

Public Information Summary

Host Country	Mozambique
Name of Borrower	Central Termica de Temane S.A.
Project Description	The Project is the development, construction, and operation of a 420 megawatt (“MW”) gas-fired power plant in Inhambane Province, Mozambique, and construction of a 25-kilometer interconnection line to the substation at Vilanculos.
Proposed DFC Loan	An 18-year direct loan of an amount up to \$200 million.
All-Source Funding Total	\$687.1 million
Policy Review	
Developmental Objectives	This Project is expected to have a highly developmental impact on Mozambique. The government of Mozambique, recognizing that the lack of power hinders economic development, has set an aim to provide access to all citizens by 2030. In addition, with the development of a separate nearby transmission line, this Project is expected to deliver power to an underserved area. This Project will result in local procurement and is expected to create formal local jobs in a country where it is estimated that at least 75% of the population works in the informal sector.
Environment and Social Assessment	<p><u>Screening:</u> This Project has been reviewed against DFC’s categorical prohibitions and determined to be categorically eligible. The Project has been screened as Category A because it involves thermal power plant emissions, transmission line impacts to communities and terrestrial biodiversity, and potential to impact of beach landing site on regionally important area for marine biodiversity. The major environmental and social issues associated with the Project include the need for appropriate health and safety measures for the Project workforce and the nearby population; comprehensive human resources management system for a significant construction workforce; security assessment and management commensurate to Project risks; management of risks related to land acquisition and restrictions in marine access; and a robust environmental and social management system for day-to-day aspects of construction and operations.</p> <p><u>Applicable Standards:</u> DFC’s environmental and social due diligence indicates that the Project will have impacts that must be managed in a manner consistent with the following Performance Standards:</p> <p>PS1: Assessment and Management of Environmental and Social Risks and Impacts; PS2: Labor and Working Conditions; PS3: Resource Efficiency and Pollution Prevention; PS4: Community Health, Safety and Security; PS5: Land Acquisition and Involuntary Resettlement;</p>

PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; and
PS8: Cultural Heritage Management.

The Project is also required to meet applicable provisions of the IFC Environmental Health and Safety (EHS) General Guidelines (April 30, 2007); IFC EHS Guidelines for Thermal Power Plants (December 19, 2008); and the IFC EHS Guidelines for Electric Power Transmission and Distribution (April 30, 2007).

DFC disclosed the Project's environmental and social assessment ("ESIA") on its web site for a period of 60 days, which closed on February 10, 2020. No comments were received.

Environmental Risks and Mitigation:

The Project completed an ESIA based on both national requirements and international environmental and social requirements for Lender financing. Additional post-ESIA analyses included studies on groundwater availability, marine and coastal resources in proximity to beach landing site for heavy equipment, and further evaluation on gas supply alternatives and gas conditioning requirements. The Project ESIA and post-ESIA analyses adequately identify and assess environmental and social risks associated with Project implementation and this information is appropriately incorporated into the Project's environmental and social management system. The environmental and social action plan ("ESAP") developed based on the ESIA and post-ESIA analyses incorporates any follow-up actions required to achieve compliance.

Occupational health and safety issues associated with the construction and operation of a power plant include exposure to non-ionizing radiation, heat, fire and explosion, chemical hazards, physical hazards from the use of heavy equipment and cranes, trip and fall hazards, dust, noise, falling objects, work in confined spaces, hazardous materials and electrical hazards from the use of tools and machinery. The Project has a robust environmental and social management system ("ESMS") including appropriate requirements for the engineering and procurement contractor's health and safety plans and reporting. The Project will obtain ISO14001:2015 Environmental Management and ISO 45001 Occupational Health and Safety Management Certification within 2 years of the project physical completion date.

Occupational health and safety issues associated with the construction and operation of electrical overhead transmission line include exposure to electrical hazards, working at heights, and the physical hazards from

the use of heavy equipment and cranes. Lenders requirements for compliance with IFC performance standards, EHS General Guidelines for Health and Safety, and EHS Guidelines for Electric Power Transmission and Distribution are included in the bid request for EPC contractor.

An air quality impact assessment was completed for the Project and included all relevant components and sources that may contribute to air pollution within the Project airshed. Air quality in the Project area is not degraded according to WHO and IFC EHS Guidelines. The impact of the combined cycle gas turbine (CCGT) power plant on the air quality due to emissions from PM10, NO2 and SO2 has been assessed as low post mitigation. Proposed mitigation measures include increase of the stack height, application of control technologies such as selective catalytic reduction, selective non-catalytic reduction, catalytic combustion, and wet low emissions.

A greenhouse gas (“GHG”) assessment was completed for the Project. Assuming a design life of 25 years, the estimated annual emissions of the CCGT power plant will be on average 1,407,406 short tons CO2e. The assessment estimates the Project will contribute between 1.4% and 1.6% to Mozambique’s annual GHG emissions for the first 5 years and between 1.4% and 1.9% for the next 20 years.

A hydrogeological study was completed to determine available groundwater resource to supply the Project. The study confirms the required abstraction rate can be met without compromising the existing aquifer. CCGT technology requires demineralized and salts treated process water. Two treatment plants will be constructed, one for domestic supply and one for process water.

Project operations will produce the following wastewater streams: i) boiler blowdown; iii) oily water from equipment maintenance, tank containment berms and boiler washing; iii) domestic wastewater; and iv) brine from the demineralization plant. These wastewater streams will be directed to separate treatment systems according to their contamination levels and must meet EHS Guidelines for effluent prior to discharge. Process effluent (mainly blow down from the steam cycle and brine water) will be reinjected into the deep and confined karst aquifer at a depth of 30 m or greater. An effluent discharge options assessment indicates the reinjection has a limited impact on the quality or temperature of the aquifer and a low risk to human health of downstream water users. The injected water will dilute over time and horizontal migration of the plume is calculated to be in the range of 300-500 m from the injection well over a 100-year period.

The Project has a robust biodiversity management sub-plan including mitigation measures to reduce potential impacts to terrestrial and marine biodiversity. The Project area of influence consists of modified terrestrial habitat (power plant site), modified riverine habitat (Govuro River crossing), modified coastal (beach dunes), and natural marine habitat (Bazaruto Bay). Construction of the power plant and transmission line will result in vegetation removal, however ceremonial trees will remain on the plant site and the transmission line will avoid large trees where possible. The Project will include mitigation measures to avoid collision/electrocution impacts to bird species of conservation concern that may reside in the area.

The Project requires the transshipment of heavy equipment and impacts on marine biodiversity are temporary and limited to the construction phase. The transshipment route, barging activities and temporary beach landing will not impact the Bazaruto National Park, an important marine protected area for dugongs and other marine species of concern. The barge route and beach landing is situated north of the protected area boundaries and avoids seagrass beds and coral reefs. Construction of a temporary beach landing site will cause minor land cover changes through vegetation clearance on primarily modified dune and sandy beach habitat. This area is not known for sea turtle nesting.

The main direct Project effect on marine biodiversity will be the possible creation of a transient barrier to movement of individuals of dugong between southern and northern feeding grounds, as a result of increased vessel traffic between Port Beira and the beach landing site, and the associated noise and potential vessel strike effects. The increase in vessel traffic is small compared to already existing marine traffic and therefore the impact is expected to be low on sensitive species. The Project will have a certified marine mammal observer on a lead boat with the authority to influence the speed and direction of vessel movements where any potential risks to marine mammals or other marine life are identified.

The Project has developed a community health, safety and security plan which includes requirements to be applied in hiring of security personnel, training of security staff on ethics and human rights, rules of engagement, rules on use of force, training on gender-based violence and sexual exploitation and abuse, as well as training on community interaction and the Project's grievance mechanism.

The Project has prepared an abbreviated resettlement action plan ("ARAP") as impacts are expected to be minor and the total number of persons affected has been calculated as fewer than 200. The first round of disclosure of the ARAP was conducted in January 2020, and a

	<p>census of the affected population was carried out which included valuation of assets. The ARAP includes a livelihood restoration plan for individuals and households who may be affected by economic displacement, including tourism activities. Provision is also made for additional support for vulnerable households. The ARAP will be updated to include specific grievance mechanisms, compensation calculations, monitoring for livelihood restoration, and a consultation and engagement program for its implementation.</p>
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