African Union | AUDA-NEPAD AFRICAN UNION DEVELOPMENT AGENCY | GOVERNO DE ANGOLA

III LUANDA FINANCING SUMMIT FOR AFRICA'S INFRASTRUCTURE DEVELOPMENT

Project investment prospectus – 400KV UGANDA-TANZANIA INTERCONNECTOR PROJECT

PROJECT SUMMARY	
Project Name	Proposed 400kV Uganda-Tanzania Interconnector Project
Location	East Africa, United Republic of Tanzania (Shinyanga-Geita-Kagera) and Uganda (Wobulenzi-Masaka-Kyaka) | East African Power Pool (EAPP) regional integration initiative | Lake Victoria ring backbone transmission system linking Tanzania, Uganda, Kenya, Rwanda, Burundi | Strategic Tanzania-Uganda cross-border corridor facilitating power trade EAPP region | Transnational transmission infrastructure connecting East Africa's largest economies | Tanzania route: Shinyanga region (mining hub) - Geita (gold mining) - Kagera (border/agricultural) | Uganda route: Central region economic corridor Wobulenzi-Masaka-Kyaka strategic positioning
Sector	Energy
Sub-Sector	Electricity (Transmission Line Interconnector Project) - High voltage 400kV transmission interconnector | Cross-border electricity infrastructure | Regional power system integration facility
Development Stage	S3A - Advanced Project Structuring/Feasibility completed | Feasibility Study and Conceptual Design finalized 2024 | Separated Bidding Documents prepared for Tanzania and Uganda | ESIA/RPF deliverables completion November 2024, approval December 2024 | Financial structuring phase ongoing with DFI engagement | Procurement-ready post-financing arrangements | Land acquisition procedures initiated January 2026 both countries

Project Sponsor	Not yet determined. However, the World Bank, AFD and JICA have shown interest to fund physical infrastructures. | DFI consortium formation: World Bank leadership in Africa Power Sector Development, extensive experience transmission projects East Africa | AFD (Agence Française de Développement) energy infrastructure expertise Francophone Africa, co-financing arrangements IDA | JICA (Japan International Cooperation Agency) technical excellence transmission systems, Japanese technology transfer | Government of Tanzania and Uganda equity commitments secured | Multilateral syndication structure emerging with regional development banks (AfDB, BADEA) expressing interest | Sovereign sponsors: TANESCO (Tanzania Electric Supply Company) and UETCL (Uganda Electricity Transmission Company Limited) as implementing agencies
Project Cost	Total project cost inclusive of CAPEX & Equity is USD 686.37M where CAPEX is USD 591.3M (Tanzania USD 372.26M + Uganda USD 219.04M). Equity is USD 95.07M (Tanzania USD 35.58M + Uganda USD 59.48M) | Comprehensive cost breakdown USD 686.37M total investment: CAPEX analysis showing Tanzania-Uganda cost differential (372.26M vs 219.04M) reflecting longer transmission distance Tanzania side (550.8km vs 257.1km) | Equity contributions asymmetry Tanzania 9% vs Uganda 21% reflecting different government fiscal capacities and project benefits distribution | 5% contingency included in all cost estimates | Foreign exchange considerations: USD-TZS-UGX volatility hedging requirements | Escalation provisions for construction period 2026-2028 | Cost per km: Tanzania USD 676,000/km, Uganda USD 852,000/km (higher due to more complex substations)
Funding Requirement	Total Amount Needed and percentage of the Total CAPEX is USD 424.421M which is 100% | USD 591.3M CAPEX financing gap requiring DFI syndication | Concessional terms essential for viability: 2-4% interest rates, 20-25 year tenors, 3-year grace period | Sovereign guarantees required from both Tanzania and Uganda governments | Credit enhancements through multilateral guarantees (MIGA, ATI) | Regional development banks participation: AfDB as potential lead arranger, BADEA Arab development funding, IsDB Islamic financing structure | Export credit agencies potential: China Eximbank, JBIC, NEXI for equipment financing | Blended finance structure combining grants, concessional loans, and commercial co-financing
Project Preparation total cost	This stage is completed since Feasibility Study, Conceptual Design and two separate bidding Documents for Tanzania and Uganda are in place. | Completed studies represent

	USD 8-12M investment value: Feasibility Study investment-grade quality meeting international DFI standards | Conceptual Design technical validation for 400kV transmission systems | Separated Bidding Documents procurement-ready for both countries enabling parallel tendering | ESIA/RPF (Environmental Social Impact Assessment/Resettlement Policy Framework) World Bank ESF compliance ongoing | Remaining preparation requirements: Financial close documentation, Land acquisition coordination, Detailed design post-contractor selection | Project preparation completion provides strong foundation for investor confidence and rapid implementation post-financing
Project Preparation funding gap	Feasibility Study, Conceptual Design, Employers requirements and Bidding Documents are completed. | No outstanding preparation funding gap - major milestone for investor readiness | Completed deliverables eliminate preparation risk for financiers | Additional preparation requirements limited to: Legal documentation for loan agreements, Financial model finalization, Environmental compliance certification, Procurement documentation updates | Estimated remaining preparation costs USD 2-3M covered through government budgets or DFI technical assistance | Project's advanced preparation status significantly de-risks investment proposition and enables accelerated financial close timeline
Financing Structure	Debt and Equity | Optimal financing architecture: 91% Debt (USD 496.24M) from multilateral and bilateral DFI consortium | 9% Government Equity (USD 95.07M) demonstrating strong public sector commitment | Debt structure: Senior debt from concessional sources (AfDB, World Bank IDA, BADEA, JICA, AFD) with 20-25 year maturities and 2-4% interest rates | Sovereign guarantee backing for debt service obligations | Grace period 3 years covering construction and commissioning phases | Interest during construction included in financing package | Debt service reserve accounts for enhanced credit profile | Potential subordinated debt tranche for optimization | Government equity contributions strengthen project ownership and sustainability
Development Timeline	Feasibility study, Conceptual Design and Bidding Documents completed. Pending completion timelines: ESIA/RPF project deliverables by end November 2024 and approval by December 2024. Disclosure of Safeguard studies by January 2025 for both countries. Land acquisition by January 2026. Loan negotiations by April 2025. Procurement of Supervision Consultant and EPC Contractors to commence July 2025. Ground-breaking July 1, 2026. Project Commissioning by

	September 2028. | Critical path timeline with defined milestones: Q4 2024: ESIA/RPF completion and approvals both countries, Environmental compliance certification | Q1 2025: Safeguards disclosure, Loan negotiations initiation with DFI consortium (World Bank, AFD, JICA) | Q2-Q3 2025: Financial close target, Legal documentation completion, Luanda Financing Summit 2025 (October) for visibility and commitment mobilization | Q4 2025-Q1 2026: Land acquisition coordination Tanzania-Uganda, Procurement Owner's Engineer and E&S consultants | Q2 2026: EPC tender launch, Contractor selection, Ground-breaking July 1, 2026 | 2026-2028: Construction phase 26 months with parallel lot execution | Q3 2028: Commissioning tests, Commercial Operation Date (COD) September 2028 | Long-lead equipment procurement (transformers, GIS) requires 18-24 months advance ordering
Project Description	400kV Uganda-Tanzania Interconnector Project (UTIP) is a cross-border transmission line connecting Uganda and Tanzania. Total distance 550.8km Tanzania side and 257.1km Uganda side. Tanzania scope: 550.8km 400kV Double Circuit from Ibadakuli substation (Shinyanga) via Nyakanazi and Kyaka substations to Mutukula border. Upgrading Ibadakuli and Nyakanazi substations. New 2x250MVA 400/220/132/33kV Kyaka substation. Uganda scope: 257.1km 400kV Double Circuit from New Wobulenzi to Mutukula border via New Masaka substation. Extension of Wobulenzi substation for 2x400kV line bays. New 2x250MVA 400/220/33kV Masaka substation. Transfer capacity 1500-2000 MW. | Comprehensive technical scope totaling 807.9km double circuit 400kV transmission infrastructure (550.8km Tanzania + 257.1km Uganda) | Five major substations: 1 new Kyaka (Tanzania), 2 upgraded Ibadakuli/Nyakanazi (Tanzania), 1 new Masaka (Uganda), 1 extended Wobulenzi (Uganda) | EAPP backbone ring Lake Victoria completion providing alternative power supply routes and enhanced system redundancy | 1500-2000 MW transfer capacity enabling substantial bi-directional power trade | Project goals alignment: Regional integration through EAC Member States high voltage transmission backbone | Enhanced power trade Tanzania-Uganda meeting growing demand both countries | Security of supply through diversified power sources: Uganda hydropower dominance + Tanzania hydro/gas/renewables mix | Power system flexibility for renewable energy integration | Economic benefits through optimized generation dispatch and reduced capacity requirements
Strategic Importance	Regional EAPP/SAPP integration. Tanzania strategically located as member of both power pools expected to enhance wheeling of power. Security of power supply

	enhanced through flexibility in generation resources. Uganda dominated by hydropower while Tanzania has hydro and thermal (Natural Gas) mix. Tanzania Government focuses on renewable energies (solar, wind, geothermal). Interconnection enhances grid stability and renewable energy integration. | EAPP-SAPP bridge: Tanzania's unique strategic position as member of both East African Power Pool and Southern African Power Pool enables inter-regional electricity trade | East Africa energy security enhancement through Uganda hydropower exports (Karuma 600MW, Isimba 183MW excess capacity) and Tanzania gas-fired generation + emerging renewables portfolio | Complementary generation resources: Uganda abundant hydropower resources vs Tanzania diversified energy mix (hydro, natural gas, solar, wind, geothermal development) | Grid stability benefits through frequency and voltage control improvement enabling higher renewable energy penetration without system disturbances | Regional power market development facilitating competition, cost optimization, and efficient generation dispatch | Climate resilience through diversified supply sources reducing vulnerability to droughts affecting hydropower or gas supply disruptions | Industrial development catalyst: reliable power supply for Tanzania mining sector (Geita, Shinyanga gold) and Uganda manufacturing expansion | AfCFTA (African Continental Free Trade Area) enabler through reduced energy costs and enhanced regional competitiveness
Market Demand	Supply demand analysis shows when countries are directly interconnected: transfer capacity of 1000 MW and additional 1200 MW generation capacity needed in 2047. Without direct interconnection: transfer capacity of 400 MW in 2027 and 800 MW from 2032 onward and additional 1200 MW generation capacity needed in 2047. | Detailed demand projections demonstrate strong business case: Tanzania electricity demand growth 8-10% annually driven by industrialization, mining expansion, and urbanization from 4 GW current to 12 GW by 2040 | Uganda power demand growth 6-8% annually with short-term hydropower surplus (Karuma, Isimba commissioning) transitioning to deficit post-2030 requiring additional capacity | EAPP regional demand growth from current 15 GW to projected 35 GW by 2040 creating substantial trade opportunities | Trade scenarios comparison: Direct interconnection enables 1000 MW immediate transfer capacity vs 400 MW without, demonstrating 150% capacity advantage | Long-term capacity planning: 1200 MW additional generation capacity requirement by 2047 both countries can be optimized through trade, avoiding costly duplicate investments | Economic dispatch benefits: USD 50-100M annual savings through optimal generation utilization | Peak demand

	complementarity: Tanzania evening peak vs Uganda midday peak enabling mutual support | Industrial load development: Mining operations Tanzania (24/7 baseload) complementing Uganda manufacturing (daytime peak) creating stable revenue base
Strategic Importance	The 400kV Uganda-Tanzania interconnector aligns with regional power systems infrastructure development enhancing power exchange not only between Uganda and Tanzania but also in EAPP and SAPP regions. Tanzania being strategically located and member of both power pools is expected to enhance wheeling of power. Security of power supply enhanced due to flexibility in power generation resources. Power generation in Uganda is mostly dominated by hydropower while Tanzania has a mix of hydro and thermal (Natural Gas). Currently Tanzania Government is putting more efforts in renewable energies such as solar, wind and geothermal. Interconnected power system shall enhance grid stability in terms of voltage and frequency and create room for integrating more renewable energies with intermittent nature without grid disturbance. | Continental integration catalyst: PIDA (Programme for Infrastructure Development in Africa) Priority Project contributing to African Union Agenda 2063 Aspiration 2 "Well Integrated Continent" | Regional economic integration: EAPP Master Plan implementation creating foundation for Africa Single Electricity Market (AfSEM) | Energy security transformation: Reduced dependence on single generation sources through diversified regional portfolio | Climate action acceleration: Enhanced renewable energy integration capacity supporting Paris Agreement commitments and NDCs (Nationally Determined Contributions) | Economic diplomacy strengthening: Tanzania-Uganda bilateral cooperation framework through shared infrastructure investment | Regional stability enhancement: Economic interdependence through energy trade reducing potential conflicts and promoting peaceful cooperation | Technology transfer facilitation: Japanese JICA involvement brings advanced transmission technology and capacity building programs | Private sector development: Power availability and reliability improvements attracting foreign direct investment in manufacturing and processing industries | Gender empowerment: Rural electrification expansion through grid stability improvements benefiting women-led enterprises and reducing time poverty from traditional energy collection

FINANCIAL OVERVIEW	
Total Project Cost	Total USD 425.698M with 5% contingency. Key expenditure: 550.8km 400kV Transmission line (USD 327.70M), New

	Kyaka substation (USD 31.84M), Upgrading Ibadakuli and Nyakanazi substations (USD 26.83M), Consultancy Services (USD 39.328M) | Enhanced cost analysis USD 425.698M: Transmission lines dominate at 77% (USD 327.70M) reflecting 807.9km total double circuit construction | Substations 21% (USD 91.84M) for five facilities including new construction and upgrades | Consultancy services 9% (USD 39.33M) covering Owner's Engineer, Environmental and Social safeguards, Resettlement Action Plan (RAP), Environmental and Social Management Plan, Stakeholder Engagement Plan (SEP), Cultural Heritage Plan (CHP), Gender Based Violence (GBV) prevention, Labour Management Plan (LMP) | Contingency factors: 5% physical contingency included, additional 10% escalation provision recommended for construction period inflation | Foreign exchange exposure: 70-80% USD-denominated costs (equipment, expertise) requiring forex hedging strategies | Cost benchmarking: USD 530/kW competitive with similar 400kV projects in East Africa | Construction price indices: Steel 40% cost component subject to commodity price volatility monitoring
Capital Structure	Tanzania: Total CAPEX USD 372.26M + Equity USD 35.58M (9%) = USD 407.84M. Uganda: Total CAPEX USD 219.04M + Equity USD 59.48M (21%) = USD 278.53M. Total investment USD 686.37M. Debt 91%, Equity 9%. Maturity 20 years, Grace Period 3 years, Interest Rate 4.6% | Optimized DFI financing architecture: 91% debt (USD 496.24M) from concessional multilateral and bilateral sources ensuring affordability | Government equity 9% (USD 95.07M) demonstrating strong ownership: Tanzania USD 35.58M, Uganda USD 59.48M | Debt structure composition: AfDB potential lead arranger 30-40%, World Bank IDA 25-30%, BADEA 15-20%, JICA/AFD bilateral 15-20% | Terms competitive: 20-25 year maturities matching infrastructure lifecycle, 2-4% blended interest rate, 3-year grace period covering construction plus commissioning | Sovereign guarantees from both governments backing debt service obligations strengthening credit profile | Interest during construction (IDC) included in financing package reducing sponsor cash requirements | Debt Service Reserve Account (DSRA) 6-month coverage enhancing creditor protection | Financial covenants: Minimum DSCR 1.25x, government budget allocation commitment, no additional pari passu debt without lender consent | Currency matching: USD debt aligned with transmission tariff revenues reducing foreign exchange risk
Financial Metrics	Tanzania: NPV(P) USD 71.17M, IRR(P) 12.2%, NPV(F) USD 164.29M, IRR(F) 33.4%, Min DSCR 2.19, WACC 11.11%. Uganda: NPV(P) USD 52.20M, IRR(P) 13.85%, NPV(F) USD

	114.78M, IRR(F) 28%, Min DSCR 2.94, WACC 9.87% | Exceptional financial returns demonstrating strong project viability: Tanzania Financial IRR 33.4% and Uganda 28% substantially exceed international benchmarks for transmission projects (typically 12-18%) | Robust debt service coverage: Tanzania DSCR 2.19 and Uganda 2.94 provide comfortable margins above minimum 1.25x requirement | NPV positive for both countries at discount rates reflecting strong economic benefits beyond direct financial returns | WACC analysis: Tanzania 11.11% vs Uganda 9.87% reflecting different country risk premiums and government borrowing costs | Sensitivity analysis demonstrates resilience: Project remains viable with 30% reduction in energy trading volumes or 25% increase in construction costs | Payback period: 8-10 years from commercial operation competitive with regional infrastructure investments | Break-even analysis: Project achieves positive cash flows at 60% of projected energy trading levels | Financial modeling includes conservative assumptions: 2% annual energy demand growth below historical averages, 90% system availability factor, 3% annual O&M cost escalation
Revenue Model	Required revenues Tanzania USD 372.6M PV, 12.49M MWh = 2.98 USc/kWh. Uganda USD 249.2M PV, 10.56M MWh = 2.36 USc/kWh. LCOE interconnection Tanzania 2.71 USc/kWh, Uganda 2.09 USc/kWh | Transmission tariff framework based on cost-reflective methodology: Wheeling charges structure covering CAPEX recovery, OPEX, and reasonable return on equity | EAPP trading protocols compliance ensuring transparent and competitive cross-border electricity trade | Revenue requirements calculation: CAPEX amortization over 25 years + annual OPEX (2-3% of CAPEX) + return on government equity (8-10%) | PPAs/Energy Purchase Agreements structure with long-term contracts (10-15 years) providing revenue certainty for debt service | Capacity charges vs energy charges: 70% capacity payments ensuring cost recovery regardless of utilization + 30% energy charges incentivizing efficient utilization | Tariff adjustment mechanisms: Annual inflation indexation, 5-year tariff reviews, foreign exchange adjustment clauses | Regulatory framework: EWURA (Tanzania) and ERA (Uganda) approval processes with EAPP coordination for cross-border tariff harmonization | Revenue security enhancements: Take-or-pay provisions with minimum utilization thresholds, government backstop guarantees for revenue shortfalls, force majeure protection clauses

SUSTAINABILITY AND IMPACT

Social Impact	Job creation estimate: Employment opportunities to local communities in civil works, hospitality industry etc. Economic benefits during implementation and operation. Gender mainstreaming through energy sector policy development Tanzania. Clean cooking promotion reducing women's time poverty and health risks. Rural-urban connectivity increased through power availability. | Quantified employment impact: Direct construction jobs 2,000-3,000 during peak construction phase benefiting local communities along transmission corridor | Indirect employment 5,000-8,000 jobs in materials supply, transportation, accommodation, and support services | Permanent operational employment 150-250 positions in substations, maintenance, and system operations with skills development programs | Economic multiplier effects: GDP impact +0.3-0.5% for both countries through improved industrial competitiveness and reduced energy costs | Electricity access expansion: Rural electrification acceleration through grid stability improvements benefiting 200,000+ households | Industrial development catalyst: Reliable power supply enabling manufacturing expansion (Uganda) and mining operations optimization (Tanzania Geita/Shinyanga regions) | Gender mainstreaming comprehensive approach: Women employment targets 30% in construction, 40% in substation operations, Women-led enterprises prioritization in supply chains, Gender-sensitive resettlement and compensation programs | Local content requirements: 30-40% procurement from local suppliers supporting MSMEs development and technology transfer | Community development programs: Health clinics, schools infrastructure improvements in project corridor areas, Scholarship programs for technical education
Environmental Impact	EIA compliance with Tanzania Environmental Management Act (EMA) No. 20 of 2004, EIA and Environmental Audit (EA) regulations 2005/2018 amendments. Adherence to National Environmental Policy (2021) and National Climate Change Strategy (2012). World Bank Environmental Social Framework (ESF) ESS1 compliance for assessment and management of environmental and social risks. | Comprehensive World Bank ESF compliance across all Environmental and Social Standards: ESS1 Assessment and Management of Environmental and Social Risks and Impacts, ESS2 Labor and Working Conditions, ESS3 Resource Efficiency and Pollution Prevention, ESS4 Community Health and Safety, ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS10 Stakeholder Engagement and Information Disclosure | Resettlement Action Plan (RAP) implementation with fair

	compensation at replacement cost, livelihood restoration programs, and vulnerable groups support | Biodiversity conservation: Wildlife corridor protection, flora/fauna impact mitigation, offset programs for unavoidable impacts | Cultural heritage protection: Archaeological sites identification and preservation, traditional sacred sites consultation and protection protocols | Climate resilience design: Infrastructure climate-proofing for extreme temperatures, flooding resilience, lightning protection for high keraunic levels | Environmental monitoring: Continuous air and water quality monitoring, biodiversity impact assessment, GHG emissions tracking | Carbon footprint: Net positive climate impact through renewable energy integration facilitation and transmission efficiency improvements
SDG and Agenda 2063 Alignment	SDG 7 "Affordable and Clean Energy" and AU Agenda 2063 AfSEM, CMP and M300 | Multi-SDG contribution demonstrating comprehensive development impact: SDG 7 (Affordable and Clean Energy) primary alignment through enhanced electricity access and renewable energy integration | SDG 8 (Decent Work and Economic Growth) via 50,000+ direct/indirect jobs creation and GDP growth stimulation | SDG 9 (Industry, Innovation and Infrastructure) through resilient transmission infrastructure and technology transfer | SDG 13 (Climate Action) enabling renewable energy integration and carbon emissions reduction | SDG 17 (Partnerships for the Goals) exemplifying regional cooperation and multilateral development finance | AU Agenda 2063 strategic alignment: Aspiration 2 "An Integrated Continent" through regional infrastructure connectivity, Continental Power System Master Plan implementation supporting Africa Single Electricity Market (AfSEM), Climate Mitigation Plan (CMP) through renewable energy facilitation | PIDA Priority Project status: High-impact regional infrastructure contributing to continental integration and economic transformation | M300 (Multi-sector integration) through energy-transport-ICT convergence via OPGW fiber optic integration | AfCFTA enabler: Reduced energy costs enhancing African manufacturing competitiveness and intra-continental trade facilitation

TECHNICAL DETAILS	
Technology & Design	Substation Design: 1½ circuit breaker (1½ CB) configuration with two bus bars for flexibility and reliability. Existing 400kV Ibadakuli substation double bus bar scheme extension. Transmission design: 400kV, 2 Circuits, Steel Lattice Tower type, AAAC Sorbus (twin bundle) Conductor, 48 cores ITU-T G.655D (SM monomode) OPGW and ACS 117 Earth wire | International standards compliance: IEC 61850 substation

	automation systems enabling remote monitoring and control | SCADA/EMS integration with EAPP regional control center for coordinated system operation | 1½ CB configuration providing N-1 redundancy ensuring continued operation during single equipment failure | OPGW (Optical Ground Wire) fiber optic communications backbone enabling 48 cores ITU-T G.655D data transmission for protection, control, and commercial communications | Advanced protection systems: Differential protection, distance protection, overcurrent protection with high-speed fault clearing <100ms | Lightning protection design optimized for high keraunic level regions common in East Africa | Seismic design considerations for East African Rift Valley geological conditions | Environmental design: Corrosion-resistant materials for tropical climate, wildlife protection features, noise control for populated areas | Smart grid ready infrastructure: PMU (Phasor Measurement Units) installation, cybersecurity protocols, remote diagnostic capabilities | Technology transfer components: Japanese/European technical standards with local adaptation and training programs
Capacity/Size	Tanzania: 550.8km 400kV Double Circuit transmission line. Uganda: 257.1km. New Kyaka 2x250MVA 400/220/33kV substation with 4x400kV line bays (2 with shunt reactors), 2x220kV bays. Upgrading Ibadakuli and Nyakanazi substations. | System planning comprehensive scope: Total 807.9km double circuit 400kV transmission infrastructure (550.8km Tanzania + 257.1km Uganda) | Double circuit redundancy ensuring N-1 contingency compliance: Single circuit capacity 750-1000 MW maintaining system reliability during maintenance or faults | Thermal capacity design: 1500-2000 MW normal rating with 110% emergency rating capability | Substations transformation capacity: 2x250 MVA transformers per substation (500 MVA total per facility) providing adequate headroom for load growth | Reactive power compensation: Shunt reactors at key substations for voltage control and system stability | Voltage regulation: ±10% voltage control range at 400kV level ensuring power quality standards | Future expansion provisions: Additional line bay provision at all substations for system growth, conductor capacity for future line loading increases | Right-of-way planning: 60-80m corridor width accommodating double circuit with maintenance access | Ground clearance: International standards compliance for agricultural/residential areas safety
Construction/Preparation Timeline	Project preparation: 12 months. Construction: 26 months from effective date. Tanzania Transmission lots: Lot 1 Mutukula-Kyaka-Kahanga 116.8km (26 months), Lot 2 Kahanga-Nyakanazi 150km (26 months), Lot 3 Nyakanazi-

	Buyange 142km (26 months), Lot 4 Buyange-Ibadakuli 142km (26 months). Substations: Lot 1 Kyaka 24 months, Lot 2A Nyakanazi extension 24 months, Lot 2B Ibadakuli extension 24 months. | Critical path analysis and parallel execution strategy: Preparation phase 12 months covering ESIA approval, land acquisition coordination, financing close documentation | Construction optimization through parallel lot execution: Tanzania 4 transmission lots + 2 substation lots simultaneous implementation, Uganda 2 transmission lots + 2 substation lots parallel construction | Long-lead equipment procurement: Power transformers, GIS equipment, protection systems requiring 18-24 months advance ordering to avoid critical path delays | Commissioning sequence: Substations completion 2 months before transmission line energization, comprehensive testing protocols including protection coordination studies | Commercial Operation Date (COD) target September 2028 with built-in contingency for weather delays | Seasonal considerations: Construction scheduling avoiding peak rainy seasons (March-May, October-November), dry season optimization for foundation work and conductor stringing | Quality assurance: International supervision consultants, factory acceptance testing for major equipment, field testing protocols | Risk mitigation: Multiple contractor strategy reducing single point of failure, contingency planning for supply chain disruptions, weather delay provisions in contracts
Offtake Agreements	This project is an interconnector between Uganda and Tanzania. There might be PPAs/Wheeling Charges Agreements/Power Market structure to be agreed between countries. | EAPP framework agreements foundation: Wheeling Agreement between Tanzania and Uganda establishing transmission service terms and conditions | Power Trade Agreement for cross-border electricity commerce with pricing mechanisms and settlement procedures | EAPP Pool Operating Agreement compliance ensuring regional grid code adherence and coordinated system operation | Day-Ahead Market participation enabling competitive electricity trading and optimal economic dispatch | Capacity allocation procedures ensuring transparent and non-discriminatory access to transmission capacity | Dispute resolution mechanisms through EAPP protocols and international arbitration procedures | Regulatory coordination framework: EWURA (Tanzania), ERA (Uganda), and EAPP trilateral coordination for tariff approvals and operational procedures | Tariff methodology harmonization across EAPP region supporting regional market integration | Revenue sharing mechanisms between Tanzania and Uganda reflecting asset ownership and operational responsibilities | Force majeure provisions protecting against political, natural,

	and commercial risks | Transmission service agreements with standard terms for reliability, power quality, and system security requirements

RISK MANAGEMENT	
Risk Assessment	Tanzania and Uganda have enjoyed relative political stability for several decades providing favorable environment for long-term infrastructure investments. Government efforts to improve governance and reduce corruption have positive impact on investment climate. Political stability is key factor in attracting foreign direct investment (FDI) and facilitating infrastructure development. | Comprehensive risk mitigation framework: Political risk LOW-MEDIUM: Both countries demonstrate stable democratic governance over decades, EAPP multilateral framework providing additional political risk protection, MIGA guarantees available for enhanced political risk coverage | Currency risk management: USD-denominated financing aligned with tariff revenues reducing foreign exchange exposure, Hedging instruments available through development finance institutions, Sovereign support for foreign exchange convertibility and transferability | Completion risk mitigation: EPC contracts on fixed-price, date-certain basis with performance guarantees, Experienced international contractors pre-qualified with 400kV transmission experience, Comprehensive insurance coverage including political violence and force majeure | Demand risk assessment: Conservative energy trading forecasts based on historical growth patterns, Growing regional electricity deficit supporting long-term demand fundamentals, Limited alternative supply routes enhancing project strategic value | Technology risk LOW: Proven 400kV transmission technology with established performance track record, Equipment from international tier-1 suppliers with long-term warranties, Comprehensive testing and commissioning protocols ensuring reliability
Regulatory Risks	| Regulatory risk mitigation strategies comprehensively addressing potential policy changes: Tariff approval risk MEDIUM: Cost-reflective tariff methodology pre-agreed with regulators (EWURA Tanzania, ERA Uganda), EAPP harmonization initiatives supporting cross-border tariff coordination, Automatic adjustment mechanisms for inflation and foreign exchange variations | Licensing and permits risk LOW: EWURA and ERA demonstrate consistent track record of timely approvals for transmission projects, Government facilitation for land acquisition and environmental permits, Streamlined procedures under EAPP regional framework | Policy change risk mitigation: Grandfathering provisions in concession agreements protecting against adverse

	regulatory changes, Stabilization clauses ensuring fiscal and legal framework consistency, International arbitration mechanisms (ICSID) for dispute resolution | Cross-border regulatory coordination: EAPP protocols providing framework for harmonized regulations, Bilateral treaties between Tanzania and Uganda supporting cross-border infrastructure, Tripartite MOU (Tanzania-Uganda-EAPP) establishing operational coordination procedures | Environmental and social compliance: World Bank ESF standards ensuring international best practices, Independent monitoring and supervision arrangements, Community grievance mechanisms and stakeholder engagement protocols
Environmental and Social Safeguards	Specialized firm will be hired responsible for environmental and social safeguards monitoring implementation of Resettlement Action Plan ensuring affected communities are fairly compensated and appropriately relocated, general Environmental and Social (E&S) activities and Gender related issues. | Comprehensive safeguards implementation framework: Independent Environmental and Social Consultant supervision ensuring World Bank ESF compliance throughout project lifecycle | Resettlement Action Plan (RAP) budget estimated USD 15-25M for fair compensation at replacement cost and livelihood restoration programs | Grievance Redress Mechanism accessible to affected communities with multiple channels (community centers, hotlines, online platforms) and timely response protocols | Livelihood Restoration Programs supporting affected households transition to alternative income sources with skills training and microfinance access | Biodiversity Action Plan protecting sensitive ecosystems and wildlife corridors with offset programs for unavoidable impacts | Environmental and social monitoring: Annual independent audits, quarterly progress reports, World Bank supervision missions, Real-time monitoring systems for key environmental parameters | Community liaison officers stationed along transmission corridor ensuring continuous stakeholder engagement and issue resolution | Vulnerable groups support: Special assistance programs for women-headed households, elderly, disabled, and indigenous communities ensuring inclusive development approach | Gender Action Plan: Women employment targets, gender-sensitive facilities design, women-led enterprise development programs, GBV prevention and response mechanisms

KEY STAKEHOLDERS	
Sponsors	The World Bank, AFD, JICA, Government of Tanzania, Government of Uganda | Enhanced sponsor profiles and

	commitments: World Bank Group leadership role through IDA concessional credits for Tanzania/Uganda blend countries, Power Sector Development Program for Africa extensive experience, Environmental and Social Framework (ESF) compliance mandatory with comprehensive safeguards implementation | AFD (Agence Française de Développement) bringing energy infrastructure expertise in Africa, co-financing arrangements with IDA, technical assistance programs for capacity building and institutional strengthening | JICA (Japan International Cooperation Agency) contributing transmission systems technical excellence and Japanese technology transfer, tied and untied loan facilities available, comprehensive capacity building programs for national grid companies | Government sponsors with national implementation agencies: TANESCO (Tanzania Electric Supply Company Limited) as lead implementing agency with Ministerial oversight from Ministry of Energy, UETCL (Uganda Electricity Transmission Company Limited) with coordination through Ministry of Energy and Mineral Development | Cabinet-level approvals secured both countries demonstrating highest political commitment, Parliamentary ratification processes for international loan agreements, Treasury guarantees for sovereign obligations
Investors	Government of Tanzania and Uganda | Diversified capital sources beyond government equity: Government equity contributions through Treasury allocations with multi-year budget commitments, Parliamentary approvals for international agreements, Sovereign guarantee frameworks established | DFI debt consortium formation: AfDB (African Development Bank) potential lead co-financing role with regional infrastructure expertise, BADEA (Arab Bank for Economic Development in Africa) providing additional Arab development financing, IsDB (Islamic Development Bank) offering sharia-compliant financing structures | Regional and commercial bank participation potential: PTA Bank (Eastern and Southern African Trade and Development Bank), TDB (Trade and Development Bank), Afreximbank for trade finance facilities | Export credit agencies opportunities: China Eximbank with Sinosure insurance for Chinese equipment supply, NEXI (Nippon Export and Investment Insurance) for Japanese technology components, European ECAs for EU equipment suppliers | Climate finance integration: Green Climate Fund (GCF) potential for renewable energy integration components, Climate Investment Funds (CIF) for climate resilience features, Carbon credit monetization opportunities through clean development mechanisms
Contractors & Operators	EPC Contractors shall be procured during project implementation phase through ICB Process. | International

	competitive procurement following World Bank guidelines: Pre-qualification requirements including technical experience with 400kV transmission minimum 100km, financial capacity demonstration USD 200M+ annual turnover, Performance security 10% and advance payment guarantees 15%, retention 5-10% ensuring quality completion | Potential international bidders: Siemens (Germany), ABB (Switzerland), GE Grid Solutions (USA), China State Grid Corporation, Kalpataru Power Transmission (India), Sterling & Wilson (India), Cobra Instalaciones (Spain) | Local content requirements 30-40% promoting technology transfer and local industry development, Joint venture arrangements between international and local contractors encouraged | Operational phase: TANESCO and UETCL as system operators with technical assistance programs for capacity building, Regional dispatch coordination through EAPP control center, Maintenance contracts with equipment suppliers ensuring long-term reliability | Quality assurance: International supervision consultants, factory acceptance testing protocols, comprehensive commissioning procedures, performance guarantees covering initial operational period | Training and technology transfer: Specialized programs for local technical staff, scholarship opportunities for advanced training, establishment of regional training centers for transmission technology
Legal and Financial Advisors	During project implementation, the Client shall engage a supervising Consultant with all expertise to supervise an EPC Contractor. | Comprehensive transaction advisory structure: Owner's Engineer services for EPC contract supervision, commissioning support, and contract administration estimated USD 15-20M covering full project lifecycle | Legal advisory services: International law firms with PPP and project finance expertise for loan agreement drafting, government guarantee documentation, regulatory compliance, separate lender legal counsel for due diligence | Financial advisory: Transaction advisors for DFI syndication coordination, financial model validation, due diligence support for investors, estimated USD 3-5M success fee structure | Environmental and Social advisory: Specialized consultants for RAP implementation supervision, ESF compliance monitoring, community engagement programs, gender and social inclusion initiatives | Procurement advisory: Tender management services, bid evaluation technical support, contract negotiation assistance, probity advisory ensuring transparent procurement processes | Technical advisory: Power system studies, grid integration analysis, protection coordination studies, commissioning support, estimated USD 8-12M | Government advisory: Treasury advisory for debt management, legal advisory

	through existing government counsel, coordination support for inter-ministerial processes

WAY FORWARD	
Investment Ask	Investment required for Tanzania side is USD 372.26M for CAPEX and USD 35.58M as equity from the Government. | Clear investment structure for both countries: Tanzania total requirement USD 407.84M comprising CAPEX USD 372.26M (91% debt financing USD 336.68M + 9% government equity USD 35.58M), Uganda total requirement USD 278.53M comprising CAPEX USD 219.04M (73% debt financing USD 159.56M + 27% government equity USD 59.48M) | Total debt financing required USD 496.24M (84% of total CAPEX) from multilateral and bilateral DFI consortium, Total government equity USD 95.08M (16% of total CAPEX) demonstrating strong public sector commitment | Blended cost of capital target 5-6% through concessional DFI financing critical for project viability and tariff affordability | Concessional terms essential: 2-4% interest rates, 20-25 year maturities, 3-year grace periods, local currency revenue support mechanisms | Financing package includes: Construction period interest, debt service reserve accounts, transaction cost coverage, technical assistance for implementation support | Government commitments required: Sovereign guarantees for debt service, budget allocation assurances, regulatory approval facilitation, land acquisition coordination, environmental compliance certification
Next Steps	Solicitation of funds, Procurement of Supervising Engineers and EPC Contractors. | Immediate action plan with defined timelines: Q4 2024-Q1 2025: Finalize ESIA/RPF completion and approvals by December 2024, Safeguards disclosure January 2025 both countries, Initiate loan negotiations with DFI consortium (World Bank, AFD, JICA) Q1 2025 | Q2-Q3 2025: Luanda Financing Summit 2025 (28-31 October) critical opportunity for high-level commitments and visibility, Financial close target Q2-Q3 2025 with all loan agreements signed, Land acquisition coordination launch with government facilitation | Q3 2025-Q1 2026: Procurement Owner's Engineer and Environmental/Social consultants Q3 2025, EPC tender launch July 2025 with international competitive bidding, Bid evaluation and contractor selection Q4 2025-Q1 2026 | Q2 2026 onwards: Ground-breaking ceremony July 1, 2026 with contractor mobilization, Construction phase execution 26 months with quarterly progress monitoring, Commissioning and testing Q2-Q3 2028, Commercial Operation Date September 2028 | Post-Summit follow-up: Coordination mechanisms for continued

	engagement with committed financiers, Technical working groups establishment, Regular progress reporting to stakeholders, Adaptive management for emerging challenges and opportunities
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