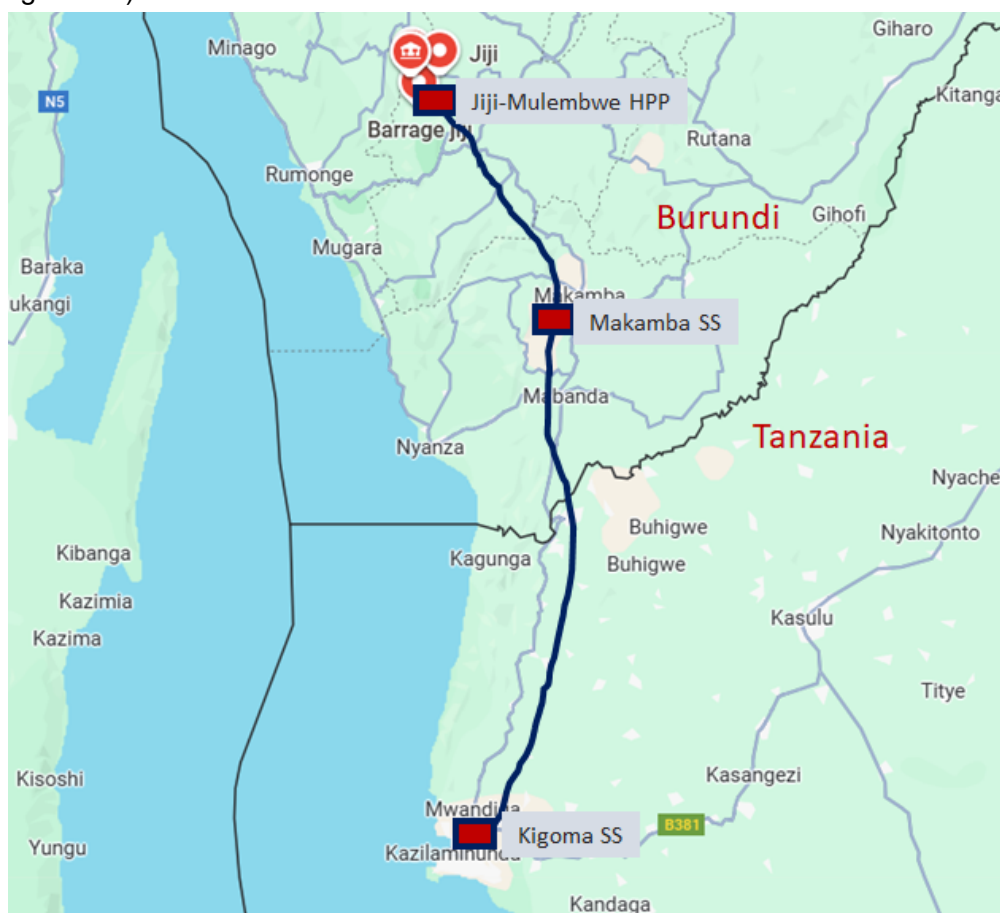


Figure 9-1: Burundi – Tanzania 220 kV line Interconnection [not actual detailed route]

On the Burundi side, the Horezo 220/110 kV substation has been established near the Jiji–Mulembwe Hydropower Plants (HPPs), stepping up the voltage from the hydropower station's output (110 kV) to 220 kV for transmission. From the Horezo substation, a 220 kV transmission line will be built to pass through the new Makamba 220 kV substation before traversing the border into Tanzania. On the Tanzania side, the Kigoma substation will be the receiving end, equipped with a 400/220 kV transformation to integrate into Tanzania's 400 kV network.

## 9.3 Project Benefits

The direct benefits of the Burundi–Tanzania interconnection are:

- Improved electricity supply reliability: The interconnection will traverse rural areas on both sides of the border and will facilitate the extension of power to villages in Burundi's Makamba and Rumonge provinces and to Tanzania's Kigoma region.
- Improved redundancy: The 220 kV interconnection will establish an alternative supply route to the one created through the Rusumo HPP, contributing to voltage support and frequency stability in a synchronised East African grid.
- Enhanced regional power trade: The line will interconnect the grids of Burundi and Tanzania which link into the larger East/Southern African grid, enabling cross-border electricity trade between the

two countries and reducing technical losses from optimised power flows along a high-voltage corridor.

- **Reduced power deficits:** Burundi has a small hydro-dependent grid that suffers from chronic energy shortfalls, particularly during dry seasons; connecting to Tanzania opens the possibility of importing power to address these power deficits. Conversely, during periods when Burundi's hydropower has surplus (or new plants come online), Burundi may export power to Tanzania.
- **Cheaper power supply:** Burundi's high generation costs, often reliant on diesel backup, could be offset by importing cheaper hydropower from Tanzania, the revenue from which will also benefit Tanzania.
- **Contribution to a regional electricity market in East Africa:** The Burundi-Tanzania interconnection will tie to other planned links to form a continuous grid linking the EAPP and SAPP regions, which is expected to reduce electricity costs through economies of scale and resource sharing.
- **Lower carbon emissions:** The interconnection will lower carbon emissions in Burundi by replacing electricity generated from fossil fuels with hydroelectric power from Tanzania.

## 9.4 PPP Suitability

While PPPs have already been successfully implemented in the electricity sector in Burundi and Tanzania, these have been largely in electricity generation. In contrast, the development of the transmission grids still remains under the monopoly of the state-owned power utilities.

The key concerns of a PPP for the Burundi–Tanzania Interconnector include regulatory alignment, financial sustainability, power utility creditworthiness, governance differences, technical execution, and operational risks. While there may be attempts to explore PPPs for in-country transmission networks, there may be limited appetite in both countries for a cross-country interconnector PPP. Private investors will likely demand strong guarantees, donor involvement, and harmonised cross-border governance frameworks to mitigate risks.

## 9.5 Affordability Analysis

The ARCP has the mandate to regulate PPP contracts in Burundi, including the determination of the remuneration of private sector participants. The remuneration of private investors in Burundi is limited to performance-based contracts, revenue sharing, or a fixed fee. EWURA has authority over electricity tariff regulation in Tanzania and is well-positioned to handle tariff approvals for the PPAs that will be required between Burundi and Tanzania.

Consumer affordability is a challenge in Burundi and Tanzania, with limited purchasing power affecting the sustainability of user-pay models. A further PPP-related challenge is the slow pace of industrial development in Burundi.

## 9.6 Legal and Regulatory Issues

Burundi has implemented essential reforms to strengthen the regulatory framework within the electricity sector. Nonetheless, tariffs remain modest, investment proceeds at a slow pace, and the tariff approval process is subject to oversight and approval by the Ministerial authorities. When tariffs fail to fully reflect costs, a negative cycle ensues that discourages both private and public investment, ultimately leading to insufficient system maintenance and expansion. Institutional strengthening is crucial for the effective functioning of Burundi's regulatory framework. Further sector reforms may be necessary to boost competition, with concessions being a viable option.

Tanzania has strengthened EWURA's role as an independent regulator. EWURA sets tariffs based on the latest approved tariff structure, which distinguishes between domestic, general usage, LV, MV, and HV components.

In both Burundi and Tanzania, cross-border tariffs are negotiated and agreed in the PPAs. The EAPP's rules govern wheeling charges. Based on the precedent set in recently completed interconnection projects

in the EAPP region, project financing is apportioned to each country based on the length of the interconnector within its territory.

## 9.7 Project Readiness and Status

Following this pre-feasibility study, which also includes initial elements of a more detailed feasibility study, the Burundi–Tanzania interconnection is now in the Feasibility Study (S2B) maturity stage.

The CBA results from this pre-feasibility study indicate that the 220 kV double-circuit option for the Burundi (Jiji-Mulembwe)–Tanzania (Kigoma) interconnection is better than the 400 kV or do-nothing options. The Economic Internal Rate of Return (EIRR) in this case is 19% even without considering potential carbon benefits, leading to a Benefit-to-Cost Ratio (BCR) of 1.8. The estimated capital cost for the Burundi–Tanzania 220 kV double-circuit interconnection is about EUR 64 million.

## 9.8 Information Availability

Further to the consolidated information provided in the present pre-feasibility study, a number of sources with more detailed information on the Burundi (Jiji-Mulembwe) –Tanzania (Kigoma) interconnection are referenced throughout this report.

## 9.9 Outline of Project Management Plan

The two governments are expected to sign a bilateral Memorandum of Understanding (MoU) and/or a Joint Implementation Agreement, which will define roles, cost-sharing arrangements and responsibilities. Effective governance is critical in a binational infrastructure project. It is proposed that Burundi and Tanzania establish a Joint Project Steering Committee, with high-level representatives from each country's energy ministry and utility. This committee will provide strategic oversight, facilitate cooperation, and make key decisions.

A dedicated Project Management Unit (PMU) will be necessary to ensure a stable and well-managed implementation environment, as well as strategic oversight. The PMU will coordinate all activities across the two jurisdictions, manage consultants and contractors, and report progress to the Project Steering Committee and financiers.

## 10. Project Management Plan and Project Governance

Agreements will need to be signed to underpin the project governance. The two governments are expected to sign a bilateral Memorandum of Understanding (MoU) and/or a Joint Implementation Agreement to define roles, cost-sharing arrangements, and responsibilities. Each country's energy regulator will need to approve the interconnection and any tariff or wheeling arrangements for the power trade. The project's economic benefits to both countries should be clearly quantified to secure the necessary support from national stakeholders.

The proposed project governance structure is provided in Figure 10-1. Effective governance is critical in a binational infrastructure project. It is proposed that Burundi and Tanzania establish ministerial, joint steering and management committees comprising energy ministers, energy secretaries and power utility CEOs, respectively. The committees will provide strategic oversight, facilitate cooperation, and make key decisions. Additionally, the utilities are expected to serve as implementing agencies, coordinating closely to ensure that technical standards and schedules are aligned.

A dedicated Project Management Unit (PMU) will be necessary to ensure a stable, well-managed implementation environment and strategic oversight. The PMU unit will be staffed with experts and personnel as outlined in the Staffing Plan. It will coordinate all activities across the two jurisdictions, manage consultants and contractors, and report progress to the Management Committee and financiers.

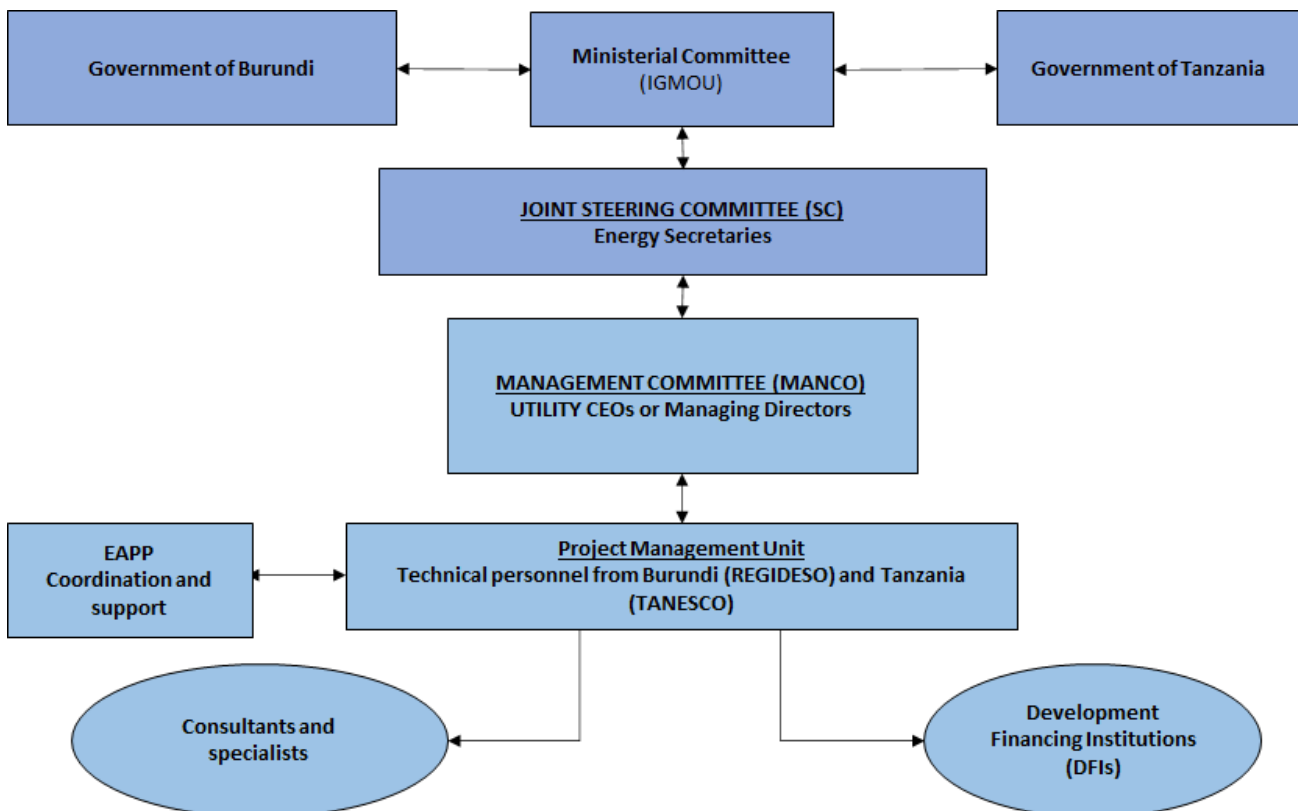


Figure 10-1: Proposed Project Governance Structure (adapted from existing Power Pool governance structures)

### 10.1 Staffing plan

The staffing plan, as outlined in Table 10-1 is proposed for the project's development. The staffing plan may be split into two coordinated PMUs (one in each country) or a single unified PMU with clear and defined reporting lines. Creating a strong PMU is crucial for project success; thus, the team will likely include seconded experienced personnel from utilities and experts financed by the project's budget.

Table 10-1: Staffing plan for Burundi – Tanzania Interconnector

Position	Responsibility
Project Director	Overall project leader, likely to be appointed by the lead ministry or utility. Provides strategic direction and liaises with the Management Committee to ensure the project is developed on schedule and within budget.
Project Managers (Country Leads)	One project manager, based in Burundi, and another in Tanzania, coordinate activities within their respective countries. They will report to the Project Director and synchronise cross-border tasks, and each will oversee the local permitting, utility coordination and national stakeholder engagement.
Technical Team	A group of engineers and specialists, working with the Project Director and Country Managers, will be responsible for the project engineering and design. The core group will comprise Transmission Line Designers, Substation Designers, and Civil Engineers. The other specialist roles are provided below.
Environmental and Social Specialists	These could be utility staff dedicated to managing the ESIA and ensuring compliance. They will oversee the independent consultants appointed to conduct the ESIA. During construction, they will coordinate with national environmental authorities to ensure that contractors follow all mitigations outlined in the Environmental and Social Management Plan (ESMP) and the Resettlement Action Plan (RAP).
Procurement Specialists	Responsible for managing the procurement processes in line with the country's legal fragment and standard World Bank/AfDB guidelines. The specialists will be responsible for preparing the bidding documents, running the tendering, ensuring transparency in bid evaluations, and handling contract awards. This function can be outsourced to an experienced Consultant who will be managed by the entities responsible for public procurement in both countries.
Financial Management Specialists	Will handle the project's financial disbursements and financial reporting. In a donor-funded scenario, they establish the project's financial management system in accordance with World Bank/AfDB or donor requirements, manage loan/grant withdrawals, and ensure that all expenditures are accurately tracked. They will also produce regular financial reports and facilitate any audits. In a PPP scenario, this role would oversee the disbursement of viability gap funding (if any) and monitor the concessionaire's financial compliance.
Legal and Contract Advisor	Provides legal support on contracts, agreements, and regulatory compliance. This function is vital when negotiating loan agreements and PPP contracts, and to ensure that cross-border agreements (power purchase and transmission service agreements between Burundi and Tanzania) are legally valid.
Administration and Support Staff	The Country managers will work with local administrative staff responsible for handling logistics, documentation, and communication.

## 10.2 Budget estimates and funding plan

The project budget estimates, from feasibility studies to execution, are provided in Table 10-2.

Table 10-2: Budget Estimates

Activity	Cost Estimate (EUR m)
Project Preparation and Feasibility Studies – includes Feasibility study, ESIA study, Engineering design, and advisory (technical, legal, and financial) services (2.5% of CAPEX)	1.39
Transmission Lines and Substations construction (materials for towers, conductors, insulators, tower erection, transformers, switchgear, control and protection systems) and labour	55.37
Environmental and Social Impacts Mitigation - Implementation of the Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) (2.5% of CAPEX)	1.38
Project Management and Contingencies – Project Management Unit costs, Owner's Engineer, engineering supervision) (10% of CAPEX)	5.54
<b>Total Project Cost (EUR m)</b>	<b>63.68</b>

A robust commercial and financial structure is necessary to allocate risks fairly, mobilise financing and ensure long-term sustainability. Several funding modalities differ in terms of recourse to utility balance sheets, equity requirements and risk-sharing among governments, utilities, and private companies. Table 10-3 presents the available funding options, along with their advantages and disadvantages.

Table 10-3: Funding options analysis

Funding option	Description	Advantages	Disadvantages	Applicability to the Interconnector Projects
Corporate Finance (Utility-led)	REGIDESO (Burundi) and TANESCO (Tanzania) fund and own the project, relying on sovereign-backed loans.	Simplicity – direct control by national utilities	Heavy burden on the utility balance sheets and exposure to sovereign risk	Unlikely, utilities may lack sufficient borrowing capacity
Public Financing Model	REGIDESO and TANESCO, through their governments, borrow from institutions such as the AfDB and World Bank and lend to utilities	Access to concessional finance and strong government support	Increases sovereign debt	Likely given Burundi and Tanzania's reliance on concessional funding
Independent Power Transmission (IPT) Model	Private developer finance, builds and operates the lines under a 25–40 year concession	Mobilises private capital and transfers construction, operation, and maintenance risk to a private developer	Needs strong credit enhancements and has higher long-term costs if the risk premium is factored in	Unlikely for interconnectors that are not backed by direct private sector demand. This will be a first in Africa.
Joint Venture Special Purpose Vehicle (SPV)	REGIDESO, TANESCO, and regional partners like the NELSAP form a joint company to own and operate the line	Shared risk and governance, and facilitate regional cooperation	Complex to negotiate and potential governance disputes	Likely for a cross-border between Burundi and Tanzania.
Merchant Model	Private company builds and operates revenues from wheeling charges	Off-balance sheet for governments and utilities	Very high risk without long-term guarantees of utilisation and long-term PPA	Unlikely for the Burundi–Tanzania context. The model has not been used for interconnectors in the region.

The funding options most likely applicable to the Burundi–Tanzania Interconnector are the public financing model and the Joint Venture SPV.

### 10.3 Work program and timetable

The envisaged development programme for the project, following approval of the Pre-Feasibility Study, will commence with the Feasibility Study. This will be followed by project structuring, transaction support, and financial close, culminating in tendering and the appointment of a contractor to execute the works. The timelines for each activity are provided below, based on experience from previous similar projects. Opportunities to expedite the project will be further explored at the Feasibility Study stage. Although the development of transmission interconnectors in most parts of Africa takes more than seven (7) years to develop from a feasibility study to project commissioning, we have proposed an accelerated five-year implementation programme.

Figure 10-2 presents the proposed project implementation program.

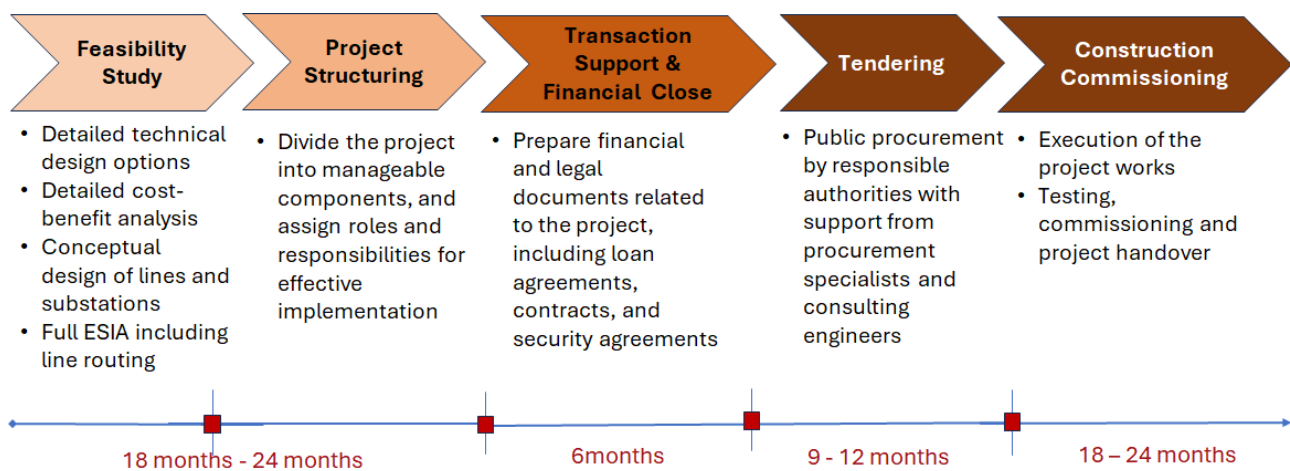


Figure 10-2: Program implementation program

## 11. Preparation and Next Requirements

### 11.1 Approval of Pre-Feasibility Study Outputs and Quality Certification

Approval of the Pre-Feasibility Study for the Burundi–Tanzania interconnector requires a coordinated process that aligns with the approval processes of both countries. Both countries should endorse the Pre-Feasibility study to pave the way for a full Feasibility Study.

The proposed approval process is depicted in Figure 11-1.

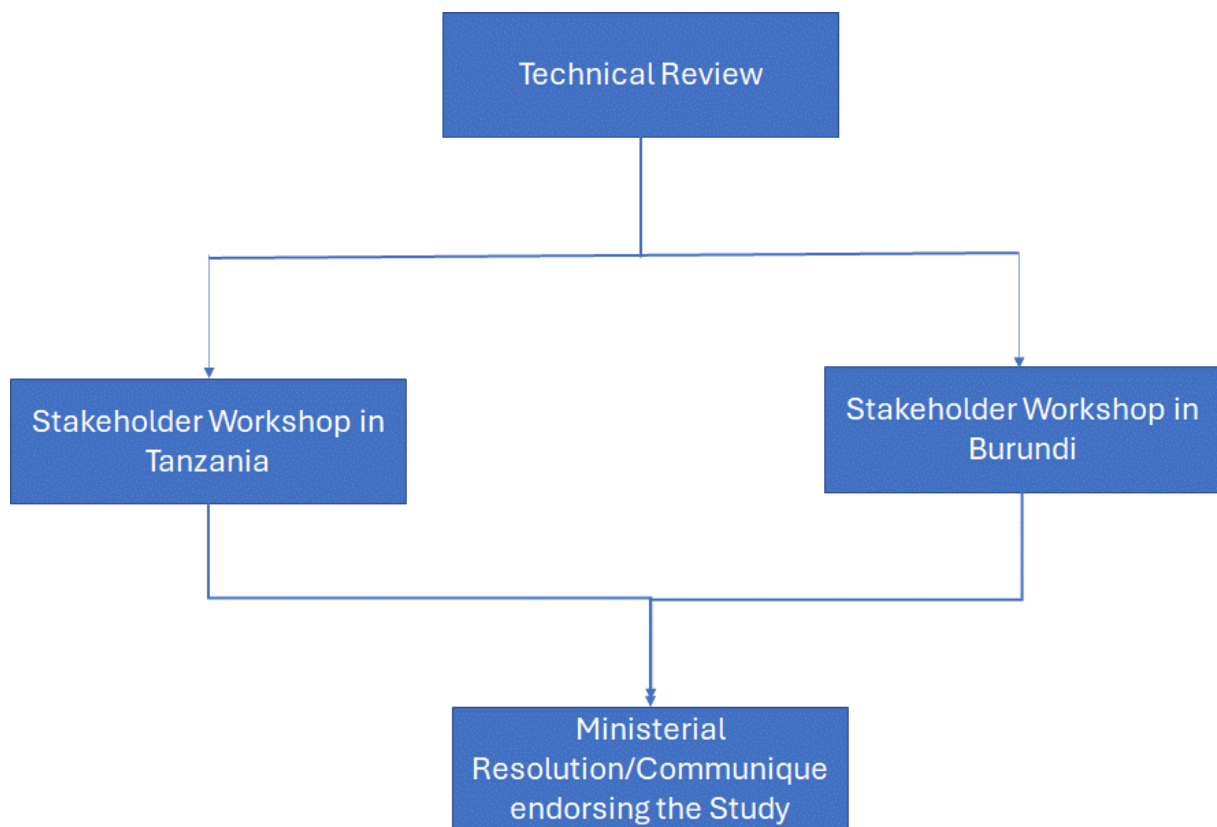


Figure 11-1: Pre-Feasibility Study Approval Process

The steps in the above figure are described in detail below, including the parties responsible.

#### 11.1.1 Technical Review

REGIDESO (Burundi) and TANESCO (Tanzania), the power utilities of the two countries, should conduct a technical review of the Pre-Feasibility Study to ensure that the technical assumptions and the preliminary project design are sound and meet the project's objectives. Other parties to provide input into the technical review include the African Union Development Agency (AUDA-NEPAD) and the EAPP.

#### 11.1.2 Approval and Certification

Since the project is a cross-border initiative, joint approval is required from representatives of both Burundi and Tanzania. In this regard, following the technical review and approval by the utilities REGIDESO and TANESCO, two workshops are planned, one in each country, to present the results of the Pre-Feasibility

Study. Each workshop is expected to be attended by representatives from the ministries of energy, the regulator, and the power utilities (REGIDESO and TANESCO). A resolution supporting the project from each country's ministry responsible for energy should be issued to certify that both governments support the Pre-Feasibility Study and are committed to proceeding to the next stage, which entails a Full Feasibility Study. This process is crucial for building stakeholder trust and meets the requirements of financiers (e.g., development banks often require evidence of government approval of project studies before funding the next phase).

## 11.2 Preliminary Job Creation, Resource Mobilisation and Corridor Development Strategy

Developing the Burundi – Tanzania Interconnector presents an opportunity not only to improve infrastructure but also to spur economic development in the corridor region. A preliminary strategy should address how to maximise job creation, plan for resource mobilising, and promote corridor development both during the construction phase and in the long term.

### 11.2.1 Job Creation

Job opportunities will mainly arise during the project construction. The three pillars that could underpin a job creation strategy are depicted in Figure 11-2.

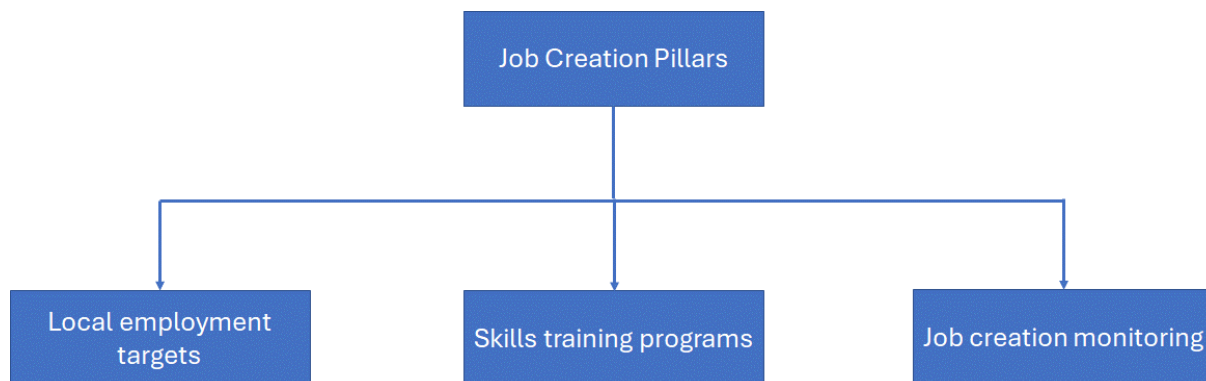


Figure 11-2: Job creation strategy pillars

#### Local Employment Targets

Local employment targets could be set for hiring local workers in both countries. Contractors can be incentivised to use local labour for unskilled and semi-skilled jobs and to subcontract to local firms where possible. Activities such as bush clearing, digging tower foundations, and providing security for construction equipment can be undertaken by local labour. Hiring of local labour should first target communities along the line route to facilitate community ownership and support for the project. Additionally, contractors could be incentivised to source locally available materials such as cement, steel, and aggregates. For day-to-day feeding requirements at construction camps, local suppliers could meet these needs.

#### Skills Training Programs

Contractors could be incentivised to implement training/apprenticeship programs ahead of and during construction. This will help build the capacity of local workers to take on skilled positions, such as technicians and machine operators, and ensure a qualified workforce for the project. Collaboration with vocational training schools could be a key part of this strategy, with a focus on relevant trades such as electrical work, civil work and heavy equipment operation. This could leave a legacy of a more skilled workforce that can provide a base for future projects like this.

## Job Creation Monitoring

As part of the project management, a mechanism for monitoring job creation numbers and the share of local jobs should be established. Contractors should be required to report on such numbers regularly, and adjustments should be made if set employment targets are not met. The employment targets could be set based on precedent from similar projects.

### 11.2.2 Resource Mobilisation Strategy

The resource mobilisation strategy should target the following key areas, as depicted in Figure 11-3.

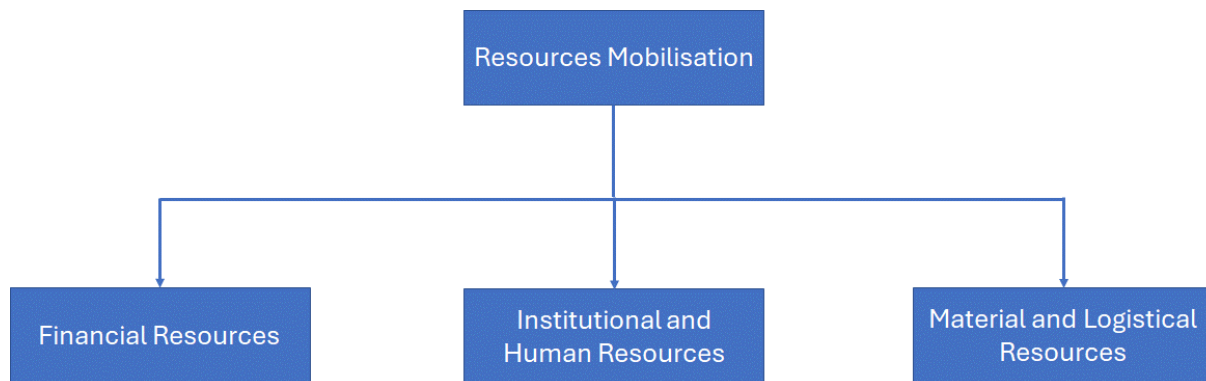


Figure 11-3: Resources mobilisation strategy pillars

The resource mobilisation strategy should be phased in alignment with the project development program to ensure that funding and resources are available from the Feasibility Study Stage through to construction.

#### Financial Resources

It is essential to identify the mix of funding sources early in the project development process. Given the scale of the interconnector projects, funding is likely to come from multiple sources. To show ownership, both governments should commit some funding, though limited, but the bulk of the budget will likely come from international development partners such as the African Development Bank and the World Bank. The strategy will involve preparing a robust case for grant or concessional loan support, presenting the project at infrastructure financing summits organised by key African institutions such as AUDA-NEPAD. Governments in Burundi and Tanzania can request that AUDA-NEPAD and the EAPP spearhead project development activities, review, and support project funding models proposed for the project.

#### Institutional and Human Resources

Following the staffing plan described above (Section 10.1), a Project Management Unit with staff drawn from both countries should be assigned to the project. The Project Management Unit will manage the day-to-day activities and coordinate with consultants, contractors and stakeholders. In cases of capacity gaps, the resource plan should include technical assistance or consulting firms to assist the governments of Burundi and Tanzania. Donor-funded technical assistance can be sought with the aid of AUDA-NEPAD and the EAPP to fulfil sourcing requirements for owners' engineers, legal advisors for cross-border agreements, and financial advisors.

#### Material and Logistical Resources

The strategy should outline the required supply chains for construction materials and equipment, leveraging experiences from recently completed 400 kV and 220 kV line projects in Tanzania and Burundi, respectively. Where capacities have been developed locally through previous projects, these capacities should be maximised to ensure a sustainable local industry. To the extent possible, existing transport/logistics companies should be engaged and prioritised. Efficient customs and border logistics between Burundi and Tanzania will be crucial for the smooth movement of construction materials. Cross-

border agreements should facilitate this process by offering incentives, such as reduced or waived import duties and taxes.

### 11.2.3 Corridor Development Strategy

The strategy should leverage the interconnector to drive economic growth along its route. The aim is to ensure local communities tangibly benefit (through access to power, markets, or transport) rather than just having the interconnector pass through. The corridor approach can be used as an incentive during resource mobilisation.

The strategy will be predicated upon the three areas in Figure 11-4.

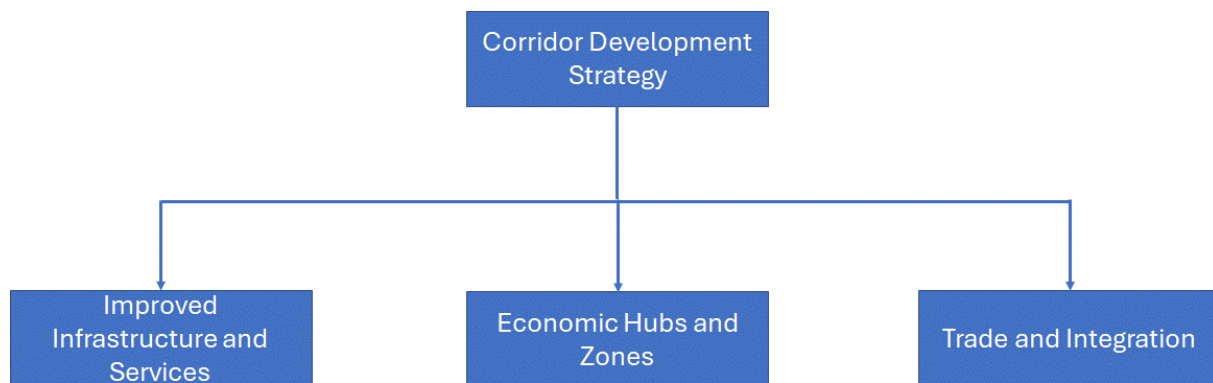


Figure 11-4: Corridor development strategy

#### Improved Infrastructure and Services

The interconnector is expected to expand electricity access in the regions of Burundi and Tanzania along its route. The interconnector should be accompanied by distribution lines from terminal substations that feed communities along the interconnector. The interconnector connection to the Makamba substation (Burundi), located along the route from Jiji-Mulembwe (Burundi) to Kigoma (Tanzania), will help achieve this objective. In Kigoma, the transmission station will step down to distribution voltages that can help supply communities along the transmission interconnector. The strategy could include plans for rural electrification or industrial power connections in communities near the line, turning the corridor into a zone of improved energy access.

#### Economic Hubs and Zones

The Project Management Unit for the project should work with local utilities to identify potential economic hubs along the corridor. The governments of Burundi and Tanzania should task the PMU with identifying the potential economic hubs along the corridor. New or expanded markets, agro-processing centres, mining operations, or special economic zones could be planned around corridor nodes (such as near new substations or road junctions created by the project). Where possible, the line route should align with other infrastructure projects, such as rail and road, along the same corridor.

#### Trade and Integration

In addition to the electricity trade enabled by the interconnector, economic hubs along the interconnector corridor can create markets for trade in both countries. The strategy should include ensuring that the nearest border post processes are streamlined and that trade barriers are reduced. In the long run, new markets can be created through complementary industries for both countries, thereby increasing trade between them. Metrics should be established to track the corridor's economic impact over time, including local business numbers, traffic volumes along the corridor, new investments in the region, and employment trends. This approach could yield evidence-based results useful for motivating similar projects in the future.

## 11.3 Capability Needs Assessment for Next Phase

A capacity needs assessment is essential before initiating a full Feasibility Study. The Feasibility Study will be an in-depth analysis covering the technical, environmental, legal, economic and financial aspects of the interconnector project. The purpose of the capacity needs assessment is to ensure that Burundi and Tanzania have the requisite skills, knowledge, and institutional strength to manage and contribute effectively to the next project phase.

### 11.3.1 Technical Expertise

The local government utilities, REGIDESO (Burundi) and TANESCO (Tanzania), lack the necessary skills and expertise to conduct the technical studies required for the feasibility study. Historically, the two countries have relied on technical assistance from development partners to undertake such studies. Therefore, hiring engineering consulting firms to conduct technical studies for the feasibility study is recommended. Where possible, the engineering firms should be incentivised to partner with local or regional consulting firms to ensure skills transfer.

### 11.3.2 Environmental and Social Impact Assessment

Both countries have the institutional capacity to oversee and approve the ESIA process as part of the Feasibility Study. The institutions responsible for the ESIA process in Burundi and Tanzania are the National Environment Management Council (NEMC) of Tanzania and the Office Burundais pour la Protection de l'Environnement (OBPE). They will verify that the ESIA consultants are sufficiently qualified. For such a project, the ESIA consultants will require support from the national utilities, REGIDESO (Burundi) and TANESCO (Tanzania), to engage local communities in public engagement and participation meetings, where they will introduce the project and its expected impacts. The ESIA must follow due process to avoid court challenges and public protests during the construction phase. As such, the ESIA consultant team should comprise the necessary expertise, which, among others, includes public engagement specialists, as well as specialists in biodiversity, ecology, and wildlife.

### 11.3.3 Legal and Regulatory Capacity

A cross-border project entails complex legal work, from understanding the land acquisition laws in each country to drafting agreements between Burundi and Tanzania on project cost allocation, operation, and revenues, and ensuring compliance with energy regulators, AREEN (Burundi) and EWURA (Tanzania). Both governments will need legal advisors with experience in international and cross-border agreements. The Burundi – Tanzania interconnector can leverage on the recently completed cross-border projects, e.g. the Rwanda – Burundi 220 kV line and the Kenya - Tanzania 400 kV line, for experience in drafting the necessary contracts. In this regard, legal advisors will be required to collaborate with government ministries, utilities, and regulatory bodies. The legal advisors should ensure that approaches are harmonised across the two jurisdictions and outline a phased plan to ensure that the necessary agreements, permits and licenses are obtained.

### 11.3.4 Economic and Financial Analysis

The Feasibility Study should include a detailed cost-benefit analysis, financial modelling and funding strategy for the project. This function should ideally be conducted by consultants with the necessary financial and economic expertise to work with credible data assumptions. The analysis should include long-term benefits of the project and the financial viability, considering tariff setting for the sale and wheeling of electricity between the two countries. In addition to trade between Tanzania and Burundi, the interconnector is also expected to facilitate the wheeling of power from Ethiopia to Burundi through Kenya. The analysis should consider sensitivities to various demand scenarios in both countries. Working with the hired consulting firms, utilities in both countries should build the necessary capacity to evaluate the results of the Feasibility Study. The Feasibility Study should propose a funding plan that governments can critically review and negotiate with prospective funders.

### 11.3.5 Overall Project Management Needs

The Project Management Unit (PMU) team, comprising representatives from both countries, should be established to handle project management duties, including scheduling, procurement of consultants, contract management, progress monitoring, and reporting. The team should be drawn mainly from the utilities and ministries of both countries. The PMU will work closely with appointed legal and financial advisors, as well as the owners' engineers, for the project. The team should have the capacity to address morning cross-cutting issues such as gender inclusion and community engagement. to ensure that women and youth are included in jobs and training.

# ANNEXE 1

## Missions to Burundi and Tanzania – Stakeholder Feedback

The CEPA team conducted country missions to Burundi and Tanzania from July 14th to July 18th, 2025. Broadly, the mission's objectives were to:

- Collect all data necessary for the technical and economic analysis - load forecast and annual hourly profiles, transmission and generation development plans, and electrical system network simulation models, and economic data and assumptions,
- Confirm the alignment of the interconnector project with the countries' economic development priorities, goals, and expectations regarding regional electricity trade,
- Collect all data/documents relevant to understanding the legal and regulatory frameworks within the countries, and
- Present the project to the EUDs of Tanzania and Burundi, and key stakeholders in Burundi and Tanzania, to build support and awareness of the interconnector project.

The stakeholders met, and the issues discussed, along with the main mission outcomes, are provided below.

### Burundi

**Meeting Date:** 17 July 2025, morning

**Stakeholders:** Regiede Distribution d'Eau et d'Electricité (REGIDESO) and the Ministry of Hydraulics, Energy and Mines (MHEM)

**Meeting contents:** Presentation and discussion of the following: Existing and planned generation and transmission plans by REGIDESO, Pre-feasibility data requirements, network development priorities for REGIDESO.

**Meeting outcomes:** (1) Collection and provision of the load forecast, transmission and generation development plans and the existing transmission network model in PSS@E to the CEPA team by REGIDESO, (2) REGIDESO's priorities include strengthening the internal networks through the planned 110 kV ring (Rwegura-Kayanza-Ngozi-Muyinga-Cankuzo-Ruyigi-Rutana-Bururi-Rumonge-Ruzibazi) and the 220 kV line (Bujumbura – Gitega – Makamba). The 220 kV line has received funding for feasibility studies from the World Bank; however, REGIDESO requires support for the Environmental and Social Impact Assessment (ESIA) for the 220 kV line. (3) The Burundi–Tanzania interconnector is a priority project for both Burundi and Tanzania, with an urgent need for the project in Burundi.

**Meeting Date:** 17 July 2025, afternoon

**Stakeholders:** European Union Delegation to Burundi

**Meeting contents:** Presentation of the proposed project to the EU delegation by the CEPA representative.

**Meeting outcomes:** The CEPA team needs to align its activities with the ongoing feasibility studies being conducted by the World Bank. Pre-feasibility study report to be shared with the EU delegation for comments and to identify areas that the delegation can support. Historically, interconnector projects in Burundi have typically taken more than seven years to develop, and this timeframe should be considered in the project's development.

**Meeting Date:** 18 July 2025, morning

**Stakeholders:** Autorité de Régulation des Secteurs de l'Eau potable, de l'Électricité et des Mines (AREEN)

**Meeting contents:** Presentation of the proposed project to AREEN by the CEPA representative.

**Meeting outcomes:** Collection and provision of the laws and decrees on tariffs, private sector participation and electricity imports.

## Tanzania

**Meeting Date:** 14 July 2025, morning

**Stakeholders:** Tanzania Electric Supply Company (TANESCO)

**Meeting contents:** Presentation and discussion of the following: Existing and planned generation and transmission plans, Pre-feasibility data requirements, network development priorities for TANESCO

**Meeting outcomes:** (1) Collected the load forecast, transmission and generation development plans as provided in the Tanzania Power System Sector Plan Update, 2024 and the existing transmission network model in PSS®E, (2) TANESCO's priorities include strengthening the internal 400 kV networks and building interconnectors with neighbouring countries. The Burundi–Tanzania interconnector is included in the Tanzania Power System Sector Plan Update.

**Meeting Date:** 15 July 2025, morning

**Stakeholders:** Ministry of Energy (MoE), Energy and Water Utilities Regulatory Authority (EWURA)

**Meeting contents:** Presentation of the proposed project to the stakeholders and discussion of the Government of Tanzania priorities and the EWURA's role in the project development.

**Meeting outcomes:** The Government of Tanzania aims to position Tanzania as a net electricity exporter to the EAPP and SAPP regions. Tanzania is geographically positioned as a strategic gateway to the Eastern and Southern African electricity markets. The Burundi–Tanzania interconnector is amongst the planned interconnectors in the Tanzania Power System Sector Plan Update. Although Tanzania has completed large infrastructure projects in the electricity sector through Public-Private Partnerships (PPPs), the government does not foresee the Independent Power Transmission (IPT) model being applicable in the short term for interconnector projects, such as the Burundi–Tanzania 220 kV line. The government will initiate registration of the project on its platforms to monitor progress and mobilise the support required to develop the project.

## ANNEXE 2

### CBA Formulas

- Trade & System → Benefits
  - Production Cost Savings = Net Imports × (FuelPrice\_Tanzania – FuelPrice\_Burundi) / 1000 (USD M)
  - Capacity Deferral = (Capacity Credit + Reserve MW) × Avoided Capacity Cost / 1000 (USD M)
  - Loss Reduction = – Losses (GWh) × Loss Energy Price / 1000 (USD M)
  - Reliability/VOLL = Unserved Energy Avoided × VoLL / 1,000,000 (USD M)
  - VRE Integration = VRE Curtailment Reduced × VRE Value / 1,000,000 (USD M)
- Costs
  - Incremental Loss Cost = Losses (GWh) × Loss Energy Price / 1000 (USD M)
- Externalities
  - CO<sub>2</sub> Low/High = Net Emissions × SPC / 1,000,000 (USD M) (SPC table on Inputs)
- Economic Flows
  - Net Benefits for No/Low/High SPC, plus ENPV & EIRR (also ENPV at low/high test discount rates)
- Inputs added
  - Avoided Capacity Cost (USD/kW-yr), Reserve Sharing Value (USD/kW-yr), VRE Value (USD/MWh), Loss Energy Price (USD/MWh), VoLL, discount rates, SPC table, commissioning year (drives calendar years).