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

III LUANDA FINANCING SUMMIT FOR AFRICA'S INFRASTRUCTURE DEVELOPMENT

Investment Prospectus – Botswana - Namibia Interconnector

PROJECT SUMMARY	
Project Name	Botswana - Namibia Interconnector
Location	Botswana to Namibia, extremity substations not yet known | Transmission interconnector linking Botswana and Namibia power grids through desert geography, establishing critical Southern African Power Pool (SAPP) connectivity between Botswana Power Corporation and NamPower systems within Kalahari desert region
Sector	Energy
Sub-Sector	Transmission Infrastructure | High-voltage transmission interconnector for regional power pool integration and renewable energy evacuation within SAPP framework, providing critical infrastructure for Botswana-Namibia Megasolar project integration and Southern African regional electricity market development
Development Stage	The project is at Concept Stage (S0) | Concept stage requiring comprehensive pre-feasibility studies, technical design parameters development, substations location determination, and coordination with ZIZABONA project at Transaction Support stage
Project Sponsor	Botswana Power Corporation (BPC), NamPower (Namibia) | Joint sponsorship by Botswana Power Corporation and NamPower representing bilateral cooperation within Southern African Power Pool (SAPP) framework and complementary infrastructure to ZIZABONA project
Project Cost	The estimated CAPEX is not known at this stage | CAPEX to be determined during pre-feasibility studies for high-voltage

	transmission infrastructure including advanced Dynamic Line Rating (DLR) and High Temperature Low Sag (HTLS) conductor technologies
Funding Requirement	No specific commitments have been made by potential financial partners towards the CAPEX | Funding requirements to be assessed during pre-feasibility studies with consideration for innovative financing mechanisms including Private-Public Partnership (PPP) models, Megasolar stakeholders participation, and blended financing approaches
Project Preparation Status	Concept stage requiring pre-feasibility studies, technical parameters definition, substations identification | Project preparation requiring comprehensive pre-feasibility studies, voltage level determination (likely 400/330 kV aligned with ZIZABONA), substations location selection, and coordination with Botswana-Namibia Megasolar 5,000 MW project
Expected Commercial Operation Date	To be determined following completion of pre-feasibility studies and project structuring | Commercial operation date to be established based on pre-feasibility study outcomes, ZIZABONA project coordination, Megasolar project synchronization, and bilateral regulatory framework development

FINANCIAL OVERVIEW	
Total Project Cost	The estimated CAPEX is not known at this stage | CAPEX to be estimated during pre-feasibility studies for high-voltage transmission infrastructure including substations, advanced DLR and HTLS technologies, desert climate adaptation requirements, and Kgalagadi Transfrontier Park routing avoidance measures
Capital Structure	To be determined during project structuring with consideration for Private-Public Partnership (PPP) models | How will the countries manage the project? Will there be a private partner involved (PPP)? The Megasolar stakeholders could potentially participate | Capital structure development considering PPP models with Megasolar stakeholders participation, bilateral cooperation frameworks between Botswana and Namibia, and innovative financing mechanisms
Financial Metrics	To be assessed during pre-feasibility studies and financial modeling | Financial performance indicators including Internal Rate of Return (IRR), Net Present Value (NPV), Debt Service Coverage Ratio (DSCR), and payback period to be determined during comprehensive feasibility studies

	considering Megasolar integration benefits and regional trade revenues
Revenue Model	Expected electricity trading revenues, wheeling charges, capacity charges | Revenue from electricity trading among participating countries, wheeling charges for transmission services, Megasolar project integration benefits | Revenue generation through regional electricity trading optimization, wheeling charges for cross-border transmission services, capacity charges within SAPP framework, Megasolar 5,000 MW project integration revenue streams, coordinated dispatching services for PV and hydropower resources
Market Demand	The project is expected to facilitate electricity trading among the participating countries, optimize the use of generation resources and it would bring on the same grid both the large PV injections of this multi-gigawatt solar PV project and the hydro power plants of Namibia and Angola and particularly to South Africa which suffered during the last years of power cuts and energy deficit | Strong market demand driven by Megasolar 5,000 MW solar PV integration needs, South Africa energy deficit and power cuts requiring renewable energy imports, regional electricity trading optimization, coordinated dispatching of PV and hydropower resources from Namibia Ruacana HPP (330 MW) and Angola Baynes HPP (via ANNA project)

SUSTAINABILITY AND IMPACT	
Social Impact	Regional energy cooperation and integration, enhanced electricity access through improved transmission infrastructure | Significant social impact through SADC regional energy integration, enhanced electricity access via improved transmission infrastructure, job creation during construction and operation phases, technology transfer in advanced transmission systems (DLR, HTLS), community development in Botswana-Namibia border regions
Environmental Impact	The project should avoid the Kgalgadi Transfrontier Park. The main landscape seems to be desertic, which in principle is not a problem for transmission lines | Environmental considerations include Kgalagadi Transfrontier Park routing avoidance requirement, desert landscape transmission routing optimization, ESIA planning required for ecosystem impact assessment, climate adaptation through DLR and HTLS technologies for temperature and wind variations
Strategic Importance	This project is complementary to the ZIZABONA project and could create a loop. While the ZIZABONA project is at Transaction Support stage and aims at establishing a 400/330 kV interconnector line linking the power grids of

	Zimbabwe, Zambia, Botswana and Namibia, the present project would create a loop for reinforcing/decongesting the ZIZABONA link, as well as decongesting the South Africa - Namibia link and The enabling of Megasolar project by this Botswana-Namibia interconnector is per se the highest decarbonisation project in Southern Africa if either the PV energy replaces coal fired energy of Botswana or South Africa, or the PV and Hydro mix replaces it | Critical strategic importance as complementary infrastructure to ZIZABONA project (Zimbabwe-Zambia-Botswana-Namibia at Transaction Support stage), creates transmission loop for reinforcement and decongestion of ZIZABONA and South Africa-Namibia links, enables Botswana-Namibia Megasolar 5,000 MW project representing highest decarbonation potential in Southern Africa through coal replacement with PV-Hydro mix, SAPP priority project identification, East-West transfers facilitation
SDG and Agenda 2063 Alignment	Strong alignment with Sustainable Development Goal 7 (Affordable and Clean Energy) through renewable energy integration and regional electricity trade facilitation, SDG 9 (Industry, Innovation, Infrastructure) via advanced transmission technologies (DLR, HTLS), SDG 13 (Climate Action) representing highest decarbonation potential in Southern Africa, African Union Agenda 2063 Aspiration 1 (Prosperous Africa) and Goal 10 (World-class Infrastructure), Southern African Development Community (SADC) regional integration objectives, Programme for Infrastructure Development in Africa (PIDA) energy corridors

TECHNICAL DETAILS	
Project Description	Botswana - Namibia Interconnector Project: Extremity substations: not yet known and This project is complementary to the ZIZABONA project and could create a loop | High-voltage transmission interconnector creating complementary loop infrastructure to ZIZABONA project (Zimbabwe-Zambia-Botswana-Namibia), reinforcing and decongesting existing ZIZABONA and South Africa-Namibia transmission links within SAPP network
Technology & Design	In terms of design of the line, if large variations in temperature and wind conditions are to be expected, this would make the Dynamic Line Rating (DLR) technology of particular interest for the transfer capacity, as well as the High Temperature Low Sag (HTLS) conductors | Advanced transmission technologies including Dynamic Line Rating (DLR) for temperature and wind variations optimization in desert climate conditions, High Temperature Low Sag (HTLS) conductors for enhanced performance under

	extreme weather conditions, voltage level likely 400/330 kV aligned with ZIZABONA project specifications and SAPP standards
Capacity/Size	To be determined during pre-feasibility studies based on Megasolar integration requirements and regional trade projections | Transmission capacity to be determined during pre-feasibility studies considering Megasolar 5,000 MW solar PV integration requirements, regional electricity trade projections, ZIZABONA loop optimization, and coordinated dispatching of renewable energy resources
Construction Timeline	To be determined following completion of pre-feasibility studies | Construction timeline development pending pre-feasibility study completion, ZIZABONA project coordination, Megasolar project synchronization, and regulatory approvals across Botswana and Namibia jurisdictions
Substations	Extremity substations: not yet known | Substation locations to be determined during pre-feasibility studies considering optimal grid integration points, Megasolar project coordination requirements, ZIZABONA loop connectivity, and Kgalagadi Transfrontier Park avoidance routing constraints
Megasolar Integration	A significant potential partner is the Megasolar project (up to 5,000 MW of solar PV installed capaicty) and The Megasolar is a bi-country initiative: Botswana-Namibia and The PV is better integrated in the grid if large hydro power plants with reservoir exist in one of the interconnected countries: this is the case of Namibia which includes Ruacan HPP 330 MW, and for Namibia which will be interconnected to Angola (ANNA project with Baynes hydro plant) | Critical infrastructure enabling Botswana-Namibia Megasolar project integration (5,000 MW solar PV bi-country initiative), optimal PV-Hydro integration with Namibia Ruacana HPP (330 MW) and Angola Baynes HPP (via ANNA project at Transaction Support stage), coordinated dispatching of multi-gigawatt solar and hydropower resources for regional grid stability
Regional Connectivity	Loop creation with ZIZABONA (Zimbabwe-Zambia-Botswana-Namibia), Angola connectivity via ANNA project, South Africa market access | Enhanced regional connectivity through loop creation with ZIZABONA project, Angola integration via ANNA project (Angola-Namibia at Transaction Support stage), direct South Africa market access for renewable energy exports, comprehensive SAPP network reinforcement and decongestion

RISK MANAGEMENT

Risk Assessment	Coordination and prioritisation of the project that involves the countries, risk of non payment by the energy purchaser country/utility | Key project risks include multi-country coordination challenges between Botswana and Namibia, payment risk from energy purchaser utilities, Megasolar project synchronization requirements, ZIZABONA project coordination complexity
Regulatory Risks	It is important to ensure that: the priority of the project is synchronised in the countries, i.e. it has to be a top priority | Regulatory risk mitigation requiring priority synchronization across Botswana and Namibia national energy policies, bilateral regulatory framework development, SAPP coordination protocols, alignment with national electrification and renewable energy strategies
Environmental and Social Safeguards	The project should avoid the Kgalgadi Transfrontier Park | Environmental and Social Impact Assessment (ESIA) planning required with mandatory Kgalagadi Transfrontier Park routing avoidance, desert environment impact assessment, cross-border environmental compliance requirements, community consultation processes in border regions
Implementation Risks	the generation projects (like Megasolar) are promoted and as far as possible synchronized so that the line will be used once built | Implementation risk mitigation requiring critical generation project synchronization (Megasolar 5,000 MW timing alignment), experienced contractor procurement with DLR and HTLS technology expertise, full funding mobilization through innovative financing mechanisms, coordination with ZIZABONA project implementation timeline

KEY STAKEHOLDERS	
Sponsors	Botswana Power Corporation (BPC), NamPower (Namibia) | Joint project sponsors including Botswana Power Corporation (BPC) as Botswana national utility and NamPower as Namibia national utility representing bilateral cooperation within SAPP framework and ZIZABONA complementary infrastructure development
Current Partners	SAPP, AUDA-NEPAD (Gift Chindebvu, giftc@auda-nepad.org), SAPP PAU (Jean Madzongwe, jean.madzongwe@sapp.co.zw) | Current project partners including Southern African Power Pool (SAPP) as regional coordination body, African Union Development Agency - New Partnership for Africa's Development (AUDA-NEPAD), SAPP Project Acceleration Unit (PAU) for implementation support

Potential Investors	The Megasolar stakeholders could potentially participate | Development finance institutions, Megasolar project stakeholders for PPP participation, blended finance providers, philanthropic capital | Potential investors including development finance institutions (African Development Bank, World Bank), Megasolar project stakeholders for Private-Public Partnership participation, blended finance providers, philanthropic capital for innovative financing mechanisms, Independent Private Transmission investors
Contractors & Operators	there is a process of procurement for good and experienced contractors in the countries | To be selected through competitive procurement emphasizing DLR and HTLS technology experience, operation by BPC and NamPower | Technical contractors to be selected through competitive international procurement emphasizing Dynamic Line Rating (DLR) and High Temperature Low Sag (HTLS) conductor technology experience, desert climate construction expertise, operation and maintenance by BPC and NamPower under bilateral operational agreements
Legal and Financial Advisors	To be appointed during project structuring for PPP transaction advisory, bilateral framework development | Professional advisory services to be engaged during project structuring including legal advisors for PPP transaction advisory and bilateral regulatory framework development, financial advisors for innovative financing mechanisms structuring, technical advisors for DLR and HTLS technology implementation
Contact Information	Botswana: Botswana Power Corporation (BPC) / Namibia: NamPower / Regional: SAPP Gift Chindebvu (giftc@auda-nepad.org) / SAPP PAU: Jean Madzongwe (jean.madzongwe@sapp.co.zw) | National contacts: Botswana - Botswana Power Corporation (BPC) / Namibia - NamPower / Regional coordination: SAPP Gift Chindebvu (giftc@auda-nepad.org) / SAPP Project Acceleration Unit: Jean Madzongwe (jean.madzongwe@sapp.co.zw)

WAY FORWARD	
Investment Ask	CAPEX to be determined during pre-feasibility studies for high-voltage transmission infrastructure | Total investment requirement to be assessed during pre-feasibility studies covering high-voltage transmission infrastructure, advanced DLR and HTLS technologies, substations, desert climate adaptation requirements, and Kgalagadi Transfrontier Park routing compliance measures

Next Steps	Explore ways for Innovative Financing Mechanisms (particularly Independent Private Transmission through PPP), result based financing, and blended financing with philanthropies. Conduct a high-level preliminary ESIA elements as part of the pre-feasibility studies. If feasible, update and/or extend the data, methodology and results of the ZIZABONA project | Critical next steps including exploration of innovative financing mechanisms (Independent Private Transmission through PPP, result-based financing, blended financing with philanthropies), high-level preliminary ESIA conduct as part of pre-feasibility studies, ZIZABONA project data and methodology extension where feasible
Implementation Timeline	To be defined following completion of pre-feasibility studies | Implementation timeline development pending pre-feasibility study completion, ZIZABONA project coordination, Megasolar project synchronization, bilateral regulatory approvals, and innovative financing arrangements
Innovative Financing Mechanisms	Independent Private Transmission through PPP, result-based financing, blended financing with philanthropies | Comprehensive financing approach including Independent Private Transmission models through Public-Private Partnership arrangements, result-based financing mechanisms, blended financing with philanthropic capital, Megasolar stakeholder participation in capital structure
ZIZABONA Coordination	Data and methodology extension from ZIZABONA project feasibility studies | Strategic coordination with ZIZABONA project (Zimbabwe-Zambia-Botswana-Namibia at Transaction Support stage) including feasibility study data and methodology extension, loop optimization analysis, complementary infrastructure planning
Megasolar Synchronization	Coordination with Megasolar 5,000 MW project development timeline ensuring transmission infrastructure readiness | Critical synchronization with Botswana-Namibia Megasolar 5,000 MW project development timeline, transmission infrastructure readiness alignment, coordinated project development approach ensuring optimal PV-Hydro integration and grid stability