REPÚBLICA DE MOÇAMBIQUE

MINISTÉRIO DOS RECURSOS MINERAIS E ENERGIA

Gabinete de Implementação do Projecto
Hidroelétrico de Mphanda Nkuwa

Mphanda Nkuwa Hydropower Project

Investment Teaser

AGENDA

- Introduction to Mphanda Nkuwa Hydro Power Project
- Overview of key aspects of the Project
- Feedback from Participants

INTRODUCTION
SUMMARY

Government of Mozambique has mandated Electricidade de Moçambique (EDM) and Hidroeléctrica de Cahora Bassa (HCB) to lead the development of the Mphanda Nkuwa Hydro power Plant and associated Transmission Infrastructure project, including the selection of a Strategic Partner

MIREME represented by GMNK, intends to develop Mphanda Nkuwa hydropower plant and associated transmission facilities, together known as the Mphanda Nkuwa Hydropower Project (“MNK” or the “Project”)

Synergy Consulting led Transaction Advisory team is advising GMNK and MIREME for development of the Project, with focus on selection of the strategic partner

MEETING OBJECTIVE

PREAMBLE

This meeting is part of the market sounding exercise being conducted by Gabinete de Implementação do Projecto Hidroeléctrico de Mphanda Nkuwa (GMNK) office to introduce the project to potential strategic partners and solicit interest

OBJECTIVE

Objective of this meeting is to:

- Introduce the project to potential strategic partners
- Procure feedback on key strategic transaction terms
- Solicit interest of strategic partners in the project

CONTENTS TO BE COVERED

- Project overview
- Project strategic importance
- Market Overview
- Project Structure
- Tender process overview
- Minimum eligibility requirements
- Mozambican Law Provisions
- Project Risk Allocation
- Environmental Strategic Approach
- Indicative timelines

PROJECT OVERVIEW

GENERATION

- Run-of-river Hydropower Plant to be located 60 km downstream from Cahora Bassa Dam
- Installed capacity no less than 1,500 MW, of which 760 MW being the firm capacity
- Concession to build, own, operate and transfer (BOOT)
- Expected PPA term of 25-30 years, further extendable by 10 years

TRANSMITION

- 1,300 KM 550 kV, from Cataxa to Maputo

OTHER DETAILS

- Indicative Project Timelines: Financial Close by End 2024 & Commissioning by End 2030

DEBT FINANCING

- The Project is already showing strong appetite from various Developmental Financial Institutions

PROJECT LOCATION

PROJECT STRATEGIC IMPORTANCE

ENERGY HUB OF SOUTHERN AFRICA

- MNK project will create, substantial power export opportunities, with clean power, in the region thereby realizing Mozambique's vision to establish itself as a regional power hub.

LEAST COST ENERGY GENERATION

- MNK will be one of the lowest cost energy provider in Mozambique and in the region, thereby significantly lowering the blended cost of electricity

UNIVERSAL ACCESS AND RAPID INDUSTRIALIZATION

- Project will support GoM's vision of sustainable clean energy for the universal access of electricity in Mozambique by 2030
- It will also nurture rapid future industrialization and growth through reliable regional Transmission electrical Infrastructure.

PROJECT STRATEGIC IMPORTANCE

JOB CREATION AND SKILL DEVELOPMENT

- Previous feasibility studies conducted earlier estimated that around 5,000 direct jobs would be created during the construction stage alone and around 500 hundred long term Jobs for 35 years and more.
- By providing power access, the project will indirectly create opportunity for local businesses and manpower

TAXES AND CONCESSION FEE INCOME FOR THE STATE OF MOZAMBIQUE

- The Mozambican state authorities will receive projected social and economic benefits in the form of taxes over the life of the Project.

TESTING THE INTERNATIONAL MARKET

- The Mphanda Nkuwa Project is characterized by generation and transmission infrastructures that require an investment of potentially more than 4.5 BN USD with a highly differentiated risk profile and different investor appetite.
- The “Workshop” aims to obtain following feedback from international market:
    i. Investors' appetite for the MNK project;
    ii. Generation and Transmission transaction structure, May be 1 or 2 separate RFPs;
    iii. risk matrix and its allocation;
    iv. contractual structure options.
- The “Feedback” of the Workshop with Potential Investors and subsequently with Lenders will be aligned with the strategy developed in the Project and will be considered in the EOI/RFP specifications of the selection of the Strategic Partner after alignment with the Government.
- International Investors with proven technical capacity and financial strength, worldwide, will be Invited to participate.
- Plenary session(s) are being held first with all the participants. Based on the feedback and the interest shown by the participants, bilateral sessions may be conducted later with the interested participants with more specific matters related to individual feedback from the participants.

MOZAMBIQUE AND REGIONAL ENERGY MARKET

LONG TERM REGIONAL POWER OUTLOOK

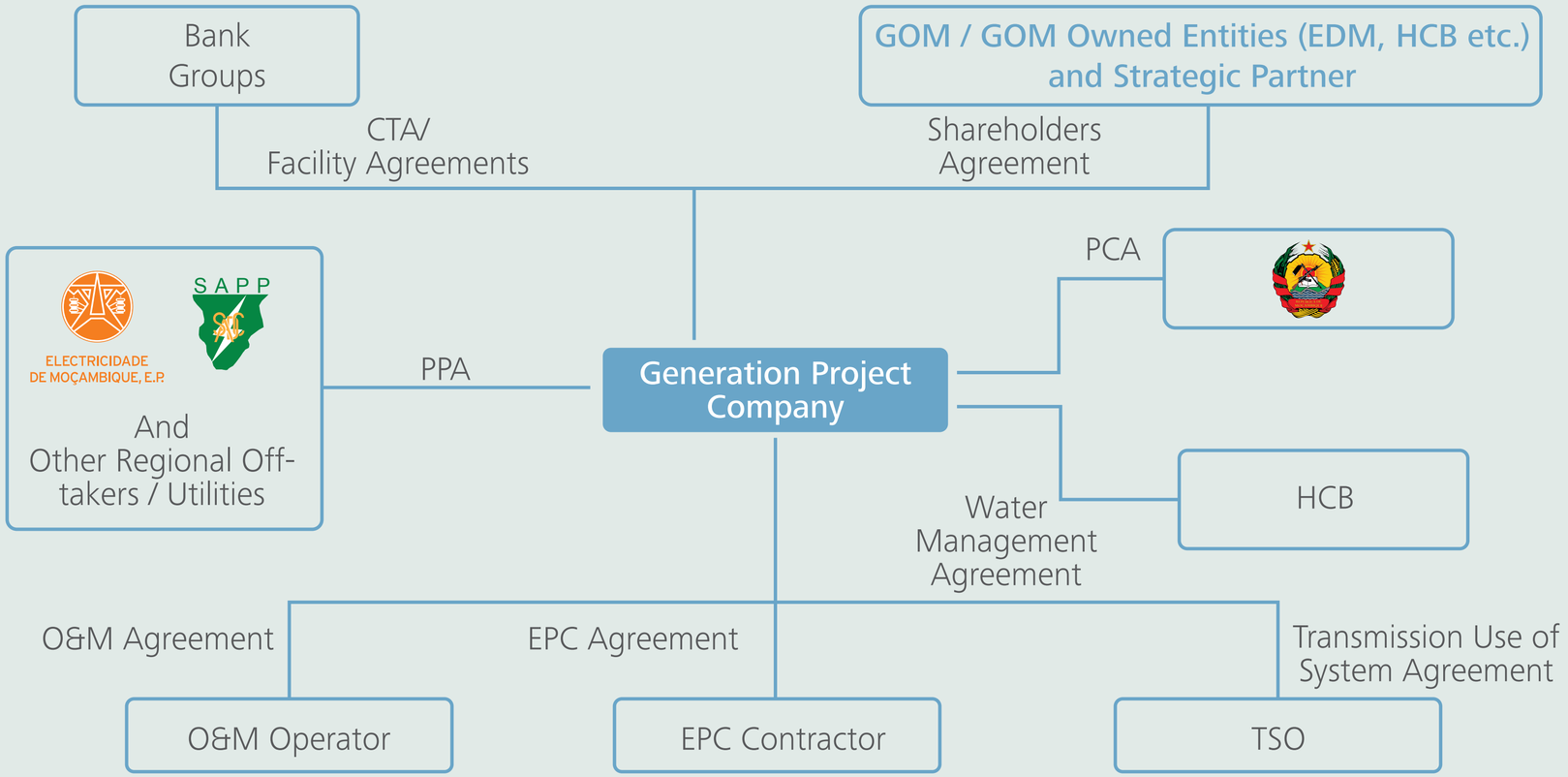
- Based on the last Market Study conducted in Mozambique for the Temane Project, the Project will have a critical role to play with its estimated commissioning in 2030 for the power supply in Mozambique and neighboring countries.
- A detailed market study will be carried out for the Project to evaluate the viability of the Project from a market perspective taking into account the latest domestic and regional demand, supply and network developments and comparative options of supply.

- As per the Integrated Resource Plan (IRP 2019) by Department of Energy (South Africa) there is a window for Hydropower imports into South Africa. It states that there is substantial potential for intra-SADC trade as it could open economic trade. Average tariff for SAPP as of Jan' 21 was 12.3 USc/KWh and increasing, MNK can provide, by far, a much lower tariff and clean power

- Other countries from SAPP like Namibia, Botswana, Zimbabwe etc. also have potential expected demand for power to be met in the coming years thereby reflecting offtake opportunities for the MNK Project.

PROJECT STRUCTURE

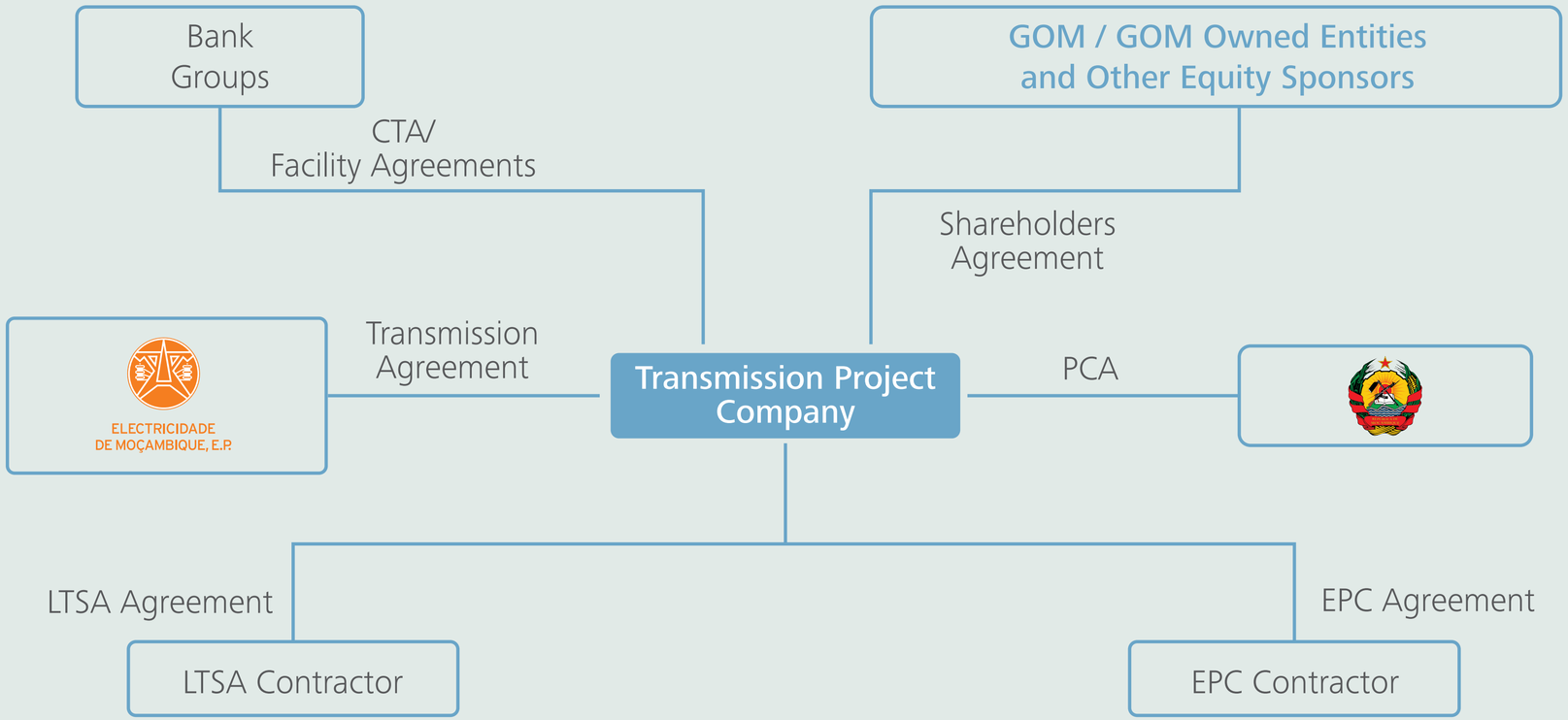
CONTRACTUAL OVERVIEW – GENERATION PROJECT



- The project is proposed to be developed as an IPP Project, jointly owned by the GoM / GoM-owned entities (like EDM, HCB) and a Strategic Partner (SP). The project offtake will be through execution of a long-term PPA with EDM, along with direct / indirect offtake agreements with other potential regional Off-takers, including Industries.

PROJECT STRUCTURE

CONTRACTUAL OVERVIEW – TRANSMISSION PROJECT



- The new transmission lines to be developed to join north and south of Mozambique
- The line will be 1,300 KM 550 kV, HVDC from Cataxa to Maputo

PROJECT STRUCTURE

OTHER KEY CONSIDERATIONS

OFFTAKE STRATEGY	• The power produced can be sold to EDM, Eskom, other regional/industrial offtakers, Power Pools like SAPP etc.
TRANSMISSION LINE STRUCTURING	• The structuring for transmission line asset to be done while ensuring that it is a bankable structure • Assets to be built for transmission line: • 1,300 KM 550 kV, HVDC from Cataxa to Maputo
STRATEGIC PARTNER TENDERING OPTIONS WITH REGARDS TO TRANSMISSION	Two possible methodologies which maybe followed with regards to the tender process • Two separate tenders for generation and transmission • Single tender for generation and transmission combined

PAYMENT STRUCTURING	• Potential payments mechanisms under consideration are:
	  • Availability based payments
	  • Wheeling based payments
	  • Combination of availability and wheeling payments
	  • Combination of availability and annuity payments

TENDER PROCESS FOR
STRATEGIC PARTNER SELECTION

THE TENDER PROCESS TO BE FOLLOWED IS AS HIGHLIGHTED BELOW:

STEP 1 **MARKET SOUNDING** **(SEP'21– OCT'21)**	• Market Sounding meeting conducted with potential strategic partners • Queries from participants addressed with regards to the process and the project • Feedback from participants at the end of the presentation • Responses from participants assessed
STEP 2 **EXPRESSION OF INTEREST (EOI)** **(DEC'21 – JAN'22)**	• Interested parties will be asked to submit expressions of interest in 6-8 weeks from the launch of EOI stage • Qualifying companies will be invited to submit to detailed proposal
STEP 3 **REQUEST FOR PROPOSAL (RFP)1** **(FEB'22 – MAY'22)**	• RFP to have robust evaluation criteria (technical, legal and commercial) • Submission of proposals by applicants in 12-14 weeks from RFP issuance • Bid proposals evaluation • Preferred bidder is shortlisted • Negotiation of JDA and Contract signature

MINIMUM ELIGIBILITY REQUIREMENTS (GENERATION)

TECHNICAL MERS

The Minimum Eligibility Requirements for Generation include but are not limited to:

- Experience and knowledge of the Generation projects.
- Preferably experience in conducting projects in Sub-Saharan Africa and developing countries.
- Relevant experience in development and construction of Hydroelectric Power Plant projects with at least two or more units with a capacity of 100 MW each with a minimum of 20% shareholding in each such project.
- Must have relevant experience in power generation system (for a minimum cumulative capacity of 200 MW) as following, at least:
  - 10 years of experience for negotiating and selecting EPC contractors.
  - 10 years of experience as an operator.
  - 10 years of experience for negotiating and selecting O&M contracts.
- The Company must have prior developer experience in the completion of similar assignments within the past five years.
- Proven capacity to be held accountable for ensuring project deliverables and for the professional conduct and integrity of the team.
- Experience with CAPEX/OPEX studies related to Hydropower plant over 200 MW cumulative capacity.

FINANCIAL MERS

- Tangible Net Worth
  - The Applicant must demonstrate a minimum tangible net worth of USD 650 million (or currency equivalent) in each of the three (3) previous fiscal years as evidenced by audited accounts of the Applicant.

MINIMUM ELIGIBILITY REQUIREMENTS (TRANSMISSION)

TECHNICAL MERS

The Minimum Eligibility Requirements for Transmission include but not limited to:

- Experience and knowledge of the Transmission projects.
- Preferably experience in conducting projects in Sub-Saharan Africa and developing countries.
- Experience with Transmission Lines and Substations operating in voltages equal or above 220 kV (AC) and 400 kV (DC) with a minimum of 20% shareholding in each such project.
- Experience with CAPEX/OPEX studies related to Electrical Systems over 220 kV.
- Must have relevant experience in power transmission system as following, at least:
  - 10 years of experience for negotiating and selecting EPC contractors.
  - 10 years of experience as an operator.
- The Company must have prior developer experience in the completion of similar assignments within the past five years.
- Proven capacity to be held accountable for ensuring project deliverables and for the professional conduct and integrity of the team.

Note: The MER for Generation would be same as mentioned on previous slide.

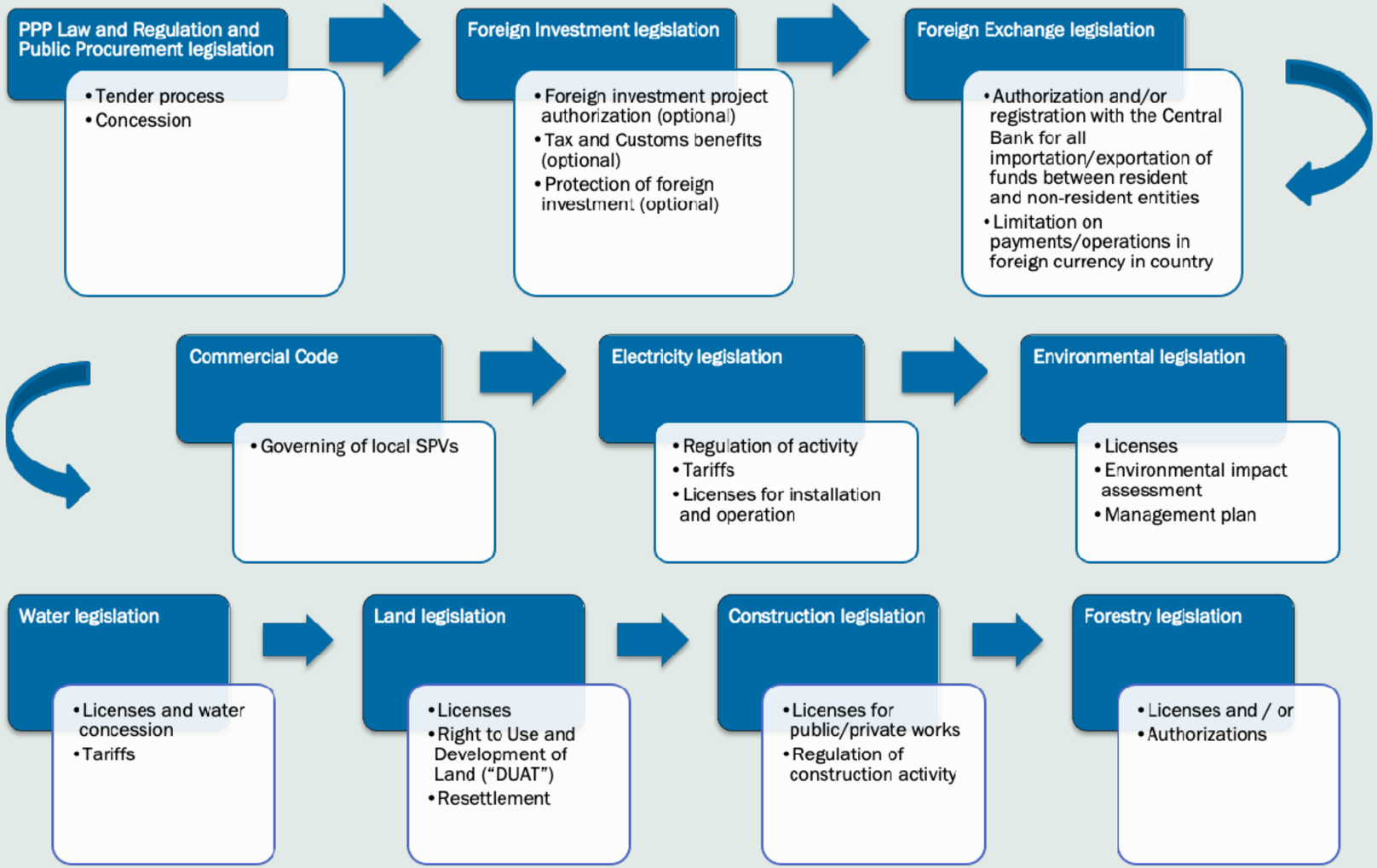
FINANCIAL MERS

- Tangible Net Worth
  - The Applicant must demonstrate a minimum tangible net worth of USD 950 million (or currency equivalent) in each of the three (3) previous fiscal years as evidenced by audited accounts of the Applicant.

MOZAMBICAN LAW PROVISIONS

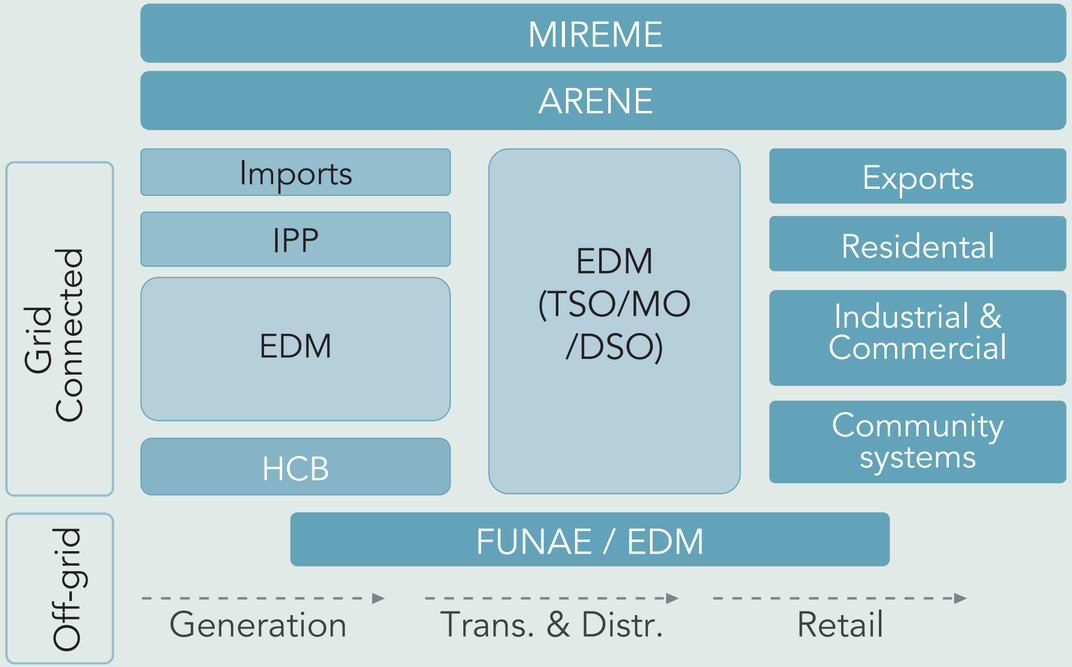
OVERVIEW OF RELEVANT LEGISLATION

Considering the matters covered by the Project, the main areas and respective legislation which will be relevant for its implementation and development are the following:



INSTITUTIONAL AND REGULATORY FRAMEWORK

INSTITUTIONAL



REGULATORY

- Electricity Law 21/97;
- Decree No 08/2000, Concession regulation;
- Decree No 42/2005, creates the GNRT (SO & MO);
- Decreto No 43/2005, regulation that nominates EDM as SO & MO;
- Law PPP No 15/2011, Public Private Partnership
- Ministerial Dispatch, No 184/2014, approving the Transmission Grid Code
- Law No 3/2018, which regulates SoE
- Law N° 4/2009, approving the Tax Benefit Code

INSTITUTIONAL AND REGULATORY FRAMEWORK

RELEVANT STAKEHOLDERS

- Ministry of Mineral Resources and Energy (MIREME) is the State entity responsible for the management of the country's mineral and energy resources, national energy planning, policy formulation and overseeing the operation and development of the energy sector. MIREME oversees the power sector, with the Energy Regulatory Authority (ARENE) (ex-National Electricity Council–CNELEC) acting as the regulator and the National Fund for Rural Electrification (FUNAE) is charged with implementing off-grid projects. EDM and HCB are also under the supervision of MIREME.

- Energy Regulatory Authority (ARENE) was created in 2017 to replace CNELEC and take a stronger regulatory role within the sector, with powers of regulation and supervision of the subsectors of electricity, natural gas and liquid fuels, ensuring the alignment of the energy sector with international best practices. ARENE has powers of supervision, regulation and sanction which includes, among others, the ability to launch public tender procedures for the award of concessions of production, transmission, distribution and marketing of electricity, establish and approve tariffs and prices for energy, gas and petroleum products, suspend or cancel concession contracts, licenses or other contracts, where necessary, to inspection the facilities and equipment of the production, storage and handling of energy.

- Energy Fund (FUNAE) is the public institution created for the development of environmentally beneficial alternative energy sources (i.e. renewable energy), as well as increase the availability of energy in more accessible conditions (cost-wise) for the population. FUNAE plays an important role in the increase of the private sector investment in the off-grid sector.

INSTITUTIONAL AND REGULATORY FRAMEWORK

RELEVANT STAKEHOLDERS

- Electricidade de Moçambique, E.P. (EDM) is a vertically-integrated, government-owned electricity utility responsible for generating and transmitting electricity and distributing it through the national grid, guaranteeing the public service of electricity provision.

- Hidroeléctrica de Cahora Bassa, S.A. (HCB) operates Cahora Bassa Dam since 1975, with the Mozambican Government owning 85% of its share capital. It is the largest power producer in the country with an installed capacity of 2,075 MW, providing hydroelectric power to Mozambique and the Southern African Development Community (SADC).

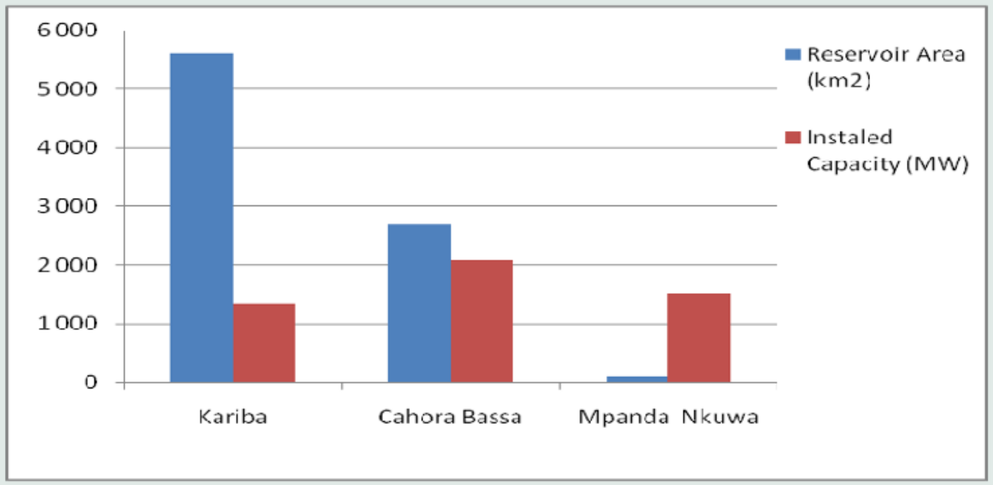
PROJECT RISK ALLOCATION

Risk	Project Co	GoM	GoM Considerations
Development	✓		Private party to take development risk
Financing	✓		Private party to take financing risk
Hydrology	✓	✓	To be ascertained during the technical studies.
Payment (Including Credit Enhancement)		✓	Enhancement & Risk Mitigation options (MDB, DFI Guaranteed LC Structure, PRG, PRI, Liquidity Escrow Accounts
Market / Dispatch		✓	Structure of the PPA will determine the extent of the dispatch and Off-taker risk
Regulatory / Change in Law		✓	Relief will be required to maintain the economic position of the Project Co
Construction	✓		Private party to take Construction Risk
Operational	✓		Private party to take Operation Risk

PROJECT RISK ALLOCATION

Risk	Project Co	GoM	GoM Considerations
Force Majeure	✔	✔	GOM to take political force majeure risk. Project Co. to take natural force majeure risk.
Termination	✔	✔	Identity of breaches that lead to immediate termination/breaches with cure periods to be covered.
Hydrology	✔	✔	To be ascertained during the technical studies.
Currency		✔	Currency depreciation of local currency payments paid by off-taker to Project Co. to be protected by GoM.
Environment	✔		Private party to take Environmental Risk
Transmission	✔	✔	Transmission licenses and right-of-way may be primarily ensured by GoM.
Choice of law & Dispute Mechanisms	✔	✔	Project Co. may seek to operate under a neutral law. Use of internationally accepted arbitration mechanisms.

STRATEGIC ENVIRONMENTAL MANAGEMENT APPROACH



TECHNICAL MERS

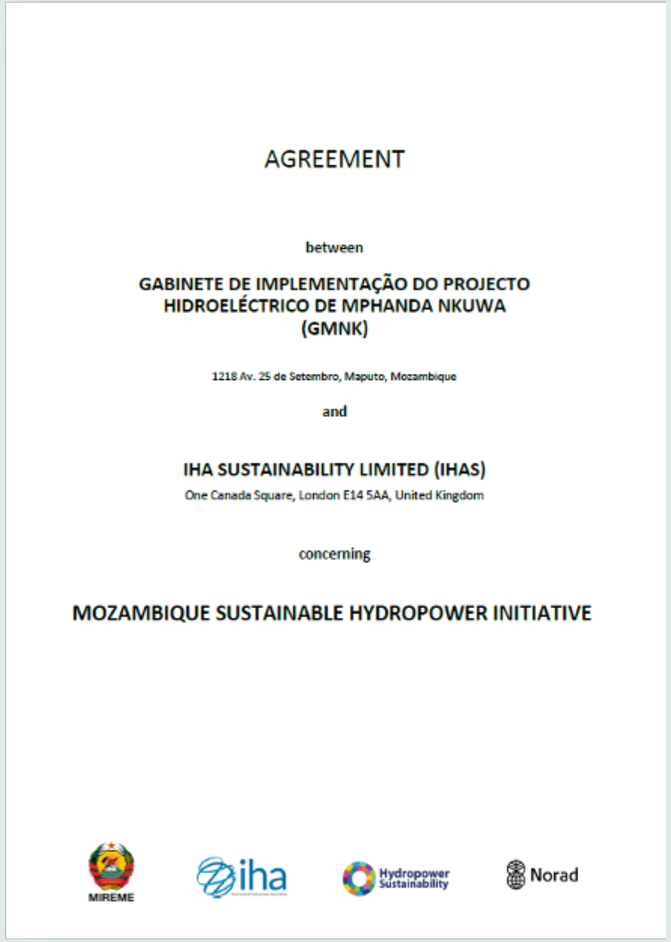
- Small floading area (4% of the HCB reservoir)
- Short time of water retention

LIMITED SOCIAL AND ENVIRONMENTAL IMPACTS

INTERNATIONAL GUIDELINES BEING FOLLOWED:

- IFC
- EIB
- IHA/ICOLD
- AfDB

ENVIRONMENTAL STRATEGIC APPROACH



AGREEMENT

between

GABINETE DE IMPLEMENTAÇÃO DO PROJECTO HIDROELÉCTRICO DE MPHANDA NKUWA (GMNK)

1218 Av. 25 de Setembro, Maputo, Mozambique

and

IHA SUSTAINABILITY LIMITED (IHAS)

One Canada Square, London E14 5AA, United Kingdom

concerning

MOZAMBIQUE SUSTAINABLE HYDROPOWER INITIATIVE

MIREME iha Hydropower Sustainability Norad

- The project will follow all required National and Internacional guidelines on ESIA matters
- GMNK is establishing Institutional Partnership with IHA and ICOLD to ensure adequate HESG assessment and required certification, including training and capacity building
- IHA is expected to start the HESG assessment by Oct, 2021 and complete the certification by 2023
- The TOR's of ESIA are peer review by relevant International organizations
- GMNK will, at early stage, develop a Development Community Plan with assistance of IHA and relevant Institutions
- GMNK will also develop a Communication Strategic Plan dedicated to address the ESIA matters and project development

TIMELINES

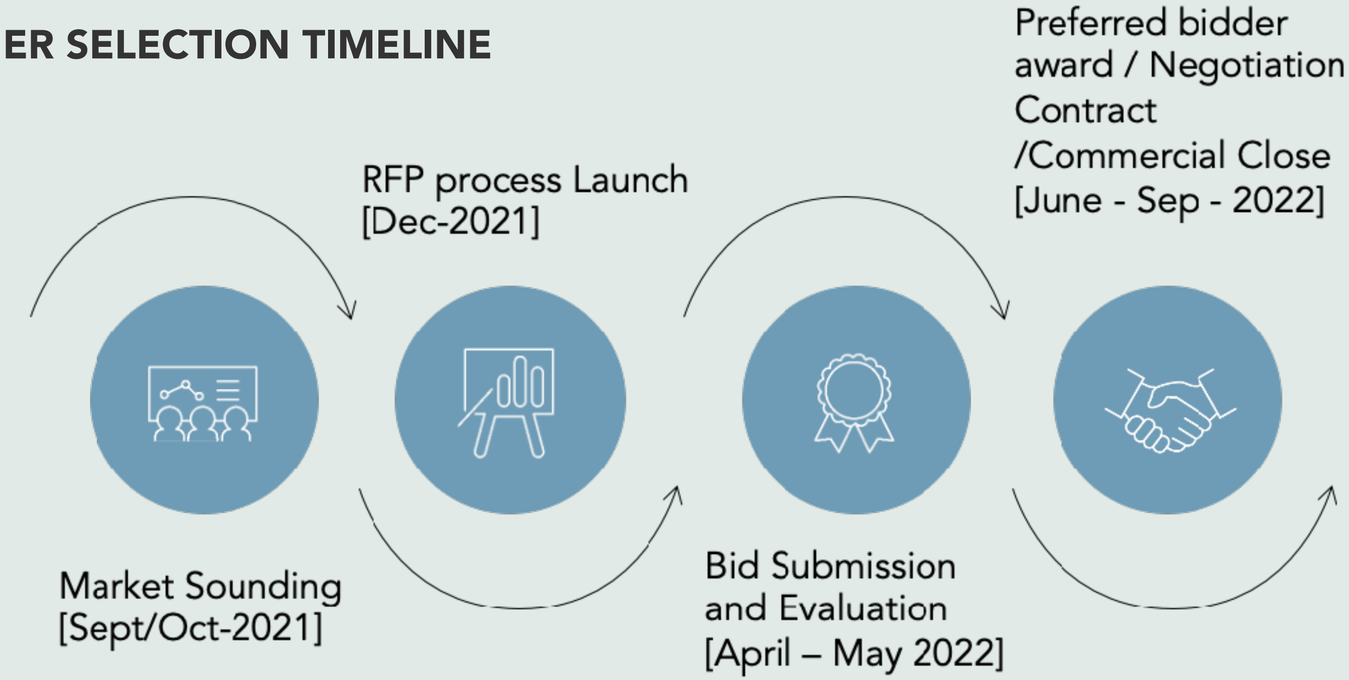
MARKET SOUNDING TIMELINE

PLENARY SESSION WITH INVESTORS ON - 29-SEP-2021

PROSPECTUS & FEEDBACK FORM DISTRIBUTION – 30-SEP-2021

BILATERAL SESSIONS – 6TH TO 15-OCT-2021

STRATEGIC PARTNER SELECTION TIMELINE



Kanimambo . Obrigado . Thank you