AFRICAN DEVELOPMENT FUND

ADF/BD/WP/2019/118/Approval
5 July 2019
Prepared by: PESD/RDGS/PGCL
Original: English

BOARD APPROVAL
Lapse-of-time Procedure

17 July 2019

FOR CONSIDERATION

MEMORANDUM

TO : THE BOARD OF DIRECTORS

FROM : Vincent O. NMEHIELLE
Secretary General

SUBJECT : MULTINATIONAL: TEMANE TRANSMISSION PROJECT (TTP) *

ADF GRANT OF UA 23.58 MILLION

Please find attached the above-mentioned **Grant proposal** together with the draft **Resolution** which are submitted for your **consideration on a Lapse-of-time Basis.**

The Technical Annexes will be distributed separately.

If no objection is recorded by 5:00 pm on 17 July 2019, the said Grant Proposal will be considered as **approved** and the Resolution **adopted**.

Attach:

Cc : The President

*** Questions on this document should be referred to:**

Mr. K. KAPOOR	**Director General**	**RDGS**	**Extension 2045**
Mr. B. BALDEH	**Director**	**PESD**	**Extension 4036**
Mr. G. PENN	**Ag. General Counsel**	**PGCL**	**Extension 3220**
Mrs. A. M. MECCA	**Division Manager**	**PGCL.1**	**Extension 3309**
Mrs. A. NALIKKA	**Division Manager**	**PESD.1**	**Extension 2272**
Mr. F. KANONDA	**Regional Manager**	**RDGS**	**Extension 8411**
Mr. P. TOIGO	**Country Manager**	**COMZ**	**Extension 1299**
Mr. E. KIHARA	**Task Manager**	**PESD.1**	**Extension 4503**
Mr. O. VAJETH	**Co-Task Manager**	**PESD.1**	**Extension 4539**

SCCD : K.M

AFRICAN DEVELOPMENT FUND

PROJECT: TEMANE TRANSMISSION PROJECT (TTP)

COUNTRY: MULTINATIONAL

APPRAISAL REPORT

July 2019

Project Team	Task Manager	E. Kihara – Principal Power Engineer	PESD1	4503
	Co-Task Manager	O. Vajeth – Principal Corporate Relationships Officer	PESD1	4539
	Project Team Members	M. Wanyama – Senior Financial Management Specialist	RDGS4	8473
		H. Malate – Senior Procurement Officer	RDGS4	8797
		H. Harnack – Country Economist Consultant	COMZ	5818
		J. Nolasco – Energy Economist Consultant	RDGS1	8692
		O. Forton – Principal E & S Officer	SNSC	5078
		B. Mbianyor – Chief E & S Compliance Officer	SNSC	4214
		M. Musumali – Principal Climate Change & Green Growth Officer	PECG2	3983
		V, Celestino – Senior Gender Specialist	RDGS4	3881
		B. Lufeyo – Regional Integration	RDGS	5747
		E. Change – Chief Governance Officer	RDGS	8477
		A. Ayisi-Salawou – Legal Consultant	PGCL.1	5789
	Country Manager	P. Toigo	COMZ	1299
	Sector Manager	A. Nalikka	PESD1	2272
	Regional Sector Manager	F. Kanonda	RDGS	8411
	Sector Director	B. Baldeh	PESD	4036
	Regional Director	K. Kapoor	RDGS	2045

Peer Reviewers	Egerough Chigoziri: – Chief Power Engineer	PESD1	7791
	Antony Karembu: – Principal Investment Officer	PERN1	1961
	Ossoucah Philippe: – Principal Electrical Engineer	PESD0	4904
	Liezl Harmse: – Chief Utility Management Officer	PESD2	8469
	Alemayehu Wubeshet: – Chief Power Engineer	RDGE1	8321
	Justin Ecaat: – Lead Environmental Safeguard Officer	RDGE	4451

AFRICAN DEVELOPMENT FUND

MULTINATIONAL

TEMANE TRANSMISSION PROJECT (TTP)

APPRAISAL REPORT

PESD/RDGS/PGCL DEPARTMENT

July 2019

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Currency equivalents

As of May 2019

UA 1	=	USD 1.40

Fiscal year

01 January – 31 December

Weights and measures

1 metric tonne	=	2204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

Acronyms and abbreviations

AfDB	African Development Bank
ADF	African Development Fund
CAPEX	Capital Expenditure
CSP	Country Strategy Paper
CTT	Central Térmica de Temane
CTRG	Central Térmica de Ressano Garcia
DFI	Development Finance Institution
ENDE	Estratégia Nacional de Desenvolvimento; National Development Strategy
EDM	Electricidade de Moçambique
ESIA	Environment & Social Impact Assessment
ESMP	Environment & Social Management Plan
FY	Financial Year
GDP	Gross Domestic Product
GoM	Government of Mozambique
IPP	Independent Power Producers
MTR	Mid-Term Review
OE	Owner’s Engineer
PAR	Project Appraisal Report
PBA	Performance Based Allocation
PCN	Project Concept Note
PCR	Project Completion Report
PDO	Project Development Objectives
PIU	Project Implementation Unit Team
PEN	Preliminary Evaluation Note
MIREME	Ministry of Energy (Ministério dos Recursos Minerais e Energia)
PIU	Project Implementation Unit
PPSD	Project Procurement Strategy for Development
SDG	Sustainable Development Goals
SIGEM	Integrated Management System
SPV	Special Purpose Vehicle
STE	Mozambique Backbone Transmission
QPR	Quarterly Progress Report
RAP	Resettlement Action Plan
RFP	Resettlement Policy Framework
ROW	Right of Way
SAPP	Southern Africa Power Pool
SNTE	Sociedade Nacional de Transporte de Energia
SOE	State Owned Enterprise
TTP	Temane Transmission Project
TREP	Temane Regional Electricity Project
TSF	Transition Support Facility
TUoS	Transmission Use of System
UA	Units of Account
USD	United States Dollar
WB	World Bank

PROJECT INFORMATION

Client's information

Grant Recipient:	Republic of Mozambique
Executing Agency:	Ministry of Energy (MIREME)
Implementing Agency:	SNTE a wholly owned EDM subsidiary

Financing plan

Source	Amount (UA)	Amount (USD)	Instrument
African Development Fund	23.58 million	33 million	ADF Grant
World Bank	211.14 million	295.6 million	Grant
Norwegian Trust Fund (World Bank)	16.5 million	24 million	Grant / Counterpart
IsDB	71.2 million	99.7 million	Loan
DBSA	35.7 million	50 million	Loan
OFID EDM	25.7 million 9.5 million	36 million 13.2 million	Loan Shareholder loan Facility
Total costs	**397.8million**	**551.6 million**	

African Development Fund's key financing information

Grant currency	UA
Interest type*	Not Applicable (N/A)
Interest rate spread*	N/A
Commitment fee and other fees	N/A
Tenor	N/A
Grace Period	N/A
Financial internal rate of return, net percent value (base case)	FIRR: 2.4% FNPV: USD 27 million

Timeframe – main milestones (expected)

Date of identification mission	7th – 9th February 2018
Date of preparation mission	6th – 10th August 2018
Date of E & S appraisal mission	12th – 16th November 2018
Date of disclosure of ESIA/ESMP & RAP summaries	23rd November 2018
Date of appraisal mission	25th – 29th March 2019
Expected date of Board consideration	17th July 2019
Forecasted date of effectiveness	31st December 2019
Forecasted date of last disbursement	30th October 2023
Forecasted date of project completion	30th April 2023

Project Summary

PROJECT OVERVIEW

The Temane Transmission Project (TTP) consists of a 563-km, 400-kV single-circuit HVAC (High Voltage Alternating Current) transmission line between Vilanculos-Chibuto-Matalane-Maputo, associated with three new 400-kV substations at Vilanculos, Chibuto and Matalane, and expansion of the existing Maputo substation, including installation of other equipment (bus bar and line reactors, telecommunications, SCADA with control centre). With an estimated total funding requirement of USD 551.0 million, the TTP stands as a flagship project for Mozambique as it refers to the first phase of the STE program – STE standing as the national transmission backbone of the country connecting the Tete Province to Maputo, hence the northern/centre transmission system with the southern transmission system.

The project will allow for the evacuation of 400 MW from the envisaged Central Termica Temane (CTT) project, which will reinforce generation capacity in the country and in the region via the utilization of Mozambique's endogenous gas resources. It is expected that the TTP reaches COD in Q2 2023 and it is followed by 30 years of operation, serving the broader purpose of integrating the national power system, enhancing EDM's capacity to provide expanded access to electricity, and strengthening regional integration and Mozambique's objective of becoming a regional energy hub. The project is expected to have significant positive economic impacts along the route, unleashing industrial developments that are currently constrained by lack of a reliable power supply solution in the geographic area covered, specifically in the provinces of Inhambane, Gaza, and Maputo.

NEED ASSESSMENT

The Temane Regional Electricity Project (TREP) initiative, comprising the CTT and the TTP, stands as the priority project for both the GoM and EDM towards the development of Mozambique's national electricity system and integration into the Southern Africa Power Pool (SAPP). The TREP entails significant developmental benefits for the country, as it will allow generation of power from endogenous resources and the construction of the first phase of the country's power backbone line. The increased access to electricity and associated creation of development opportunities along the route of the envisaged T-line are also relevant to be included in the scope of the justification of this operation, allowing for the connection of new loads that would otherwise rely on more expensive and more carbon intensive dispatchable power generation solutions (e.g. diesel).

The importance and value of the TREP initiative to Mozambique has been objectively demonstrated by the Independent Power Market Study, undertaken at request from Electricidade de Moçambique (EDM) to further highlight the project's rational and justification. The overall conclusion of the Independent Power Market Study as to the viability and attractiveness of the TREP initiative is that Mozambique and EDM need the CTT as a key element of its power sector expansion strategy, with CTT and TTP operationalization by 2023 considered essential to enhance the country's energy security and affordability of energy supply. The project stands as the best use of funds towards the long-awaited materialization of the first phase of the country's power backbone line, maximizing impact from concessional and grant financing directed towards the transmission component – typically a public-sector activity – of the TREP initiative. Private sector financing will be directed at the development of the CTT project.

THE ADDED VALUE

This operation follows a request for funding received from the Ministry of Economy and Finance of Mozambique submitted to the Bank in 2017, following-up on bilateral discussions in Abidjan within the scope of the envisaged implementation of the New Deal on Energy for Africa (NDEA). The Bank has been a key partner of Mozambique for 40 years and is committed to support the country's efforts to build an inclusive and green economy. Since 1977, the Bank has financed more than 100 projects in the country for a total amount of $2 billion, focusing in particular on investments in agriculture and transport. The AfDB is also an important partner of Mozambique in energy. In this sector, the Bank's interventions have been aimed at improving connectivity and access to electricity, mainly in rural areas.

By supporting the TTP with a UA23.58 approximately USD33 million in grant funding from the country and regional ADF envelope, the Bank will deliver on its promise of support, utilizing its sovereign financing window (that will be paired with an envisaged support to the CTT from AfDB's non-sovereign financing window) towards a continuous support to the GoM's objective of expanding access to electricity, whilst enhancing economic development and regional integration. As an honest broker and key stakeholder in the effort towards Mozambique's development, the Bank will thus not only muster its holistic support from both its ADF and ADB financing instruments towards the materialization of the TREP initiative, but also contribute to project development and implementation with its expertise and support from the Bank's central, regional and country teams.

TEMANE TRANSMISSION PROJECT - Results Based Logical Framework

Country and project name: Mozambique – TEMANE TRANSMISSION PROJECT
Purpose of the project: The objective of the project is to strengthen the country's transmission capacity to efficiently and reliably meet the demand for electricity in Mozambique and export power to the SAPP region, whilst also promoting private sector participation in the development of the country's and regional power system.

RESULTS CHAIN		PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS/MITIGATION MEASURES
		Indicator (including Core Sector Indicator)	Baseline 2018	Target 2023		
IMPACT	Contribute to sustainable economic growth	Gross Domestic Product	3.25 percent	7.7 percent	Country Statistics Reports	**Risk** – The economic growth rate is dependent, to a large extent, on the materialization of the investments related with the gas findings. **Mitigation** – The Bank is closely monitoring and supporting directly and indirectly the gas related investments, whilst collaborating with the GoM in increasing local content on gas value chains and economy diversification.
OUTCOMES	Improved access to electricity	National electricity access rate	30 percent	54 percent	- SAPP Reports - MIREME Reports - TTP SPV and EDM Annual Report - Other National and Project Specific Reports	**Risk** - Threats to EDM financial sustainability and utility's capacity to fully support the significant capacity expansion programme which it is undertaking. **Mitigation-** EdM is in the process of developing a financial strengthening plan, that is likely to include measure for efficiency improvements (reduction of losses), supply cost optimization, tariff adjustments, recapitalization (possibly to include converting some long-term on-lent loans into Government equity, possible equity injection), reducing the accounts payable and accounts receivable, readjustment in investment financing (especially for expansion of access). The WB will provide support to EDM via a credit enhancement instrument, to help EDM restructure or refinance some of its obligations, and/or technical assistance to help implement the financial strengthening plan.
	Improved transmission capacity	Increased transmission capacity (MVA)	Nil	900		
	Improve the efficiency of the power transmission system	Overall level of technical losses in transmission system	7 percent	5.5 percent		
	Enhanced national electrical balance	Increased electricity exports (kWh)	900 GWh	1,400 GWh		
	Increased employment opportunity	Number of direct jobs on the project (gender disaggregated data)	Nil Nil	1,760 (construction) Min 10% women		
OUTPUTS	Transmission project constructed	MW evacuated into the grid	Nil (from Temane initiative)	400	- Project Quarterly Progress Reports - TTP SPV and EDM Annual Reports	**Risk -** Project cost overrun arising from implementation delays. **Mitigation –** The PIU has an experienced team to monitor the project implementation and claims management. Furthermore, the project will be designed to have a limited number of contracts to reduce interface challenges.

		4, 400kV substation refurbished and 10, 400kV Bay constructed	Nil	4/10	- Other Project Specific Reports	**Risk** – Delayed operationalization due to lack of skills and capacity at EDM. **Mitigation** – A strong PIU has been established with the support of Globeleq and development partners with extensive experience in the procurement, construction and supervision of transmission lines. O&M will initially be outsourced, at least for first 3 years. **Risk** – Implementation delays arising from community complaints or resistance to the project. **Mitigation –** Bank to ensure that E&S issues are adequately dealt with and public consultations held prior to commencement of construction activities. **Risk** – Financial sustainability of the operation. **Mitigation –** The CTT will act as TTP anchor customer, paying a transmission charge that is sufficient to cover TTP's operation, maintenance and financing costs. The drafting of key commercial agreements, including Transmission Use of System Agreement and Connection Agreements, will start in Q2/2019. More details on the economic and financial performance of the project are presented in section 3.1 of the present document.
		400kV substations and 400kV transmission lines constructed	Nil	563		
KEY ACTIVITIES	**COMPONENTS**				**INPUTS**	
	Component A: Substations Component B: Transmission lines Component C: Financing Costs, including VAT, Component D: Other Costs, including RAP Compensation and Owner's costs				Component A : USD 223.6 million Component B : USD 202.7 million Component C : USD 68.2 million Component D : USD 57.1 million Funding: AfDB ADF. Grant : USD 33 million Other Grants (WB & NTF) : USD 319.6 million Concessional Loans (DBSA, OFID, IsDB) : USD 185.7 million EDM Shareholder Loan : USD 13.2 million Total : USD 551.6 million	

PROJECT TIMEFRAME

YEAR		2019				2020				2021				2022				2023			
Quarter		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Project Approval																				
2	Effectiveness																				
3	Project Implementation																				
3.1	Appointment of Technical Consultant																				
3.2	EPC Bidding Process																				
3.3	EPC Contract Award																				
3.4	Purchasing and Manufacturing, Construction, Civil Works, Mechanical Installation, Electrical Installation, Testing and Commissioning.																				
4	Last Disbursement																				
5	Closing Date																				
6	Preparation of PCR																				

REPORT AND RECOMMENDATION OF THE MANAGEMENT OF THE AFRICAN DEVELOPMENT FUND TO THE BOARD OF DIRECTORS ON A PROPOSED GRANT TO THE REPUBLIC OF MOZAMBIQUE FOR THE TEMANE TRANSMISSION PROJECT.

Management submits the following report and recommendation on a proposed ADF Grant for UA 23.58M approximately USD 33million to finance the multinational Temane Transmission Project (TTP), a regional transmission line to be constructed in Mozambique.

1. STRATEGIC THRUST & RATIONALE

1.1 Project linkages with country strategy and objectives

1.1.1 The project is part of the Mozambique backbone transmission lines project which is well anchored on the operational priorities of the SADC regional infrastructure development master plan, a bedrock of SADC economic development and the deepening of regional integration.

1.1.2 The proposed project is also consistent with Pillar 1 and 2 of the Bank regional integration strategic framework, which aims to strengthen regional connectivity and cross-border investment and trade through integrated regional power pools, transport and ICT infrastructure. The pillar addresses areas identified by the RECs and other partners by augmenting "hard" regional infrastructure investments with "soft" support such as complementary capacity development, policy and regulatory reforms, and trade facilitation. For this reason financing infrastructures such as TTP will not only encompass building and construction but also involve maintenance requirements.

1.1.3 From an average annual GDP growth rate of 7.2% between 2005-2015, the speed of Mozambique's economic growth registered a significant slowdown in 2016-2017 with the average growth rate halving to 3.75% and 3.25% in 2018. Until Cyclones Idai and Kenneth hit Mozambique, the economy had been recovering gradually and growth was broad based after suffering from significant macroeconomic challenges in 2015-16 due to the disclosure of illegal debts worth US$2.2 billion to public companies, lower commodity prices, drought, internal conflict, and governance. Specifically, the disclosure of illegal debts undermined investors' confidence and resulted in the suspension of the IMF program and direct budget support by development partners. Tight monetary policy and the removal of subsidies on flour, fuel and transport brought annual inflation down to single digits. The central bank managed to stabilize the foreign exchange market and build international reserves to 5.5 months of next year's imports at end-2018. A strong Metical helped reduce the public debt stock from 138% at its peak in 2016 to 110.6% by end-2018 (82.5% is external debt). Mozambique defaulted on its sovereign bond on payments that were due in January 2017. Mozambique is in debt distress but sustainable in a forward-looking sense and the authorities are pursuing a strategy to bring public debt to moderate risk of distress levels. Currently the Government has reached agreements in principle with creditors to restructure Mozambique's Eurobond and previously hidden loans which should bring down the debt liability to sustainable levels, providing the GoM more time to implement its fiscal consolidation strategy. This strategy is to ensure that public debt-to-GDP ratios remain on a clear downward path, supported by the elimination of the primary fiscal deficit after grants by 2021 through a combination of revenue-enhancing measures and spending rationalization.

1.1.4 Furthering this response, the GoM also established its long-term National Development Strategy (ENDE) for the period 2015-35. The main objective of the ENDE is the improvement of the livelihoods of the population through the structural transformation of the economy, and the expansion and diversification of national production. The pillars and the priority areas under

the ENDE are broadly consistent with the Bank Group's High5s. The strategy is to be implemented through the 5-Year Government Programs (PQGs). The PQG goal for 2015-19 highlights agricultural and industrial development as the basis for socio-economic development of the country. Gazetted in April 2015, the PQG presents five strategic pillars to achieve acceleration economic growth and social development, and targets expanded infrastructure as a key element in achieving such government objectives. Through its Energy Policy and Energy Strategy, Mozambique has placed an emphasis on rural electrification and improving choices to reduce reliance on biomass fuels. The upgrade of infrastructure includes rehabilitation of electricity infrastructure expansion of access to electricity service, which are recognized as important conditions for the delivery of other basic social services, such as health, education, and sanitation services. Lack of electricity services is also identified as factor of inequality and exclusion within the society, where Mozambican women are more affected by energy poverty given that access to electricity is a relatively expensive form of energy and monthly billing systems do not suit many women's cash flows. Alternative technologies are often beyond reach due to investment and maintenance costs, as well as technological know-how, for most of the population and in particular women and vulnerable groups. Increased economic diversification requires addressing weaknesses in the electricity sector, which affect the cost competitiveness of firms. Thus, higher levels of electricity service reliability and quality are necessary to enable economic growth and increased competitiveness in Mozambique.

1.1.5 Indeed, despite having one of the highest energy potentials in the world, Mozambique has an underdeveloped electrical power system, which allows only about one in four citizens to have access to on-grid electricity. Even though the access rate quadrupled since 2000 to the present level (as of end 2018) in which 30% of the households have access to on-grid electricity, the country needs to accelerate the pace of national electrification to reach the goal set by the GoM to provide 100% access by 2030. The Mozambican electricity transmission system needs to be integrated and significantly expanded as part of the Government's strategic objectives to expand electricity access and regional trade. The Mozambique power system developed as three separate systems: northern, central and southern. The northern and the central systems are connected, albeit with a relatively weak link, while there is no internal connection with the southern system, where most of demand is. Electricity from Cahora Bassa hydro power, Mozambique's main power plant, which is located in the northern system, is routed to the southern system through South Africa's Transmission grid and the Motraco System. Mozambique transmission network is generally weak, lacks resilience, and is not sufficiently spread out to allow development of the lower voltage networks in all areas where access expansion is needed. New transmission lines are also needed to connect Mozambique's sites for new hydropower plants and gas-fired plants to domestic and regional markets. In light of these challenges, it is with no surprise that the TREP initiative has been identified within the country's National Energy Sector Master Plan of 2018-2027 as a national priority. In what refers to the institutional framework, it has been maturing with the recent creation of a sector regulator and the push towards progressive tariff adjustments aimed at the application of a cost reflective tariff. This will have positive impacts on the financial sustainability of the national power utility's EDM, which is undergoing relevant internal reforms including the separation between distribution and generation activities and the introduction of human resources management.

EDM Energy Balance (in GWh) - Historic and Forecast

	Historic					Forecast				
Sources of Supply	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Own Generation	318	158	340	339	513	993	1 070	1 093	1 093	1 093
Purchase HCB	4 351	4 599	3 942	3 226	3 328	3 751	4 205	4 205	4 205	4 205
Purchase IPP	102	1 229	2 742	2 656	2 481	2 510	2 612	2 634	2 634	3 695
Import	190	99	11	87	61	60	59	59	33	32
Total Gross Supply	**4 961**	**6 085**	**7 035**	**6 309**	**6 383**	**7 315**	**7 946**	**7 991**	**7 965**	**9 026**
Exports	160	862	1 574	814	576	1 112	1 309	893	402	979
Gross available - national territory	**4 801**	**5 223**	**5 461**	**5 495**	**5 806**	**6 203**	**6 636**	**7 098**	**7 563**	**8 047**
Transmission and station losses	298	371	439	385	406	403	415	426	416	402
Transmission customers (non-regulated)	371	351	473	635	667	700	753	809	890	979
Energy Injected into Distribution Grid	**4 132**	**4 501**	**4 549**	**4 475**	**4 733**	**5 099**	**5 468**	**5 863**	**6 257**	**6 665**
Distribution Losses	815	944	985	1 029	1 066	1 147	1 176	1 202	1 220	1 233
Electricity for end use (distribution level)	**3 317**	**3 557**	**3 564**	**3 446**	**3 667**	**3 952**	**4 293**	**4 661**	**5 037**	**5 432**
Public lighting	52	17	27	27	29	31	34	36	39	42
EdM´s consumption	6	2	13	13	14	15	16	18	19	21
Energy Sales to Regulated Customers	**3 259**	**3 538**	**3 524**	**3 405**	**3 602**	**3 906**	**4 243**	**4 607**	**4 978**	**5 369**
Losses (actual & forecast) - % of gross available										
- Transmission losses	*6.2%*	*7.1%*	*8.0%*	*7.0%*	*7.0%*	*6.5%*	*6.3%*	*6.0%*	*5.5%*	*5.0%*
- Distribution losses	*17.0%*	*18.1%*	*18.0%*	*18.7%*	*18.4%*	*18.5%*	*17.7%*	*16.9%*	*16.1%*	*15.3%*
- Total Losses	*23.2%*	*25.2%*	*26.1%*	*25.7%*	*25.4%*	*25.0%*	*24.0%*	*22.9%*	*21.6%*	*20.3%*
Note:										
Annual Peak Demand (in MW) - Wholesale Level:	**831**	**863**	**874**	**911**	**967**	**1 030**	**1 104**	**1 155**	**1 216**	**1 285**
(Forecast based on Revised Medium Growth forecast from Independent Power Market Study)										

1.1.6 The Country Strategy Paper (CSP) 2018-22, approved in June 2018, is articulated around two complementary pillars: Pillar 1 – Development of infrastructure to enable transformative inclusive growth and job creation; and Pillar 2 – Support to agricultural transformation and value chain development. The Bank's support to the TTP arises within the framework of the country's new CSP and is closely aligned to its first pillar as it will contribute towards enhanced electricity system reliability and the connection of new electricity customers, which in turn will contribute towards an enabling business environment that will incentivize private sector activity, both existing as well as new enterprises that engage in higher-value added production and job creation. This will contribute to the attainment of the government's objective to supply electricity to all Mozambicans whilst diversifying the economy, promoting economic transformation, and creating new economic opportunities for all. Interventions under this pillar are aligned with the PQG's 2015-19 goal of economic and social infrastructure development, and the Sustainable Development Goal SDG 7 Renewable energy, SDG 8 Good jobs and economic growth and SDG 9 Innovation and infrastructure. Additionally, and as envisaged in the CSP, the Bank's support to the TTP will also facilitate potential support under the ADF-15 to the national control centre, thus providing the country with an enhanced grid operation capacity with regional interconnections, leveraging Mozambique's large energy production potential to the service of the Southern Africa Power Pool (SAPP).

1.2 Rationale for the Bank's involvement

1.2.1 The proposed Temane Regional Energy Project (TREP) is part of the GoM's plans to harness substantial gas finds in the Temane / Inhasorro / Pande area to meet the rising demand for gas domestically and for regional exports, as well as to create an integrated transmission corridor within Mozambique creating an enabling environment for the enhancement of development capacity of establishing power market trading, and harmonisation of legal regulatory policies in the region. This key initiative has been considered a priority by the GoM and it has been within the scope of the Bank's support to the country. However, the recent macroeconomic financial constraints have precluded the country's access to the ADB financing window, forcing the Bank to re-dimension its support to the energy sector. High-level institutional conversations were undertaken to re-focus support and have resulted on the identification of the TTP project, and more widely the TREP, as the top priority initiative within the energy sector to be supported by the Bank. This project, based on regional projects and programmes, will help address region as well as Africa's infrastructure deficit. The project responds to the Bank's commitment to create a well-connected, economically prosperous and

peaceful Africa, in line with its approved Regional Integration Strategy Papers (RISPs) and Africa's structural transformation as outlined in the TYS and Pillar 1 of the RISF 2018-2025.

1.2.2 Furthermore, the provision of energy to millions of people and business in both Mozambique and the SADC region will directly benefit the region's population by establishing a sustainable development trajectory, leading to more inclusive growth. There is a need to accelerate the physical and regional integration of the continent via initiatives such as this project. The recently completed PIDA Study estimates that an infrastructure-integrated Africa would expand its economy six-fold by 2040. This will assist the region as well as the continent to harnessing energy resources and ensure modern, efficient, reliable, cost effective, renewable and environmentally friendly energy to all African households, businesses, industries and institution.

1.2.3 Bank funding intervention is justified as the project is consistent with the Banks' Ten-Year Strategy (2013–2022), Ten Year Strategy scale-up (the "High 5s") and Energy Sector Policy. The project is directly aligned to one of the Bank's 'High 5s' goals, which is Lighting up and powering Africa and with the New Deal on Energy, which focus on supporting end-user energy access and in particular the need for the sector to add 130 million on-grid connections by 2025. The project further drives green and inclusive growth by reinforcing dispatchable energy generation capacity in the national electrical system and hence facilitating the connection of new loads (demand) centres to the network whilst enhancing the reliability and resilience of the system. This will not only create jobs to build and operate the substations but will also spur economic development along the line, as access to energy will promote energy industrialisation and private sector development. Increased access will also translate into spill over effects for the communities, and especially women, with expected reduction of time burden for domestic chores. The envisaged build-up of system capacity for the connection of increased demand to the grid will further diversify the country's economy, whilst facilitating possible future connection of distributed renewable energy loads, thus potentially diversify the energy mix, reduce carbon footprint and drive the country towards green growth.

1.2.4 This project entails important regional impacts. The benefits of the TTP go beyond connecting the CTT project, as the TTP will also serve the broader purpose of developing the transmission corridor to connect Mozambique's northern, central and southern systems and the wider SAPP network. This will enable the expansion of electricity access and strengthening regional integration and Mozambique's objective of becoming a regional energy hub. The connection and transmission of power from the CTT and subsequent new power plants will enable EDM to better support Southern African countries to increase access to energy for development. Indeed, efficient power trade within SAPP has been hampered by weak transmission capacity and system losses. Improvements in EDM's transmission system will have a positive impact on the capacity and efficiency of the region's power system as a whole as Mozambique has been an exporter of electricity to the region, with an annual export volume reaching an average of11,150 GWh in 2014 - 2018. In light of the above, Bank support to this project and to EDM is recommended.

1.3 Donor coordination

1.3.1 Mozambique has a well-organized aid coordination framework. Although relations with the Government reached a historical low after the illegal debts were discovered in 2016, as the budget support was suspended by donors, they have significantly improved since, with the steps taken by Government for more transparency on public finances and with the legal measures to persecute the individuals connected to the acquisition of these debts. In 2016 the development partners organized the Development Cooperation Platform, based on the principle of effectiveness, including other aid support modalities. Until 2015 fourteen partners provided budget support with programme-based assistance mostly focused on PFM reforms and

education. In 2015, the last year of provision of Global Budget Support 'GBS', total ODA-(official development aid) reached 10% of GDP. Disbursements for projects and common funds made in 2014 and 2015 reached USD 1.2 billion. Presently, ODA is increasingly channelled through direct project investment, and there is a progressive shift in allocations away from the Common Funds modality in favour of direct support to non-State actors. The World Bank, the European Union, Germany and United Kingdom, are the largest partners, and the presence of non-traditional partners in the country is strong and expanding. China and Brazil have provided extensive credit lines, concessional and non-concessional, mostly directed at infrastructure on project financing modalities. Other growing partners are Vietnam, India and Korea.

2. PROJECT DESCRIPTION

2.1 Project components

2.1.1 The Temane Transmission Project (TTP) consists of a 563-km, 400-kV single-circuit HVAC transmission line between Vilanculos-Chibuto-Matalane-Maputo, associated three new 400-kV substations (Vilanculos, Chibuto, and Matalane) and expansion of the existing Maputo substation (in Boane), and installation of other equipment (busbar and line reactors, telecommunications, SCADA with control centre). At the Vilanculos substation the transmission line will link with the envisaged 400-MW CTT project via a new 25km 400kV transmission line to the Vilanculos substation[1]. The TTP is critical for the CTT project, since currently there are no high-voltage lines that would allow the evacuation of electricity from the CTT into the Mozambican power system. At the Maputo substation the transmission line will link with the national transmission grid and subsequently with the South African Transmission grid and the rest the SADC Utilities. This will facilitate trade vis-a-vis the Southern African Power Pool and via bilateral contracts. Due to the strong complementarity between projects, both the TTP and the CTT are commonly jointly referred to as the Temane Regional Electricity Project (TREP).

2.1.2 Both projects will have a significant regional impact as a significant portion of the electricity produced by the CTT will be sold to the SAPP region through the TTP and the southern transmission system at least in the first few years. On average this may amount to 25 % of CTT's output during the first 5 year period of operation. The TTP further stands as a flagship project for Mozambique as it refers to the first phase of the STE program - STE standing as the national transmission backbone of the country connecting the Tete Province to Maputo, hence the northern/centre transmission system with the southern transmission system (see Technical Annex A with additional project detail). The second phase will include construction of the remaining portion of the STE HVAC line, from Temane to the Tete region, and of the STE HVDC line. This will be accompanied by construction of the 1,500-MW Mphanda Nkuwa hydropower plant, to be developed as a separate but associated project with the STE transmission corridor.

2.1.3 The TTP comprises of following components:

Table 2.1: Project Components

No.	Component	UA '000	USD '000	Detail
A	Substations (including spares, consumables and contingencies)	159.7	223.6	▪ Construction of Vilanculos 400 / 110kV substation; ▪ Construction of Chibuto 400 / 275kV substation; ▪ Construction of Matalane 400 / 66kV substation; and

[1] In order to deliver efficiencies associated related to the constructability of both the CTT and TPP infrastructure, it is currently planned that the construction of the 25km transmission line of the CTT project will be undertaken by one of the EPC contractors of the TTP project, but still financed by the CTT project.

				▪ Upgrade of existing Maputo 400kV substation. ▪ Other Equipment: ▪ SCADA system to ensure visibility and controllability of new infrastructure in EDM Control Centre; ▪ Inter-tripping scheme with CTT for loss of any of Vilanculos-Chibuto, Chibuto-Matalane and Matalane-Maputo 400kV lines; and ▪ Co-ordinated protections schemes, control and metering system at all interfaces
B	Transmission lines (including spares, consumables and contingencies)	144.8	202.7	▪ Construction of Vilanculos-Chibuto line - 340km long; ▪ Chibuto-Matalane line - 180km long; and ▪ Matalane-Maputo 400kV line - 43km long. ▪ Other Equipment: ▪ Fibre optic link with a digital PLC as backup is required to ensure good telecommunications capability.
C	Financing Costs	48.7	68.2	▪ Escalation During Construction ▪ VAT Net Uses ▪ Government Taxes and Duties
D	Other Costs	40.8	57,1	▪ RAP Compensation + ESMS Implementation ▪ Owner's costs, including PIU Operating Costs, Owner's Engineer, Environmental License, Other Licences and Permits, Annual Audit, 3rd party consulting services and a contingency of 3.5%.
	Total	**394**	**551.6**	

2.2 Technical solution retained and other alternatives explored

2.2.1 The TTP technical solutions consists of substations, transmission lines and certain other equipment as detailed in section B.2 of the Technical Annexes, with the technical scope having been finalised based on an optimisation study undertaken by Norconsult and PNO Group in February 2018. Norconsult completed the preparation of the TTP conceptual design and design specifications in April 2018, considering optimisation of the substation designs as already noted and the additional 43km of 400kV line from Matalane to Maputo. The TTP conceptual design and design specifications will be subject to a final review by the TTP Owner's Engineer appointed in May 2019, prior to finalising the necessary tender documentation packages. Norconsult was responsible for preparing the original conceptual design for the overall STE and the 400kV transmission line design remain exactly as per the previous STE work, apart from some minor alignments of the transmission line routing. A significant number of power system studies were done for the initial design of the full STE, with these studies being instrumental in informing the technical viability and requirements of the TTP technical solution. The original STE studies were scrutinised and signed off by not only EDM as the Mozambique National Transmission System Operator but also by Eskom in South Africa due to the interconnected nature of the envisaged STE system with that of the Eskom system in South Africa, and the fact that Eskom acts as Control Area for the southern Mozambique grid under the current SAPP arrangements.

2.2.2 In what refers to innovative features in this project, and in light of the close interlinkage between the two projects, it is noted that the TTP design assumes that the CTT generators will be ready for Automatic Generation Control ("AGC") and with the generators to allow inter-tripping. CTT shall also be equipped with power system stabilisers ("PSS") and will generally be expected to operate in voltage control mode and capable to provide reactive power support when needed. The power plant shall also be able to provide frequency support if requested to do so by the EDM System Operator. Further, the 400kV design in principle allows for a transfer

capacity of 900MW or slightly more on the TTP, although only about half of this will be required by the CTT project. This allows for increased use of the TTP infrastructure by other generators and loads in the future.

2.2.3 The CTT alternative to TTP providing a power transmission service would be that another, probably private sector entity, would instead be charging for transportation of gas, with gas transportation in this case found to be more expensive than power transmission. Indeed, a study was completed to determine the relative merits of locating the CTT power plant at Temane and constructing a transmission line to evacuate the power to the load centre at Maputo, or locating the CTT plant somewhere in the greater Maputo area and constructing a gas pipeline from Temane to the CTT Project site. As noted above, it was determined that the alternative of locating the CTT Project at Temane was preferable because: (i) it was the better strategic fit with GoM's economic and social development priorities, in particular improved electricity supply to the areas between Temane and Maputo; (ii) it would facilitate early realization of a significant portion of the national electricity infrastructure backbone; (iii) there would be significant power system benefits from establishing large scale generation in the Temane area; and (iv) the cost of power transmission would be lower than the cost of gas transportation, thereby reducing the total cost of the electricity generated at the load centre.

2.3 Project type

2.3.1 This project is structured as a standalone project investment operation, despite the close interlinkages with the CTT project. The option to finance both projects separately derives from the sovereign and non-sovereign nature of each project. Nevertheless, the timeline for both TTP and CTT projects are closely aligned and the Bank envisages financing both components of the overall TREP initiative. The Bank will use 99.5% of the envisaged $33 million grant to finance "Lot 2 – Statcom / SVCs" package with the WB, with a remaining portion of $140k being allocated to fund initial operational costs such as costs of issuing the RFP.

TTP - Funding Requirement, Procurement Lots viz. Available Funding

Funding requirement as per TTP Financial Model version 6.4 of 19 May'19

	Project Base Cost	Initial Spares	Contingency (Physical + Price)	Escalation During Construction	VAT	Custom & Stamp Duties	Total (excl Finance & IDC)	Financing Charges	Total Funding Requirement	Gov. of Norway	WB	OFID	DBSA	AfDB	IsDB	EDM Shareholder Loan
Equipment Capex																
Lot 1 - Substations	110,540	2,764	11,054	9,145	4,539	908	138,949	-	138,949	10.7%	89.3%					
Lot 2 - Statcom / SVCs	55,000	1,375	5,500	4,583	2,260	452	69,170	-	69,170		52.9%			47.1%		
Lot 3 - Transformers & Reactors	33,200	830	3,320	2,990	1,372	274	41,986	-	41,986		100.0%					
Lot 5 - Vilanculos - Chibuto Tx	108,800	2,720	10,880	9,295	5,597	840	138,131	-	138,131			26.1%			69.3%	4.7%
Lot 6 - Chibuto-Matalane-Maputo Tx	71,360	1,784	7,136	6,138	3,673	551	90,642	-	90,642		48.5%		51.5%			
Sub-Total	**378,900**	**9,473**	**37,890**	**32,150**	**17,440**	**3,025**	**478,877**	**-**	**478,877**							
SNTE Owner's Cost during Construction																
- SNTE PIU Support Costs during construction - staff	5,622	-	-	408	-	-	6,030	-	6,030	0.0%	50.0%				50.0%	
- SNTE PIU Support Cost during construction - other	1,800	-	-	131	-	-	1,931	-	1,931	0.0%	50.0%				50.0%	
- SNTE Owner's Engineer	8,300	-	-	602	-	-	8,902	-	8,902	100.0%						
- SNTE External Advisers, Audit & Contingency	1,578	-	-	114	-	-	1,692	-	1,692		100.0%					
- SNTE Licenses & Permits during construction	1,200	-	-	87	-	-	1,287	-	1,287	100.0%						
Sub-Total	**18,500**	**-**	**-**	**1,341**	**-**	**-**	**19,841**	**-**	**19,841**							
Other Costs During Construction																
RAP E&S Compensation + ESMS Implementation	38,633	-	-	-	-		38,633	-	38,633	0.0%	100.0%					
Financing Fees	-	-	-	-	-	-	-	987	987	0.0%	7.7%	0.0%	69.1%	7.7%	0.0%	15.5%
Interest During Construction	-	-	-	-	-	-	-	13,286	13,286	0.0%	26.9%	0.0%	20.0%	2.9%	0.0%	50.3%
Sub-Total	**38,633**	**-**	**-**	**-**	**-**	**-**	**38,633**	**14,273**	**52,906**							
TOTAL FUNDING REQUIREMENT	**436,033**	**9,473**	**37,890**	**33,492**	**17,440**	**3,025**	**537,352**	**14,273**	**551,625**							

2.4 Project cost and financing arrangements

2.4.1 The total cost of the TREP initiative should exceed the USD 1.2 Billion figure, with roughly half of this value allocated respectively to the TTP and CTT projects. In what refers specifically to the TTP the total project costs have recently been revised downwards through the optimization of the project design with the support from Norconsult. The new total project cost estimates stand at USD 551.6 million (equivalent to UA 394 million) as detailed in Table 2.2 below.

Table 2.2: Project Cost Estimates by component (UA '000)

COST ESTIMATION	Foreign currency costs	Local currency costs	UA '000	% of Foreign
Component A: Substations	**127,761**	**31,940**	**159,702**	**80%**
Substation Plant	113,566	28,391	141,957	80%
Spares & Consumables Substations	2,839	710	3,549	80%
Physical Contingency Substation	5,678	1,420	7,098	80%
Price Contingency Substation	5,678	1,420	7,098	80%
Component B: Transmission lines	**108,579**	**36,193**	**144,771**	**75%**
Transmission Lines	96,514	32,171	128,686	75%
Spares & Consumables Transmission	2,413	804	3,217	75%
Physical Contingency Transmission	4,826	1,609	6,434	75%
Price Contingency Transmission	4,826	1,609	6,434	75%
Component C: Financing Costs	**28,973**	**19,762**	**48,736**	**59%**
Escalation During Construction	18,778	5,144	23,923	78%
Interest During Construction	9,490	-	9,490	100%
Financing Fees	705	-	705	100%
VAT Net Uses	-	12,457	12,457	0%
Government Taxes and Duties	-	2,161	2,161	0%
Component D: Other Costs	**13,214**	**27,595**	**40,809**	**32%**
RAP Compensation + ESMS Implementation	-	27,595	27,595	0%
Owner's costs	13,214	-	13,214	100%
TOTAL COST	**278,527**	**115,490**	**394,018**	**71%**

2.4.2 EDM's strategy is to ensure that concessional financing is provided for the TTP to reduce the delivered cost of energy, which in turn will promote private sector participation on the generation component – the CTT. The TTP is thus expected to be financed by public development financing institutions through concessional funding. EDM, with Government's involvement as needed to facilitate such funding, is in the final stages of firming-up the financing sources. The AfDB envisages supporting the project with a grant contribution of USD 33million, equivalent to UA 23.58 million, with confirmed mobilization from the ADF-14 country and TSF facility. Indeed, following submission of the project for RO prioritization consideration, the project has been allocated UA 14.1 million from the TSF regional facility in addition to the UA 9.45 million from the ADF allocation. The WB will be the lead financier partner, financing the amount of USD 294 Million (by combining country and regional IDA funding) with co-financing from the WB administered Norwegian Trust Fund (roughly USD 25 Million). This will bring the total WB Group financing ticket to the range of 58% of the total project cost. Other financiers involved in the project include the Islamic Development Bank (IsDB) which will provide a loan of USD 99.7 million, the Development Bank of Southern Africa (DBSA) which will provide a loan of USD 50 million, and the Opec Fund for International Development (OFID) which will provide a loan of USD 36 million. Since certain project costs cannot be financed by the DFIs expected to fund the TTP project, these costs will be funded by EDM through a short-term shareholders loan facility amounting to USD 13.2 million. Table 2.3 below summarises the indicative financing arrangements of the project, indicating the institutions and amounts to be committed to the project.

Table 2.3: Sources of Finance (UA '000)

Source of Funds	Foreign currency costs	Local currency costs	Total	% of Foreign
EDM (Norwegian Trust Fund Grant)	17,857	-	17,857	100%
EDM (Shareholder Loan)	-	9,480	9,480	0%
World Bank (IDA Grant to GoM on-lent to SNTE)	210,484	-	210,484	100%
AfDB (ADF Grant to GoM on grant to SNTE)	23,580	-	23,580	100%
IsDB (loan channelled through GoM and on-lent to SNTE)	71,196	-	71,196	100%
DBSA (direct loan to EDM or SNTE)	35,714	-	35,714	100%
OFID (loan channelled through GoM and on-lent to SNTE)	25,714	-	25,714	100%
TOTAL FUNDING	**384,537**	**9,480**	**394,018**	**98%**

2.4.3 The World Bank and African Development Bank funding are both to be grants to GoM. These grants are to be on-granted to SNTE. The other contributions indicated from the Islamic Development Bank ("IsDB") and the OPEC Fund for International Development ("OFID") are assumed to be loans channelled through GoM, and on-lent to SNTE on the same terms and conditions as between the financier and GoM, It is also indicated that the loan from the Development Bank of Southern Africa ("DBSA") may be channelled through GoM with the funds on-lent to SNTE.

Table 2.4: Project Cost by Category of Expenditure (UA '000)

CATEGORY OF EXPENDITURE	Foreign currency costs	Local currency costs	Total	% of Foreign
Goods (Design, supply & installation)	265,313	87,895	353,209	75%
Miscellaneous/Other costs	13,214	27,595	40,809	32%
TOTAL COST	**278,527**	**115,490**	**394,018**	**71%**

Table 2.5: Summary of AfDB financing by Category of Expenditure (UA '000)

CATEGORY OF EXPENDITURE	Foreign currency costs	Local currency costs	Total	% of Foreign
Goods (Design, supply & installation)	23,471	-	23,471	100%
Miscellaneous/Other costs	100	-	100	100%
TOTAL COST	**23,571**	**-**	**23,571**	**100%**

Table 2.6: AfDB financing Expenditure Schedule (USD '000)

EXPENDITURE SCHEDULE	2020	2021	2022	2023	Total
AfDB	13,200	13,200	6,600	0.0	**33,000**

2.5 Project's target area and population.

2.5.1 The TTP is a vital section of the larger STE initiative, with TTP covering some 561km between Vilanculos and Maputo (via substations at Chibuto and Matalane). The TTP will cross 13 districts in the southern region of Mozambique, specifically the Province of Inhambane (Vilanculos, Massinga, Funhalouro, and Panda), Province of Gaza (Chibuto, Mandlakaze, Chokwe, Bilene) and Province of Maputo (Magude, Manhiça, Marracuene, Moamba, Boane). A high-level map of the geographical area of the TTP infrastructure is provided in Appendix IV, including detailed maps of individual line portions Vilanculos – Chibuto, Chibuto – Matalane and Matalane – Maputo. Average population densities for the three provincial areas of interest are 22.0 / km2, however the area of interest covered by the TTP RoW/servitude is characterized by low densities of 2-3 / km2 for 80% of the route where the dominant activity

is farming. Higher population densities prevail throughout the Maputo province where the TTP terminates at the Maputo substation in Boane district. With a general population relatively homogeneous (48.5% men and 51.5% women), estimates show a majority of male-headed affected households (66%). However, most of the 33% female headed households are single parents and these women thus represent a vulnerable group in the resettlement process. Relevant impacts of the TTP on local communities are limited to resettlement impacts arising from loss of dwellings and other built infrastructure due to the clearance of the RoW. Nevertheless, the resettlement cumulative impact of the TTP is expected to be minor. According to the socio-economic assessment, no households are expected to be affected by the TTP in Vilanculos District and only 2 households will be affected in Chibuto District.

2.5.2 In addition to the broad developmental benefits of the project for the country, the TTP will also allow security and reliability of electricity supply and the establishment of economic development zones along the envisaged T-line route. In these areas, it will contribute to unlock the agricultural potential of rural areas and the creation of higher value jobs, whilst also enabling private sector investment in renewable energy projects that are dependent on a transmission solution for evacuation of power thus providing off grid generation solutions and electricity access. An estimate has been made of the direct job creation impact of the TTP Project during the 3-year construction period, indicating that some 1,782 jobs may be created as a result of the Project. Further, a number of significant industrial developments are currently constrained by lack of a reliable power supply solution in the geographic area covered by the TTP Project. Some of these industrial developments for the province of Inhambane, Gaza, and Maputo / Marracuene are specified within section B.7.3 of the Technical Annexes.

2.6 Participatory process for project identification, design and implementation

2.6.1 The TTP project has been initially identified within the scope of the original STE initiative. Note that the ESIA and RPF were successfully produced for the original STE project between 2009 and 2011, with approval by MITADER (then MICOA). The original STE project has been dormant since then due to delays in development of the large-scale hydropower projects envisaged as the initial users of the STE infrastructure. However, in 2017 EDM Board took the decision to re-activate the development of the project under the current TTP formulation, reactivating the original project company responsible for the development of the STE – the SNTE – by nominating a representative to its governance structure in December 2018. The project development is currently being supported by Globeleq as EDM's development partner, in the TREP initiative, with Globeleq now also being the majority shareholder in the CTT.

2.6.2 Significant community and stakeholder consultations were conducted during the preparation of the Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) for the project in line with Mozambican regulations and as well as Development Finance Institution (DFI) requirements. Consultation undertaken included engagement with Ministries, Provincial Authorities and institutions, communities down to village levels, and project affected persons (PAPs). Engagements were also undertaken with NGOs and CBOs operating in the project area.

2.6.3 During project preparation (August 2018) and appraisal (November 2018) missions, the Bank also conducted consultations with various stakeholders, including, project affected persons (PAPs) and project affected communities (PACs) to assess the wholesomeness of the E & S studies undertaken and its compliance with the requirements of the ISS. It was established that the PAPs and PACs had been adequately consulted with an understanding of the potential negative and positive impacts of the projects as well as the mitigation and/or enhancement measures (in the form of social programs) that will be deployed by the project.

The concerns and opinions of the stakeholders have been incorporated in the project design and the ESIA/ESMP as well as RAPs for the project have been prepared to a very high standard.

2.6.4 Consultation and engagement with PAPs/PACs/NGOs/CBOs and other stakeholders is a continuous process and will be carried out throughout the life of the project. A Grievance Redress Mechanism (GRM) has been established by the project to ensure that any potential complains that may arising during project implementation are resolved as soon as possible, using the project GRM in the first instance.

2.6.5 Globeleq and eleQtra as EDM's partners in the TREP initiative, have brought significant E & S capability and experience to the SNTE SPV and are currently working with EDM in developing the Environmental and Social Management System (ESMS) for the SPV that clearly defines the institutional capacity in relation to the management, monitoring and reporting of the environmental, social, health and safety impacts over the project lifecycle, taking into account the impacts of the project itself and those of associated facilities. The SPV will build its internal capacity to monitor and report on the implication of all the E & S programs and plans of the project. Bank Group experience and lessons are reflected in project design

2.6.6 As of April 30, 2019, the Bank's total portfolio in Mozambique consisted of 19 projects totalling UA 383.8 million (USD 541.1 million).There is no projects at risk. Presently the Bank only has one active operation within Mozambique's electricity sector, an ADF Loan of UA 9.950 million approved in 18 December 2013 and recently extended. This project consists of a Technical Assistance with the objective of enabling large scale gas and power project development in the country, including support to the development of skills, expertise and competences to ensure that such projects are developed in an equitable and transparent way, and are optimized for maximum national benefit. Detailed performance of the portfolio is presented in Appendix II.

2.6.7 In what refers to portfolio management and lessons learnt from previous operations for example the bank funded Lake Turkana Wind Project (LTWP) Ketraco transmission line in Kenya completed in November 2018, the performance of our operations has been rated satisfactory since 2007, although this trend has deteriorated in recent years. The portfolio rating indicator fell from 3.13 to 2.7 on a scale of 1 to 4 between 2007 and 2017, mainly because of delays in project implementation and procurement. To increase portfolio performance, the Bank is putting in place measures to reduce procurement delays and regularly monitoring operations towards improved anticipation of problems which has already resulted in a reduction of the projects at risk from 57% in 2010 to 9% of the portfolio in 2017, below the ADF average of 11.4%. Specific attention is also given to Project Completion Reports (PCR) allowing stakeholders to learn from completed operations.

2.6.8 Within the energy sector, the PCR of the Electricity IV project was recently concluded. This project, approved in September 2006, faced significant implementation challenges, namely procurement delays that led to the project closing with an 88.28% disbursement rate despite being extended four times. Lessons learnt from the implementation of previous projects have been incorporated in the final design of the TTP through the following measures: (i) agreeing with EDM and GoM on clear baseline indicators data to ensure better monitoring of results; (ii) review of country systems across all disciplines of procurement, financial management and environment and social (E&S) to avoid implementation delays; (iii) early start of procurement processes so that contract is ready for signature immediately after the loan becoming effective; (iv) engaging EDM to limit the number of contracts for the project which results in diffused responsibility and increase interface challenges; (v) streamlining of payment processes and procedures both at Borrower/Consultant/Bank's end prior to the start of implementation of project so that Contractor's Bills are paid within the timeline provided in

the Contract; (vi) ensuring that E&S issues are adequately dealt with and public consultations held prior to commencement of construction activities to avoid affected persons and communities resorting to the Independent Review Mechanism process; (vii) ensuring that both the Bank and sponsors have adequate resources for supervision commensurate with the scale, significance and complexity of the project; (viii) minimization of changes of PIU's Project Manager.

2.7 Key performance indicators

2.7.1 The proposed key performance indicators that will be used to measure the impacts, outcomes and outputs of the Project will be discussed with the Implementing Agency upon O.E's project validation and assessment report to be shared by lenders before signing loan agreements; details of which be presented in the Results Based Logical Framework.

2.7.2 The performance of the Project will be measured in relation to: using a baseline of 2018.

3. PROJECT FEASIBILITY

3.1 Economic and Financial Performance

3.1.1 **TTP viability.** The economic and financial rational underlying the present operation is, on one hand, to ensure TTP project viability, and on the other, the lowest cost of transmission services in support of overall viability and bankability of the TREP initiative. In what refers to the TTP project viability, the project transmission pricing principles and methodology is aimed at ensuring that TTP earns sufficient revenue to cover prudent costs of operation and maintenance of the infrastructure (including the TTP administrative costs) and to be able to service the debt raised to implement the TTP project, including both interest on loans and repayment of such. EDM, as the project sponsor and equity provider to the SNTE – via the contribution from the Norwegian Trust Fund –, is not seeking any equity return on the investment. Nevertheless, for project viability the financial model that has been developed to shed light on the economic and financial aspects of the project constructs on a return requirement estimated at 1% after tax (informed by the weighted average cost of funding for the TTP project) to determine the transmission tariff. The key financial and economic indicators highlighted below, as per the sponsor's financial model, suggests a positive Financial Net Present Value (FNPV) of USD 27 million and a Financial Internal Rate of Return (FIRR) of 2.4%. The low FIRR is considered acceptable on the understanding that SNTE basically operates on a 'non-profit' manner to keep the overall cost of transmission as low as possible. From an economic analysis point of view, the financial model indicates an Economic Internal Rate of Return ("EIRR") of 13.5% and an Economic Net Present Value ("ENPV") estimated at USD 249 million when using an 8% economic discount rate. An economic discount rate of 8% is in EDM's opinion considered reasonable in the case of Mozambique and is consistent with the economic discount rate used in the independent power market study. More details on the economic analysis are provided in section B.6 of the Technical Annexes.

Table 3.1: Key Financial and Economic Indicators

PARAMETERS	VALUES
FIRR	2.4%
FNPV (@2%)	USD 27 million
EIRR	13.5%
ENPV (@8%)	USD 249 million

3.1.2 **Overall TREP viability.** The TTP financial model is a fully-fledged project financial model, solving the levelized tariff required to meet a targeted project return, whilst also targeting a TTP financing solution that demonstrates a levelized cost of transmission not exceeding 1.5 USc/kWh (in constant 2018 prices). Indeed, the TTP Project return requirement and resulting transmission tariff is particularly important in terms of the overall viability of the TREP initiative, when taking into consideration the total cost of gas supply, power plant tolling

services and transmission of electricity to the Maputo area. EDM's target is to achieve a cost of energy delivered to the Maputo area of 7.5 – 8.0 USc/kWh (in constant 2018 prices) from the TREP initiative and, as demonstrated by the Independent Market Study (see section B.6.4 of the Technical Annexes), at such delivered price the overall TREP viability is ensured, with CTT positioned as a much-needed low-cost supplier in EDM's merit order of supply from 2023 onwards.

3.1.3 **Transmission Pricing.** As highlighted above, the public-sector nature of the TTP is important to ensure the lowest cost of transmission services in support of the overall viability and bankability of the TREP initiative. Since EDM is not seeking any equity return on the TTP investment, the transmission pricing is basically aimed at ensuring that TTP earns sufficient revenue to cover prudent costs of operation and maintenance of the infrastructure (including the TTP administrative costs) and to be able to service the debt raised to implement the TTP project, including both interest on loans and repayment of such. The commercial arrangements between CTT and TTP will be structured through a Transmission Use of System ("TUoS") Agreement further elaborated below. Based on the current project base case, reflecting project costs and financing assumptions, the model shows a levelized transmission tariff of 1.31 USc/kWh in May 2019 terms being required to sustain a 400MW capacity allocation for the CTT project, based on an average utilisation of 80% (equal to 2,805 GWh annual transfer over the TTP system, consistent with expected annual output of the CTT power plant for the annual gas supply confirmed with the Gas Sellers). The pure capacity charge element of the tariff is 1.13 USc/kWh while the balance (of 0.18 USc/kWh) is made up of charges for losses. More detail on the levelized transmission tariff is presented in section B.6.1 of the Technical Annexes. The project model has not been audited by an independent external auditor. An unqualified audit opinion on the model will be a condition precedent for financial close.

3.1.4 **Transmission Use of System Agreement.** The commercial arrangements between CTT and TTP are structured through a TUoS Agreement that is still under negotiation between EDM (on behalf of SNTE) and the other project sponsors on behalf of CTT. A few high-level points have been provided in the project information memorandum. It is envisaged that the contract is valid for 25 years from COD, with CTT paying SNTE the applicable transmission tariff, which will be reimbursed by EDM to CTT under a Tolling Agreement. SNTE shall allocate in priority the available transmission capacity to CTT up to the contracted transmission capacity. An invoice for the transmission tariff due and payable in respect of the available transmission capacity and transmission losses will be delivered to CTT, with the transmission charge to be payable regardless of whether the power station is available. Further, SNTE shall be free to allocate available transmission capacity not utilised by the CTT to other users of the transmission system. As additional users make use of the TTP infrastructure in the future, this will add to SNTE's revenue base. When this happens, the transmission charge paid by CTT can be reduced, thereby enhancing the overall long-term viability and sustainability of the overall TREP initiative, but without compromising SNTE's viability. It would be envisaged that SNTE will retain some of such future additional revenue while a portion of the additional revenue would be used to reduce the transmission charge paid by CTT. The arrangements in this regard will be set out in the TUoS Agreement. An unqualified independent legal review highlighting all risk and associated mitigations in the TUOS agreement will be a condition precedent to the TUoS Agreement.

3.1.5 **TTP Coverage Ratios.** The TTP financial model is designed to ensure that when calculating the required transmission tariff, SNTE retains a reasonable buffer of cash to pay for necessary OPEX expenditure. This cash reserve buffer has been set to equal six (6) months of O&M expenditure, leading towards a Debt Service Coverage Ratio ("DSCR") of 1.88 an Interest Coverage Ratio ("ICR") of 5.82 and a Loan Life Coverage Ratio ("LLCR") of 1.25, indicating that the project is built on top of a robust financing case. The project model has not

been audited by an independent external auditor. An unqualified audit opinion on the model will be a condition precedent for financial close.

3.1.6 Developmental Alignment and Project Alternatives. TTP is considered Phase 1 of STE, which stands as the backbone transmission line of the country, connecting the southern with the central and northern power system. The TTP infrastructure has been technically designed to have a transfer capacity in excess of what is needed for the CTT Project, with over 900MW of power that can ultimately be transferred over the TTP 400kV system, versus the 400MW anchor transaction to SNTE from the CTT project. Accordingly, the TTP infrastructure may facilitate the future materialization of other new power generation projects, e.g. renewable energy projects expected to be developed in the southern part of the Mozambique grid. The alternative to TTP providing a power transmission service would be that another, probably private sector entity, would instead be charging for transportation of gas, with gas transportation in this case found to be more expensive than power transmission and entailing costly environmental externalities.

3.2 Environmental and Social Impacts

3.2.1 **Environmental Category and Safeguard Instruments Used.** The STE Project Phase I (TTP project) involves the construction of a 563 km long 400 kV HVAC transmission line, from a new substation near Vilanculos to the existing Maputo substation, in Boane. Three new substations (Vilanculos, Chibuto and Matalane) will be constructed as part of the project. In line with the ISS and ESAP, the scale (>110kV) as well as the potential E & S impacts has triggered a Category 1 classification. An Environmental and Social Impact Assessment (ESIA) with an Environmental and Social Management Plan (ESMP) as well as a Resettlement Action Plan (RAP) has been prepared for the project. The ESIA/ESMP and RAP were prepared in line with Mozambican regulations and the World Bank's environmental and social safeguards requirements. The Bank's environmental and social safeguard officers reviewed all the E & S documentation for compliance against the requirements of the ISS and undertook ESDD missions in August 2018 and November 2018 including engaging with the sponsors, engagements with PAPs/PACs to assess the wholesomeness of the E & S documentation for the project. The summaries of the ESIA/ESMP and RAPs were prepared by the Bank and disclosed on the Bank's website on 23 November 2018 in line with the disclosure requirements for Category 1 SO projects to be presented to the Board. MITADER issued an Environmental Approval for the project in March 2019, effectively allowing the project to progress with the next phase of the RAP process. The second phase of the RAP for the project commenced in March 2019 with additional consultation undertaken between 27 March and 20 April 2019. This stage includes additional stakeholder engagements, PAP identification, design of the resettlement houses and refining the RAP costs. The compensation packages have been designed to ensure that the resettlement promotes socio-economic development and guarantees that the affected population acquire better living standards, social equity, social cohesion and direct benefits from the proposed Project, taking into account the sustainability of physical, environmental, social and economic aspects.

3.2.2 **Main environmental impacts.** The ESIA prepared for the project has identified several potentially positive and negative impacts associated with the projects. For each of these impacts, enhancement and mitigation measures have respectively been developed for the positive and negative impact and documented in the ESMP. Potential positive impacts identified during the construction and operational phase includes job creation, training of local workforce and regional economic stimulation due to increased power supply. Potential negative impacts identified during the construction phase include dust emissions, noise, habitat loss, and increased traffic, physical and economic resettlement. Negative impacts from the operational phase include landscape and visual impacts, water quality changes in wetland areas and impacts on avifauna.

3.2.3 **Environmental and Social Management Plan (ESMP).** The ESIA for the TTP project includes an Environmental and Social Management Plan (ESMP) with several specialized management plans designed to avoid, minimize and/or compensate for the identified residual impacts. The ESMP includes specialized management plans for air quality, water resource management, waste management, biodiversity monitoring, communication, community awareness, project grievance mechanism (GRM), community health and safety, cultural heritage and chance find and emergency response. The ESMP details the specific guidelines for the development and implementation of each of the above programs as part of the ESMS to be developed and implemented by EDM and the Contractors. The ESMP also includes additional management plans and programs to be developed by the appointed Contractors in alignment with the outcomes of the ESIA process e.g. security management plans, borrow pit and quarry management, local recruitment and revegetation. A total sum of **$1,883,000 has been budgeted to allow for the effective implementation of the ESMP.**

3.2.4 **Environmental and Social Management System (ESMS).** The project company is currently developing and Environmental and Social Management System (ESMS) to manage and monitor the impacts of its operations as well as the continuous monitoring and reporting on the implementation of the actions in the Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP). As part of its due diligence missions, the Bank has assessed that the project company has an adequate management and institutional arrangement, including E & S resources, for delivering on the actions in the ESMP and RAP.

3.2.5 **Main social impacts (including physical and economic displacement).** The construction of the Project will result in short and long term socioeconomic impact including physical and economic displacement (including loss of several different types of socioeconomic assets and goods) of Project Affected Persons (PAPs) and Project Affected Communities (PACs). For the most part of its length, the STE Project traverses relatively sparsely populated areas and its alignment has been designed to avoid human settlements to the extent possible. The additional field works undertaken between March and April 2019 for the completion of the RAP concluded that of the 13 districts which will be traversed by the project, only 11 districts have individuals, households and/or communities which will be affected by the project. In total 898 households will have at least one asset impacted by the project. With an average household size of 5.7, this is equivalent to 2936 PAPs in total with 47.5% of PAPs being male and 52.5% being female.

3.2.6 The field surveys undertaken as part of the RAP development established that in total 410 households will be physically affected (need resettlement) and 348 agricultural plots (machambas) will be affected. The majority of the physical displacement is in the southern part of the line, closer to Maputo. The district of Boane in Maputo has the largest number of affected households (230), followed by Moamba (173) and Marracuene (113). Other project impacts will include the loss of business infrastructure (11), economic trees (5227), cemeteries and/or graves (14), sacred sites and/or places of worship (9) as well as the relocation of public and social infrastructure (3 water wells).

3.2.7 The project is expected to have impacts on 1105 vulnerable PAPs including households headed by women (131 of which 100 are either single, widows, divorced or separated), elderly people (98 of which 29 are women) or youth, and households with at least one chronically sick member or with a disability (including 31 headed by women and 18 by an elderly), child headed households (6), households headed by illiterates (98 with 49 women) and households with income below the poverty line (606).

3.2.8 The total estimated budget for the entire resettlement process, including all compensation and livelihoods restoration measures has been estimated at **USD 38, 633, 235.00.** The budget estimate for livelihood restoration measures is estimated at **USD 1,500, 000.00**

including agricultural based livelihood support, business and waged labour based support, employment and skills measures and specific programs targeted for vulnerable PAPs.

Complementarity between the TTP project (transmission line) and the CTT project (power plant)

3.2.9 One of the first power generation projects which is currently being developed is the 450MW[2] natural gas fired Central Térmica de Temane (CTT) in Inhassaro. Power from the CTT plant will be evacuated via a 25km 400kV transmission line up to Vilanculos and thereafter through the (the Temane Transmission Project) from Vilanculos to Maputo. In order to deliver efficiencies related to the constructability of both the CTT and TPP infrastructure, it is currently planned that the construction of the 25km transmission line of the CTT project from Temane to Vilanculos will be undertaken by one of the EPC contractors of the TTP project. The ESIA and first phase of the RAP for the CTT have been completed and have been submitted to MITADER for approval. The Bank has reviewed the E & S documentation for CTT to assess their wholesomeness and to assess compliance with the requirements of the ISS. The ESIA/ESMP and RPF for the CTT project have been prepared to a high standard and are incompliance with the requirements of the ISS. The CTT is being processed by the Bank as a separate transaction and appropriate ESIA/ESMP and RAP summaries will be disclosed in due course as per the Bank's disclosure requirements for NSO operations.

Climate Change

3.2.10 The project has been identified as climate risk category 2, potentially vulnerable to climate risk. The 563 km transmission line will comprise critical national infrastructure and will traverse various terrain and topography that may be vulnerable to climate change in the frequency and severity of extreme events and other effects of climate change (e.g. storms, forest fires, landslides, floods, extreme temperatures, long term changes in rainfall patterns). The project has undertaken a climate risk assessment and identified risk reduction measures to be integrated in to projects design; the measures identified include taking account of the potential effects of exposure to extreme events in the choice of infrastructure location, reinforcing infrastructure foundations, and use of best available technology (ACSR cable and conductor) to enhance resilience to climatic shocks. Precautionary measures to consider further include minimizing risk exposure (e.g. increasing number of distribution lines, most vulnerable part of the grid) and designing the transmission facility under 'n-1' principles.

3.2.11 With regards to GHG mitigation implications, the transmission line infrastructure will facilitate the evacuation of power from a fossil-fuel based generation source - the planned Temane gas-fired power plant. However, Mozambique has included implementation of the Master Plan for Natural Gas (2014 -2030) as a policy measure to facilitate transition to a lower carbon development pathway while achieving development objectives in its Nationally Determined Contribution to the Paris Agreement; recognizing natural gas as a transition fuel.

Gender

3.2.12 Linking gender with energy transmission and distribution, the Project will have a positive impact on the capacity to mainstream gender in the training and participative roles of women in technical areas. The Project's ESMP notably recommends inclusive activities for the PAPs, including a Training and Skill Transfer Program, a Local Recruitment Plan and a Community Compensation Fund, that all aim to look at maximizing participation of local population and in particular of women and youth. The Project has also provisioned for management and awareness plans to mitigate risky social behaviour in local communities

[2] The expected CTT power plant capacity is slightly in excess of 400 MW, depending on the final choice of technical solution following the EPV tender process to be launched by end July 2019. However, in the ESIA documentation a project size of up to 450 MW was provided for.

associated with construction works. Lastly, gender has been mainstreamed in the Resettlement Plan and positive impact is expected with regard to land utilization and gender-sensitive economic rehabilitation under the resettlement process.

3.2.13 Since the Project consists of the construction of sub-stations, transmission lines and installation of other equipment, the Project is categorized as GEN IV under the Bank's Gender Marker System, contributing to better energy supply and affordability in general and creating benefits for the local population. In the TTP Project, gender is largely captured under the E&S activities, in line with Government's strategies and policies guiding gender in the energy sector, and similarly aligned with regional frameworks, such as the Southern Africa Power Pool ESIA guidelines for transmission. The Project further addresses Bank's recommendations in the Mozambique CSP 2018-2022 under Pillar 1, which refers to working with the GoM to promote gender-sensitive considerations in infrastructure planning and design and to support programs to enhance women and girls' access to clean and sustainable energy. As such, the Project will mostly support community development initiatives and some will particularly focus on youth and women. While the Project will help tracking disaggregated results throughout the E&S interventions, notably reporting on benefits pertaining to women's productive use of energy and on areas where women can be assigned to work, additionally in gender-related development outcomes are expected to stem from the subsequent CTT power generation project.

4. IMPLEMENTATION

4.1 Implementation arrangements

4.1.1 ***Implementing Agency, Executing Agency and Grant Recipient:*** The development of the TTP has been managed by EDM, supported and resourced with assistance from Globeleq-eleQtra with dedicated Project Team already formalised. A Project Implementation Unit (PIU) consisting of consortium staff of EDM, Globeleq, eleQtra and individual consultants, has been set up and is being expanded to widen the scope of expertise and manage the increasing number of activities on project preparation. Certain positions are being funded with the financial assistance of development partners, namely the World Bank, Norway and USAID. Section B.3 of the Technical Annexes provides detail on the structure of the PIU. During the appraisal mission, the PAT team reviewed PIU's capacity (corporate and project management, technical/engineering, environmental & social safeguards, procurement, financial management and accounting, etc.) to manage project preparation and implementation, finding it at a satisfactory level for the Bank to support the project. Currently the PIU reports to the TTP Steering Committee, which has been directing the overall project preparation, but once SNTE is fully operationalised it is expected that the PIU will start reporting to the SNTE Board of Directors. For the present project it is thus considered that EDM will be the project's Implementing Agency through SNTE. The Ministry of Mineral Resources and Energy ("MIREME") will stand as the project's Executing Agency whilst the Grant Recipient will be the Ministry of Economy and Finance ("MEF"). EDM (through SNTE) will be the Implementing Agency. The SNTE shall have financial expert, procurement expert and other technical experts for managing the operations of the project. Through the PIU, there shall be coordination among the stakeholders with regular meetings to review progress of the project. (For the detail on the organogram of SNTE please refer to the Technical Annex paragraph 3.3.5) Performance based M&E system will be established based on the log-frame indicators (baseline and targets).

4.1.2 ***Procurement Management***: Procurement of goods (including non-consultancy services), works and the acquisition of consulting services, financed by the Bank for the project, will be carried out in accordance with the "Procurement Policy and Methodology for Bank

Group Funded Operations" (BPM), dated October 2015 and following the provisions stated in the Financing Agreement. Specifically, Procurement would be carried out following:

i. **Borrower Procurement System (BPS):** Specific Procurement Methods and Procedures (PMPs) under BPS comprising its Laws and Regulations namely *Decreto 5/2016 de 8 de Março – Regulamento de Contratação de Empreitadas de Obras Públicas, Fornecimento de Bens, e Prestação de Serviços ao Estado* (Regulations for Contracting of Public Works, Supply of Goods and Consultancy & Non-Consultancy Services to the State), using the national Standard Solicitation Documents (SSDs) or other Solicitation Documents agreed during project negotiations" for various group of transactions to be entailed under the project.

ii. Bank Procurement Policy and Methodology (BPM): Bank standard PMPs, using the relevant Bank Standard -Solicitation Documents SDDs, for contracts that are either: (i) above the thresholds indicated in Annex B5, Para. B.5.3;2, or (ii) in case BPS is not relied upon for a specific transaction or group of transactions; and (iii) in case BPM have been found to be the best fit for purpose for a specific transaction or group of transactions.

iii. **Third Party Procurement Methods and Procedures (PMPs):** Third Party PMPs, using the relevant Third Party Standard or Model Solicitation Documents. The third Party PMPs will be the World Bank's Procurement Regulations for IPF Borrowers dated July 1 2016 revised August 2018. Furthermore, the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated October 15, 2006, and revised in January 2011 and July 2016, will apply..

4.1.3 **Procurement Risks and Capacity Assessment (PRCA):** the assessment of procurement risks at the Country, Sector, and Project levels and of procurement capacity at the Executing Agency (EA), were undertaken for the project and the output have informed the decisions on the procurement regimes (BPS, Bank or Third party) being used for specific transactions or groups of similar transactions under the project. The appropriate risks mitigation measures have been included in the Procurement Risks and Capacity Assessment (PRCA action plan proposed in Annex B5, Para. 5.3.8.).

4.1.4 Financial management: The overall conclusion of FM Assessment is that EDM's (executing agency) capacity to handle FM's aspects of the project satisfies the Bank's minimum requirements as per the Bank FM guidelines. The entity has executed donor funded projects including Bank funded Electricity III, IV. Other donor funded projects executed by EDM include Energy Reform and Access Program (ERAP). In this regard EDM has experience in managing donor funded projects. Lessons learned have been taken into consideration while designing the project and mitigation measures formulated to address challenges noted during the past project implementation. Some of the challenges noted in the past include delays in audit report submission, delays in accessing funds and poor communication. These weaknesses have since been addressed by ensuring early engagement of the external auditor and improved communication channels and enhanced coordination. Except for the named challenges, EDM have managed donor projects generally satisfactory. EDM is generally adequately staffed. The project shall be implemented by *Sociedade Nacional de Transporte de Energia* (SNTE), which is a Mozambique registered limited liability company wholly owned by EDM. SNTE has a project implementation unit which is adequately staffed including an experienced financial expert. The financial expert within the SNTE will handle all day to day financial management activities of the project and will work under the supervision of the Finance, Accounting & Tax Manager within SNTE. The entity utilizes a computerized accounting system (GIAF) to record

and process transactions. The system has been found to be adequate for processing and maintaining the proposed project.

4.1.5 The control environment from budget preparation, execution, monitoring and reporting have been assessed and found to be adequate. Furthermore, there is a functional internal audit function that will cover the project. In that regard, the Bank will make use of the existing systems (while closely monitoring and providing assistance as required).The overall financial management responsibilities (which includes accounting, financial reporting, budgeting and disbursement) shall rest with the Head of finance in EDM the executing Agency. The SNTE's Finance, Accounting & Tax Manager shall be supported by finance expert in day today FM activities for the project. The FM responsibility shall include, disbursement, accounting for the project's resources and submitting audited financial reports. A consolidated quarterly report shall include entire project funding including all financiers and counterpart. The report shall be submitted to all financiers including AfDB not later than 45 days after end of each quarter. There will be a single quarterly report, a consolidated statement containing entire project funding from all financiers.The annual financial report shall be also a single report for all financiers including AfDB in an agreed format acceptable by all. An independent auditor shall be recruited and cost shall be paid for by Islamic Development Bank (IsDB) to audit the projects financial reports and the TORs will be submitted for Bank's review. The single audit report together with the management letter for the entire project shall be submitted to all financiers including AfDB not later than 6 months after end of the financial period. At the country level, the review of the Government wide accounting system (E-SISTAFE) revealed that it lacks capability to account and report in multiple foreign currency hence not found suitable for project accounting. There is no functional Single Treasury System therefore the Bank funds would not follow the Government treasury system. The Administrative Tribunal has capacity challenges therefore the proposed project shall be audited by a private audit firm recruited and paid for by IsDB. The overall FM residual risk for the project is assessed as Moderate. (Refer to PAR volume II for details of Financial Management Arrangements).

4.1.6 The control environment from budget preparation, execution, monitoring and reporting have been assessed and found to be adequate. Furthermore, there is a functional internal audit function that will cover the project. In that regard, the Bank will make use of the existing systems within EDM through SNTE (while closely monitoring and providing assistance as required).The overall financial management responsibilities (which includes accounting, financial reporting, budgeting and disbursement) shall rest with the Head of finance in EDM the executing Agency. The EDM's deputy finance manager (finance, tax, accounting and disbursement) will be supported by accountant, finance assistants and disbursement assistants in day today FM activities for the project. The FM responsibility shall include, disbursement, accounting for the project's resources and submitting audited financial reports. A consolidated Semi-annual report shall include entire project funding including all financiers and counterpart. The report shall be submitted to all financiers including AfDB not later than 45 days after end of each semester. There will be a single semi-annual report, a consolidated statement containing entire project funding from all financiers .The annual financial report shall be also a single report for all financiers including AfDB in an agreed format acceptable by all. An independent auditor shall be recruited and cost shall be paid for by Islamic Development Bank (IsDB) to audit the projects financial reports and the TORs will be submitted for Bank's review. The single audit report together with the management letter for the entire project shall be submitted to all financiers including AfDB not later than 6 months after end of the financial period. The overall FM residual risk for the project is assessed as Moderate. (Refer to PAR volume II for details of Financial Management Arrangements).

4.1.7 **Disbursement Arrangements**: Flow of funds to finance the institution follows the national treasury and appropriation procedures with controls over the use of funds generally adequate. EDM has experience administering Bank funds flow from the previous project. The entity's performance in managing the disbursements of the Bank's fund was found to be adequate. Specific to this project, payments will be primarily by direct payment method where the Bank will pay contractors/consultants and suppliers directly based on satisfactory performance in accordance with the Bank's Disbursement Handbook. Disbursements would be made upon preparation and submission of all relevant documentations by EDM to the Bank's Disbursement Division, through the Bank's Country Office in Mozambique. In addition, a Special Account denominated in USD shall be opened in the Central Bank of Mozambique and its associated MZN denominated project operating account shall be opened in a reputable Bank The special account shall be justified regularly (every six months or when expenditure in the SA reaches at least 50%). A Disbursement Letter will be issued by the Fund and signed between the .Fund and the Republic of Mozambique.

4.2 Monitoring

4.2.1 The performance of the TTP Project will be monitored through submission of semi-annual progress reports. Activities to be monitored include the procurement, construction progress, contractual payments, implementation of Environmental and Social Management Plan (ESMP), Resettlement Action Plans, health, safety and other aspects of project management and quality control. This will be conducted through the established performance indicators and budgets against which actual reporting is done including detailed explanations of any significant variances. The reports will show cash receipts by source and expenditure (i.e. services/works/goods) including linking physical implementation progress to disbursed amounts. In addition, the report will highlight issues requiring financier's intervention. The Project performance indicators are presented in the Results Basic Logical Framework in the introductory section of the PAR.

4.2.2 The Project will be monitored through Field Supervision Missions from the Bank's Headquarters in Abidjan, Regional Offices in Pretoria and the Mozambique Country Office, at least twice a year from 2020 until 2023. The joint lenders missions will be conducted in liaison with MoF, MIREME, EDM, and SNTE. The Bank will have joint supervision missions with the WB and other lenders twice a year. However, the Task Manager will undertake monthly desk reviews of the Project and hold ad-hoc meetings with the Project Coordinator to ensure that the Project is completed on schedule within the available budget. SNTE via the PDT, is primarily responsible for monitoring implementation and reporting obligations to the Bank, including preparation and submission of quarterly reports and annual audit reports. Performance based Monitoring and evaluation (M&E) system will be established on the log-frame indicators (baseline and targets). The system will provide information to the semi-annual progress reports.

4.2.3 In addition to the bi-annual joint Supervision Missions, a joint Mid-Term Review (MTR) of the Project will undertake not later than 30 months after the loan approval, which shall inform any adjustments to the Project design to ensure that Project objectives are achieved. At the end of the construction period, the EDM via the SNTE will prepare and submit a Completion Report to the Bank. Upon receipt of the report, the Bank will, in consultation with MEF and MIREME will prepare its own PCR.

4.2.4 The Project will be implemented over a period of four (4) years, as shown in the PAR introductory sections, starting 2019 and closing not later than 31 December 2023.

4.3 Governance

4.3.1 The implementing agency, SNTE[3] is a wholly-owned subsidiary of Electricidade de Moçambique E.P. also known as EDM. EDM was created as a State Company in August 1977 pursuant to Decree-Law 38/77, of 27 August, with the purpose of establishing and operating the public service of electricity production, transmission and distribution. In 1995, following the Restructuring of the Country's Economy, Empresa Nacional de Electricidade was transformed into a Public Company, pursuant to Decree 28/95 of 27 July, called Electricidade de Moçambique, E.P. (EDM), having taken over all rights, obligations and patrimony of the former company whose main objectives were the establishment and exploration, for an indefinite period, of the public services of generation, transmission, distribution and sale of electricity in Mozambique and the importation and exportation of energy. Though EDM is vertically integrated, the introduction of Decree 43/2005, of 29 November, determined that EDM will adopt an organisational structure separating the functions of Manager of the National Transmission Grid from the activities of generation, transmission, distribution and marketing that may be concessioned to the company, this being considered the first step towards its unbundling in line with international guidelines. EDM, with head office in Maputo, operates under the supervision of MIREME and is governed by the law applying to public companies. The company has initiated a process of financial and human resources restructuring with a new Management Board appointed by the Minister in October 2016, after selection following a public tender. EDM's Board of Directors is composed by 7 members, including 2 non-executive Directors, 4 Executive Directors and a President, who has recently been appointed in January 2019 and during the ceremony of his appointment publicly assured the continuity to the reform process initiated, whilst highlighting the company's focus on adopting state-of-art procurement processes.

4.3.2 The TTP project will be implemented and operated by a separate Special Purpose Vehicle (SPV), a wholly-owned subsidiary of EDM named Sociedade Nacional de Transporte de Energia ("SNTE"). This structure facilitates fully ring-fenced revenues and costs, providing maximum transparency and flexibility for future phases of STE development. SNTE will be independently staffed and resourced to take on the necessary scope of work to develop, implement and operate the TTP infrastructure, using a combination of EDM own resources and senior advisers, individual experts and staff on time-based contracts and an arms-length contractual arrangement with the Owners Engineer to support the PIU. Operations & Maintenance of the TTP are expected to be contracted out for an initial period of three (3) years with option to extend this to five (5) years allowing sufficient in-house capacity to be established. Complying with SNTE Articles of Association, three EDM staff members were appointed to act as SNTE's first Board of Directors and SNTE's commercial business license was issued on 27 March 2019, with Declaration of Commencement of Operation expected to be obtained soon. The PIU will be responsible for the overall project progress monitoring and will ensure that financial and reporting requirements are met and that IsDB and World Bank procurement and disbursement procedures are followed. AfDB will have the right to be consulted about approvals and non-objections at all stages of the procurement and disbursement process.

4.4 Sustainability

4.4.1 The Project is technically, economically and financially sustainable. In addition, the Government is committed to implementing the TTP in order to contribute towards the materialization of the National Energy Sector Master Plan of 2018-2027.

[3] SA: a joint-stock company incorporated in Mozambique

4.4.2 Technical sustainability is guaranteed due to the fact that the Project will be implemented with proven selected technologies which will meet the design requirements and competitively sourced in the open market through bidding process. In addition, the Project has been designed based on the original STE studies were scrutinised and signed off by not only EDM as the Mozambique National Transmission System Operator but also by Eskom in South Africa due to the interconnected nature of the envisaged STE system with that of the Eskom system in South Africa, and the fact that Eskom acts as Control Area for the southern Mozambique grid under the current SAPP arrangements. Also, the supply & installation contracts as well as the appointment of the Owner's Engineer will include relevant on-the-job training aspects to ensure equipment is operated in a sustainable manner.

4.4.3 In what refers to economic and financial sustainability, the option for project development based on a project finance structure – i.e. using an SPV – facilitates fully ring fenced revenues and costs, whilst providing maximum transparency and mitigating negative impacts from EDM's difficult financial situation. The project will spur economic development in the country and region, and from an operational point of view, EDM will materialize a robust least-cost solution for Mozambique, needed from 2023 onwards.

4.5 Risk management

4.5.1 The Project involves some degree of risks, including: i) Technical and Operational Risks; ii) Environmental & Social Risks; iii) Climate Related Risks included in environmental; iv) Economic & Financing Risks; v) Market Risks; vi); Project Schedule Risks and vii) Human Resources & Administration Arrangements.. These risks have been identified by the PIU and to which mitigation measures have been defined. The major risks, consequence, level of probability and impact and mitigation measures are highlighted in detail in the Technical Annexes.

4.5.2 The overall FM residual risk for the project is assessed as Moderate. Detailed results from the assessment and the agreed FM, disbursement and auditing arrangements for the proposed project are highlighted in section B.4 of the Technical Annexes.

4.6 Knowledge building

4.6.1 The TTP will provide on-the-job training opportunities to EDM and SNTE staff, particularly in 400 kV-rated transmission infrastructure that will be used to materialize the country's backbone transmission system.

4.6.2 In addition, the Bank will use the "lessons learnt" under the Project to inform future energy operations in Mozambique and other RMCs. Also, if the Project is successfully implemented, it will further contribute to build a long-lasting partnership between the Bank and GoM in energy-related operations.

5. LEGAL INSTRUMENT AND AUTHORITY

5.1 Legal instrument

5.1.1 The financing instrument proposed is an ADF Grant. A Protocol of Agreement shall be executed between the African Development Fund and the Republic of Mozambique. 5.2 Conditions associated with the Fund's intervention

5.2.1 **Condition precedent to Entry into force of the Protocol of Agreement:** The Protocol of Agreement shall enter into force on the date of signature by the Recipient and by the African Development Fund in accordance with Section 10.01 of the General Conditions Applicable to Protocols of Agreement for Grants of the African Development Fund.

5.2.2 **Condition precedent to First Disbursement of the Grant**: The obligations of the Fund to make the first disbursement of the Grant shall be conditional upon the entry into force of the Protocol of Agreement in accordance with Section 5.2.1 above. In addition to the provisions of Section 5.2.1(Entry into Force) of this Agreement, the obligation of the Fund to make the first disbursement of the Grant shall be subject to the satisfaction of the following conditions by the Recipient: (i) The execution and delivery of a Co-financing Agreements with each Co financier s on terms and conditions acceptable to the Fund or the submission of evidence that the Recipient has secured financing from alternative sources to cover the financing gap resulting from failure to obtain the Co-financing (s).; (ii) the execution and delivery of a Subsidiary Agreement between SNTE and the Recipient in form and substance satisfactory to the Fund;(iii) Submission of evidence of the recruitment of a Project Financial Manager for the PIU with qualifications and terms of reference acceptable to the Fund; and (iv) Submission of evidence of EDM's contribution to the Project

Other Conditions: The Recipient shall provide to the Fund evidence of the following:

(i) the approval of financing to be provided by DBSA no later than 30 September 2019;
(ii) the recruitment of key personnel for the PIU such as the Environmental and Social Officer and the Community Liaison Officer no later than 30 June 2020

Section 5.2.3. **Condition Precedent to Disbursements for Works Involving Resettlement.** Subject to the provisions of Section 5.2.1 (Entry into Force) and Section 5.2.1(i) (Condition Precedent to First Disbursement) above, the obligation of the Fund to disburse the Grant for works that involve resettlement shall be subject to the fulfillment by the Recipient of the following additional conditions:

(a) Submission of a works and compensation schedule prepared in accordance with the RAP and the Fund's Safeguards Policies in form and substance satisfactory to the Fund detailing: (i) each lot of civil works under the Project, and (ii) the time frame for compensation and/or resettlement of all PAPs in respect of each lot; and

(b) Submission of satisfactory evidence that all PAPs in respect of works/civil works in a given lot have been compensated and/or resettled in accordance with the ESMP, the RAP and /or the agreed works and compensation schedule and the Fund's Safeguards Policies, prior to the commencement of such works, civil works in such lot and in any case before the PAPs actual move and/or taking of land.

5.3 Environment and Social Safeguards. The Recipient shall cause the Executing Agency, the Implementing Agency, and each of their respective contractors, sub-contractors and agents to:
(i) carry out the Project in accordance with the ESMP, the RAP and/ or the agreed works and compensation schedule, the Fund's Safeguards Policies and the applicable national legislation in a manner and in substance satisfactory to the Fund;
(ii) prepare and submit to the Fund, as part of the Project Report, quarterly reports on the implementation of the ESMP and the RAP including any deficiencies identified and the corrective measures thereto; and

(iii) refrain from taking any action which would prevent or interfere with the implementation of the ESMP, the RAP, including any amendment, suspension, waiver, and/or voidance of any provision thereof, whether in whole or in part, without the prior written concurrence of the Fund.

(b) The Recipient shall cause the Executing Agency, the Implementing Agency, each of their respective contractors, sub-contractors and agents not to commence implementation of any works on any section of a given lot under the Project, unless all PAPs in such lot have been compensated and/or resettled in accordance with the RAP and/ or the agreed works and compensation schedule.

5.4 Compliance with Bank policies

This project complies with all applicable Bank policies.

6. CONCLUSION AND RECOMMENDATION

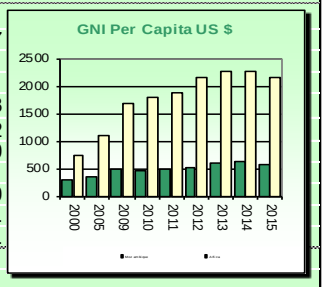
Management recommends that the Board of Directors of the African Development Fund, approve:

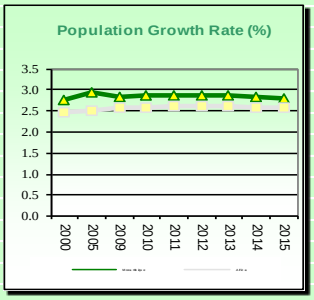
(i) Waiver for the Bank to use the World Bank Procurement Policy, Rules and Guidelines (A waiver from the board of directors is required for use of third party procurement policy, rules and guidelines in accordance to clause 10.3 of the Procurement Policy for Bank Group Funded Operations)
(ii) The proposed a Grant of UA 23.58 million to the Republic of Mozambique for the purposes and subject to the terms and conditions stipulated in this report

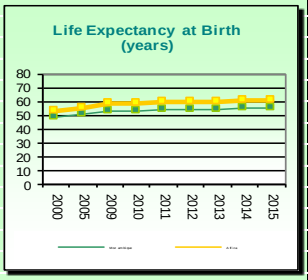
7. APPENDIXES

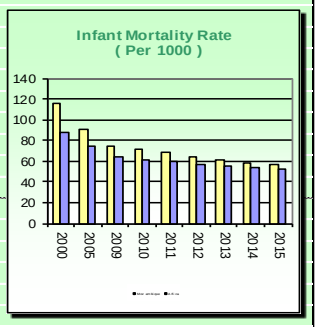
Appendix I. Country's comparative socio-economic indicators

	Year	Mozambique	Africa	Develo-ping Countries	Develo-ped Countries
Basic Indicators					
Area ('000 Km²)	2016	799	30,067	97,418	36,907
Total Population (millions)	2016	28.8	1,214.4	6,159.6	1,187.1
Urban Population (% of Total)	2016	31.4	40.1	48.7	81.1
Population Density (per Km²)	2016	36.6	41.3	65.1	33.8
GNI per Capita (US $)	2015	580	2 153	4 509	41 932
Labor Force Participation *- Total (%)	2016	79.1	65.7	63.5	60.0
Labor Force Participation **- Female (%)	2016	82.3	55.7	48.9	52.1
Sex Ratio (per 100 female)	2016	95.7	100.1	106.0	105.0
Human Develop. Index (Rank among 187 countries)	2015	181	...	...	...
Popul. Living Below $ 1.90 a Day (% of Population)	2008	68.7	...	21.1	...
Demographic Indicators					
Population Growth Rate - Total (%)	2016	2.8	2.5	1.3	0.6
Population Growth Rate - Urban (%)	2016	3.4	3.6	2.4	0.8
Population < 15 years (%)	2016	45.1	40.9	27.9	16.8
Population 15-24 years (%)	2016	20.1	19.3	16.9	12.1
Population >= 65 years (%)	2016	3.4	3.5	6.6	17.2
Dependency Ratio (%)	2016	94.2	79.9	54.3	52.0
Female Population 15-49 years (% of total population)	2016	23.1	24.0	25.7	22.8
Life Expectancy at Birth - Total (years)	2016	55.8	61.5	69.9	80.8
Life Expectancy at Birth - Female (years)	2016	57.0	63.0	72.0	83.5
Crude Birth Rate (per 1,000)	2016	38.4	34.4	20.7	10.9
Crude Death Rate (per 1,000)	2016	11.0	9.1	7.6	8.6
Infant Mortality Rate (per 1,000)	2015	56.7	52.2	34.6	4.6
Child Mortality Rate (per 1,000)	2015	78.5	75.5	46.4	5.5
Total Fertility Rate (per woman)	2016	5.2	4.5	2.6	1.7
Maternal Mortality Rate (per 100,000)	2015	489.0	476.0	237.0	10.0
Women Using Contraception (%)	2016	18.7	31.0	62.2	...
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2005-2015	5.5	41.6	125.7	292.2
Nurses and midwives (per 100,000 people)	2005-2015	40.1	120.9	220.0	859.4
Births attended by Trained Health Personnel (%)	2010-2015	54.3	53.2	69.1	...
Access to Safe Water (% of Population)	2015	51.1	71.6	89.4	99.5
Access to Sanitation (% of Population)	2015	20.5	39.4	61.5	99.4
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2015	10.5	3.4	...	...
Incidence of Tuberculosis (per 100,000)	2015	551.0	240.6	166.0	12.0
Child Immunization Against Tuberculosis (%)	2015	95.0	81.8	...	...
Child Immunization Against Measles (%)	2015	85.0	75.7	83.9	93.9
Underweight Children (% of children under 5 years)	2010-2015	15.6	18.1	15.3	0.9
Prevalence of stunding	2010-2014	43.1	33.3	25.0	2.5
Prevalence of undernourishment (% of pop.)	2015-2016	25.3	16.2	12.7	...
Public Expenditure on Health (as % of GDP)	2014	3.9	2.6	3.0	7.7
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2010-2016	105.8	101.2	104.9	102.4
Primary School - Female	2010-2016	101.2	98.4	104.4	102.2
Secondary School - Total	2010-2016	32.4	52.6	71.1	106.3
Secondary School - Female	2010-2016	31.1	50.2	70.5	106.1
Primary School Female Teaching Staff (% of Total)	2010-2016	43.1	47.1	59.8	81.0
Adult literacy Rate - Total (%)	2010-2015	58.8	66.8	82.3	...
Adult literacy Rate - Male (%)	2010-2015	73.4	74.3	87.1	...
Adult literacy Rate - Female (%)	2010-2015	45.5	59.4	77.6	...
Percentage of GDP Spent on Education	2010-2015	6.5	5.0	4.0	5.0
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2014	7.2	8.7	11.2	10.3
Agricultural Land (as % of land area)	2014	63.5	41.7	37.9	36.4
Forest (As % of Land Area)	2014	48.5	23.2	31.4	28.8
Per Capita CO2 Emissions (metric tons)	2014	0.2	1.1	3.5	11.0









Sources : AfDB Statistics Department Databases; World Bank: World Development Indicators; UNAIDS; UNSD; WHO, UNICEF, UNDP; Country Reports. *last update : June 2017*

*Note : n.a. : Not Applicable ; ... : Data Not Available. * Labor force participation rate, total (% of total population ages 15+)*

*** Labor force participation rate, female (% of female population ages 15+)*

Appendix II: Table Mozambique: Bank on-going projects (April 2019)

N.	Project Name	Approval	Closing	Amount	Disb.Ratio
Agriculture				**Sub- total 55.2 Million**	
1	PPF-VALUE CHAIN AND MARKET DEVELOPMENT PROGRAM ALONG PEMBA_L	12/6/2017	6/30/2019	1.0	2.15
2	DROUGHT RECOVERY AND AGRICULTURE RESILIENCE	1/18/2018	6/30/2023	10.0	17.74
3	AGRICULTURAL VALUE CHAIN AND YOUTH EMPOWERMENT PROJECT	7/20/2018	12/31/2023	11.0	0.95
4	MASSINGIR DAM EMERGENCY REHABILITATION PROJECT SUPPLEMENTARY	7/20/2018	12/31/2019	4.9	34.39
5	BAIXO LIMPOPO IRRIGATION & CLIMATE RESILIENCE	9/26/2012	6/30/2020	28.3	66.37
Ind/Mini/Quar				**Sub- total 28.9 Million**	
6	MOMA MINERAL SANDS PROJECT	5/21/2003	10/18/2007	28.9	100.00
Environment				**Sub -total 13.4 Million**	
7	SUSTAINABLE LAND & WATER RES. MGT PROJECT	10/31/2012	12/31/2019	13.4	92.50
Transport				**Sub- total 246.7 Million**	
8	MUEDA - NEGOMANO ROAD PROJECT PHASE I	12/9/2016	12/31/2022	53.5	4.39
9	MONTEPUEZ-LICHINGA ROAD PROJECT	10/27/2006	6/30/2019	51.8	86.25
10	NACALA TRANSPORT CORRIDOR PHASE-III	12/5/2012	12/31/2020	38.7	67.40
11	MULTI-NACALA CORRIDOR PROJECT (MOZAMBIQUE)	6/24/2009	10/30/2021	102.7	55.38
Water Sup/Sanitation				**Sub total - 4.6 Million**	
12	FEASIBILITY STUDIES FOR BUILDING CLIMATE RESILIENCE OF LIMPOPO	12/1/2014	6/30/2019	3.4	89.28
13	URBAN SANITATION, DRAINAGE AND SOLID WASTE MANAGEMENT IN CHIMOIO	7/14/2016	12/30/2020	1.3	15.96
Finance				**Sub- total 6.5 Million**	
14	AFRICA SME PROGRAM LOC - MOZABANCO S.A	4/11/2014	5/30/2016	6.5	100.00
Social				**19.0 Million**	
15	UNILÚRIO-SUPPORT TO SKILLS DEVELOPMENT FOR AGRICULTURE AND INDUSTRY	1/16/2018	8/31/2023	10.0	3.32
16	CONSOLIDATION WOMEN'S ENTREPRENEURSHIP	12/18/2013	9/30/2019	3.8	81.50
17	JOB CREATION AND LIVELIHOOD IMPROVEMENT PROJECT	5/18/2016	12/30/2021	4.5	15.24
18	NACALA CORRIDOR BUSINESS LINKAGES TA PROJECT	6/14/2017	12/31/2020	0.7	16.40
Power				**10.0 Million**	
19	ENABLING LARGE SCALE GAS & PWR INVESTMENT PROj.	12/18/2013	6/30/2020	10.0	9.68
				T O T A L UA 384.3 million	

Appendix III: Similar projects financed by the Bank and Development Partners

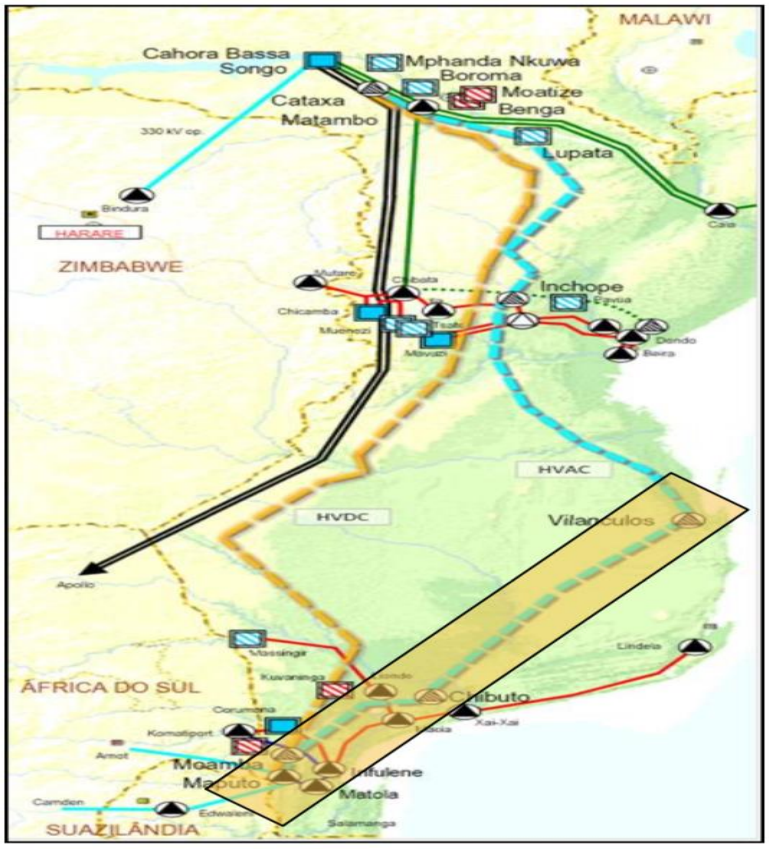
	Long name	Window	Approval date	Amount App. (Million)	Amount Dis. Cumm. 2019	Dis. Ratio	IP (Impl. Progress)	DO (Dev. Objectives)	Age
	World Bank								
1	Power Efficiency and Reliability Improvement Project (PERIP)	IDA	30/11/2017	150	25			To improve the operational capacity of the electricity network in the project areas and the operational efficiency of EDM. The project addresses the poor state of the electricity network and the weak operational and financial position of EDM as critical first steps to improve the provision of reliable and efficient electricity supply, so that EDM may expand electricity services, in line with the World Bank twin goals of ending extreme poverty and boosting shared prosperity.	1.5
2	Mozambique – Malawi Regional Interconnector Project	IDA credit & (grant)	2019*	17 (42)				To implement the Mozambique-Malawi transmission interconnection and to expand Malawi and Mozambique's ability to engage in bilateral and regional power trade in the Southern African Power Pool.	
3	Mozambique Energy for All (ProEnergia)	IDA grant	3/28/2019	82				Guarantee the universal access to energy by 2030.	
	KfW								
4	EDM Power Network Modernization Program	grant	2017	23.5			Ongoing	Connecting Belulane Industrial park to the grid	2 yr
5	Mozambique-Malawi Interconnector (Partners: World Bank, Norway)	grant	2018-2022	33.9			Ongoing	Connecting Malawi to SAPP through new transmission line between Matambo (Tete) and Phombeya (Malawi). As part of the project KfW finances an ICT component with the objective to improve on a broad scale internet access and /or mobile phone services for underserved areas.	

	JICA								
6	Emergency Rehabilitation of Transmission Network (on-grid energy)	grant	2017-2021	12.1			Ongoing	Emergency rehabilitation of transmission network in Maputo (Infulene Substation, others)	
	EIB								
7	EDM Short-term Investment Program (STIP) (co-financiers: Norway, KfW, EDM)	Mix	2015-2019	Up to 39.6			Ongoing	Program of short-term priority measures to alleviate critical supply constraints in Mozambican electricity network	
	DANIDA								
8	Reinforcement and Extension of the National Power Transmission Grid	Mixed credit	2010-2020	124.3			Ongoing	Extension of Ressano Garcia substation, 275 kV line Ressano Garcia-Zimbabwe (N/ of Macia) and new 275 /110kV substation in Zimbene. Extension to Lindela Substation, 110 kV line Lindela-Massinga and new 110/33kV substation W. of Massinga. Rural electrification in Gaza and Inhambane provinces.	

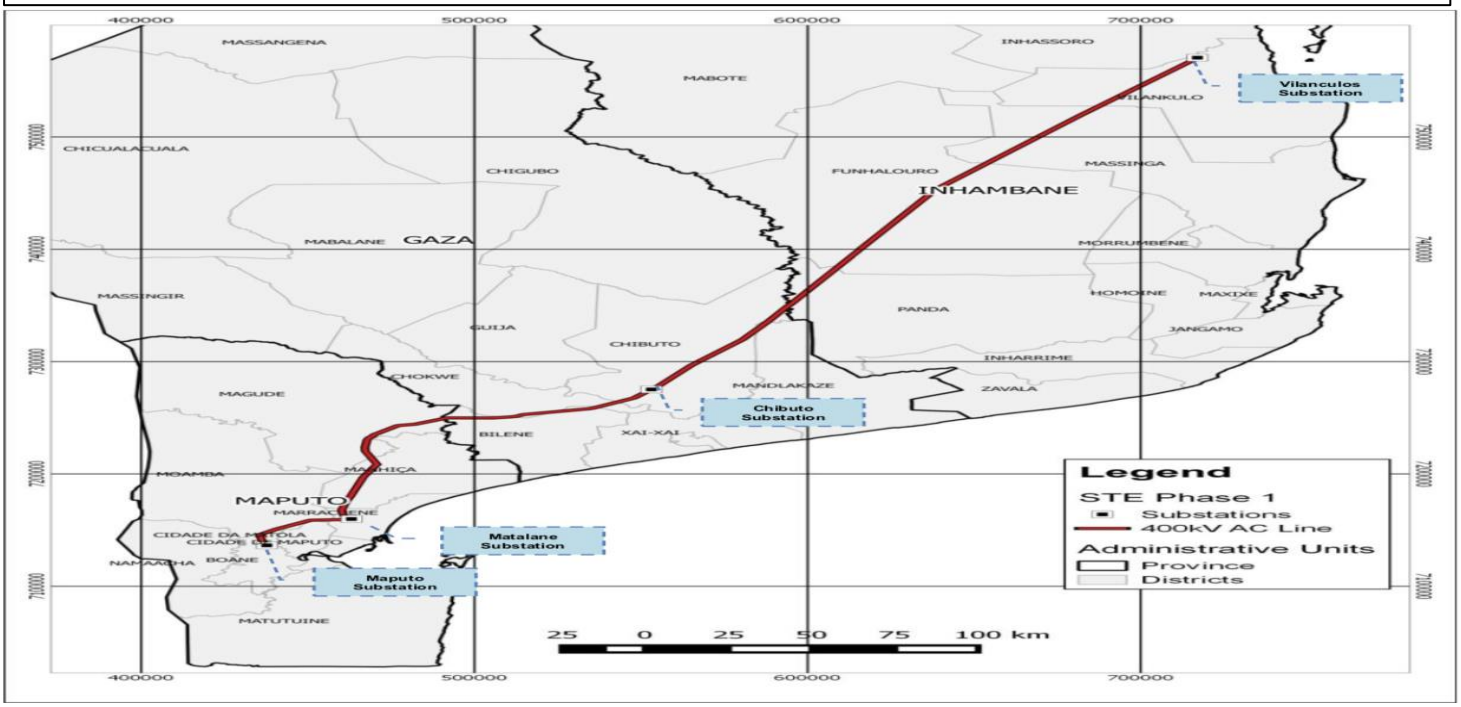
***** Expected to go to Board in Q2 2019.

Appendix IV: Map of Project Area

<u>Below:</u> Overview of the TTP 400kV line route:



Yellow dotted line: HVDC line of the STE
Blue dotted line: HVAC line of the STE
Yellow rectangular: Temane Transmission Project (Phase 1 of the STE Program)



AFRICAN DEVELOPMENT FUND

BOARD OF DIRECTORS

Resolution N° F/[●]/2019/[●]

Adopted by the Board of Directors, on a lapse-of-time basis, on [●] 2019

Multinational: Grant to the Republic of Mozambique to finance part of the costs of the Temane Transmission Project (TTP)

THE BOARD OF DIRECTORS,

HAVING REGARD to: (i) Articles 1, 2, 11, 12, 14, 15, 16, 26 and 30 of the Agreement Establishing the African Development Fund (the "Fund" or "ADF"); (ii) the Report on the Fourteenth General Replenishment of the Resources of the Fund (ADF-14); (iii) the applicable ADF-14 Country Resource Allocation; (iv) the Guidelines for the Financing of Multinational Operations; (v) the Strategic and Operational Framework for Regional Operations; (vi) the Procurement Policy for Bank Group Funded Operations (the "Procurement Policy"); and (vii) the appraisal report contained in document ADF/BD/WP/2019/118/Approval (the "Appraisal Report");

NOTING the availability of sufficient resources to enable the Fund to commit the amount of the Grant;

DECIDES as follows:

1. To award to the Republic of Mozambique (the "Recipient"), from the resources of the Fund, a grant of an amount not exceeding the equivalent of Twenty-Three Million, Five Hundred and Eighty Thousand Units of Account (UA 23,580,000) (the "Grant") to finance part of the costs of the Temane Transmission Project (TTP) (the "Project");

2. To waive, exceptionally, the application of the Procurement Policy of the Fund and authorize the use of the World Bank's procurement rules and procedures for the procurement of goods that are co-financed by the World Bank under the Project;

3. To authorize the President to conclude a protocol of agreement between the Fund and the Recipient (the "Protocol of Agreement") on the terms and conditions specified in the General Conditions Applicable to Protocols of Agreement for Grants of the African Development Fund and the Appraisal Report;

4. The President may cancel the Grant if the Protocol of Agreement is not signed within ninety (90) days from the date of approval of the Grant by this Board; and

5. This Resolution shall become effective on the date above-mentioned.