BGC
BELULUANE
GAS COMPANY

PROJECT TEASER
&
REQUEST FOR INFORMATION

LNG Importation Project
Matola, Mozambique

2020

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The purpose of this project teaser is to present the status of LNG import project situated in Matola Harbour, Mozambique, which aims at providing Southern Africa gas markets with new sources of supply and open commercial discussion with potential gas off-taker.

I. Introduction

Indications are that gas supply from the Pande and Temane gas fields would start depleting within the next 5 years.

South African energy development company, Gigajoule, and international energy giant Total combined their forces in 2016 and created the Beluluane Gas Company (BGC).

To counteract the effect of the depletion of the gas supply from Mozambique, the BGC Project focused on an alternative solution. This entails the construction and operation of a Floating Storage and Regasification Unit (FSRU) terminal in the port of Matola, including all associated marine and onshore pipeline infrastructure. Liquified Natural Gas (LNG) will be supplied from Total's international LNG portfolio. The natural gas from the FSRU will be supplied to industrial markets in the South of Mozambique and neighbouring countries connected to the gas network as well as to potential markets currently unserved by natural gas as a result of their distance from the network, by means of road and rail deliveries.

This Project has been approved by the Government of Mozambique ("GoM") in 2019, through the award of a Concession for the importation of LNG, construction of onshore associated pipeline infrastructures, mooring facilities for the operation of the FSRU, and the construction and operation of an LNG truck loading facility. Also noteworthy is the award at the same time of the associated Concession to Central Termica de Beluluane (CTB) for the generation of up to 2000MW of electrical power in the Beluluane Industrial Park to be supplied from the FSRU.

To gain a better understanding of the project, the BGC Project video can be viewed here: BGC LNG Importation Project

II. Objectives

The main objectives of this document are to:

- Provide information to the Southern African market regarding the BGC LNG importation project in Matola, Mozambique
- To ascertain interest and to obtain market information from Southern African industries regarding potential gas and power offtake and schedule a Q&A session with the RFI respondents.

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III. Form of Solicitation

The recipients of the project teaser and RFI are kindly requested to visit the BGC website and complete the Gas and Power Users form. Alternatively, recipients can respond by completing Annexure 1 and sending it to info@bgc.co.mz.

The Gas and Power Users form can be accessed **HERE**.

All respondents of the RFI will be invited to the Q&A session along with the key stakeholders of the BGC Project. The date will be communicated beforehand.

1. PROJECT OVERVIEW

Current and future industrial and economic growth in Southern Africa is constrained due to the limitations in energy supply. The growth of gas-related industries is now also restricted by the current non-availability of natural gas. Various authorities in Southern Africa have accepted that natural gas will be a fundamentally important fuel as a primary energy source and for power generation to enable economic growth in the region, however, the Pande-Temane fields are insufficient to keep up with industrial growth and will deplete within the next decade.

As stated by various public documentations, the supply of natural gas through the Rompco pipeline will start to decline within the next few years and should deplete before the turning of the decade. Therefore, an alternate supply of natural gas is of fundamental importance for South Africa and the Southern African region.

Gigajoule identified this supply risk in 2012 and commenced with initial feasibility studies to have a sustainable gas supply into the future. Detailed studies have shown that the importation of Liquified Natural Gas (LNG) using Floating Storage and Regasification Unit (FSRU) technology is the quickest and most economical method to supply alternative natural gas to Southern Africa.

This document provides the solution developed by the Beluluane Gas Company (BGC) over the past 8 years. The project will mitigate the constraints in energy and especially natural gas through two main avenues:

- The construction of new marine facilities and transmission pipeline facilities to import LNG and transport the regasified LNG through the existing Matola Gas Company (MGC) Network to the Rompco transmission pipeline, and;
- The supply of virtual LNG from a truck loading facility in Matola.

These facilities are designed to supply sufficient natural gas into Mozambique and the region, supplement the decline and supply new power stations as well as new markets that cannot be supplied by the Mozambique gas fields.

LNG will be sourced from Total's international LNG portfolio. Total is the 2nd largest LNG player in the world.

After years of technical and commercial development activity, BGC is confident LNG can be made available from early 2023 and at an attractive price.

1.1. Current Supply Deficit

Despite the current available capacity in the Rompco pipeline, the Pande-Temane gas reserves do not have sufficient reserves to supply any additional demand to the region.

Additionally, the current dormant industrial gas demand in South Africa cannot be supplied as a result of the upstream gas supply constraints. South African industrial growth has stagnated for a number of reasons, ranging from load-shedding to the depreciating local currency.

The availability of large scale natural gas is a major factor to foster industrial growth in the region.

1.2. Future Gas Markets

Many large-scale Southern African companies are applying resources to focus on energy sustainability. This drive has two main aspects, namely: reducing their carbon footprint; and, sourcing reliable, available and cost-competitive energy for the long-term to fuel their growth.

Any such new market development requiring energy will be able to rely on natural gas from the BGC LNG supply from 2023, and when the Pande-Temane gas fields start depleting in the next 5 years.

1.3. Supplying the Gas Market

1.3.1. Regassified LNG

The Project entails the financing, construction, and operations of new marine facilities for supplying LNG to an FSRU in the Matola harbour. A new gas transmission pipeline system will transport the natural gas from the FSRU to the Beluluane Industrial Park area in Matola and into the existing Matola Gas Company (MGC) gas pipeline system. The MGC pipeline network is connected to the Rompco pipeline network, which supplies gas to the South African gas market.

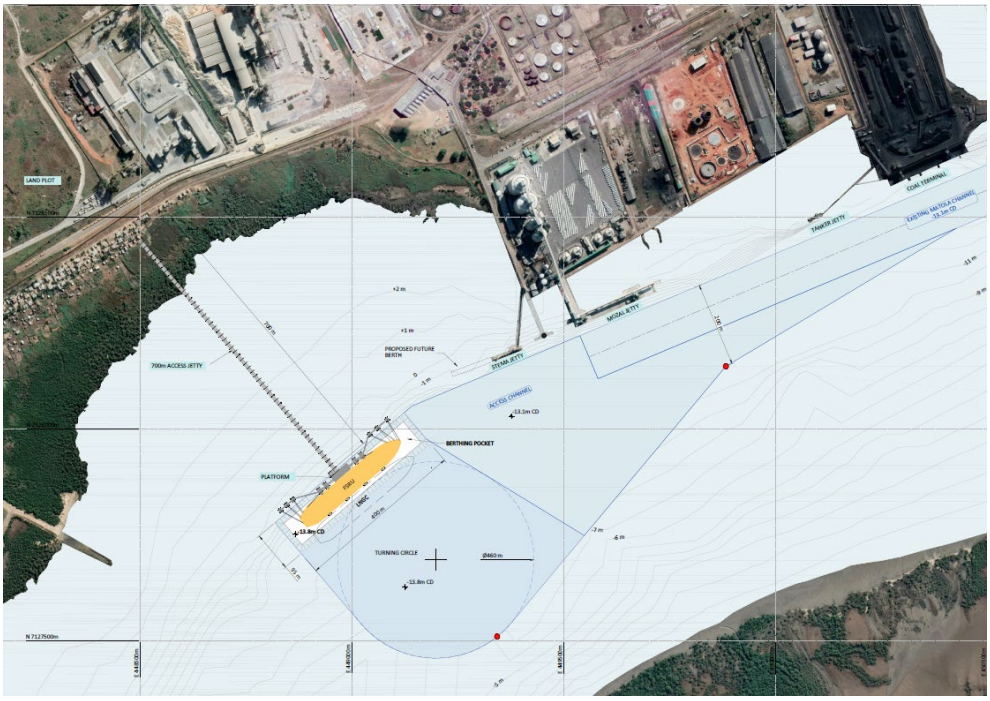

Figure 1: Proposed main location for the FSRU in the Port of Matola next to the grain terminal

The FSRU will berth at new purposefully designed and built mooring facilities in the Matola harbour. Delivery of LNG to the FSRU will be via LNG carriers sourced from Total's international LNG portfolio. The LNG ship will moor alongside the FSRU and transfer LNG cargoes into the storage tanks of the FSRU. On-board re-gas trains will regasify the liquid LNG and deliver high-pressure natural gas to the on-land pipeline system or supply LNG in its liquid form to an onshore truck filling station for distribution to markets not connected with pipelines.

The pipeline design parameter will be sized to accommodate the full current gas market as well as future gas developments/demand. The pipeline network will be able to supply up to 220 PJ per year into the Rompco pipeline system.

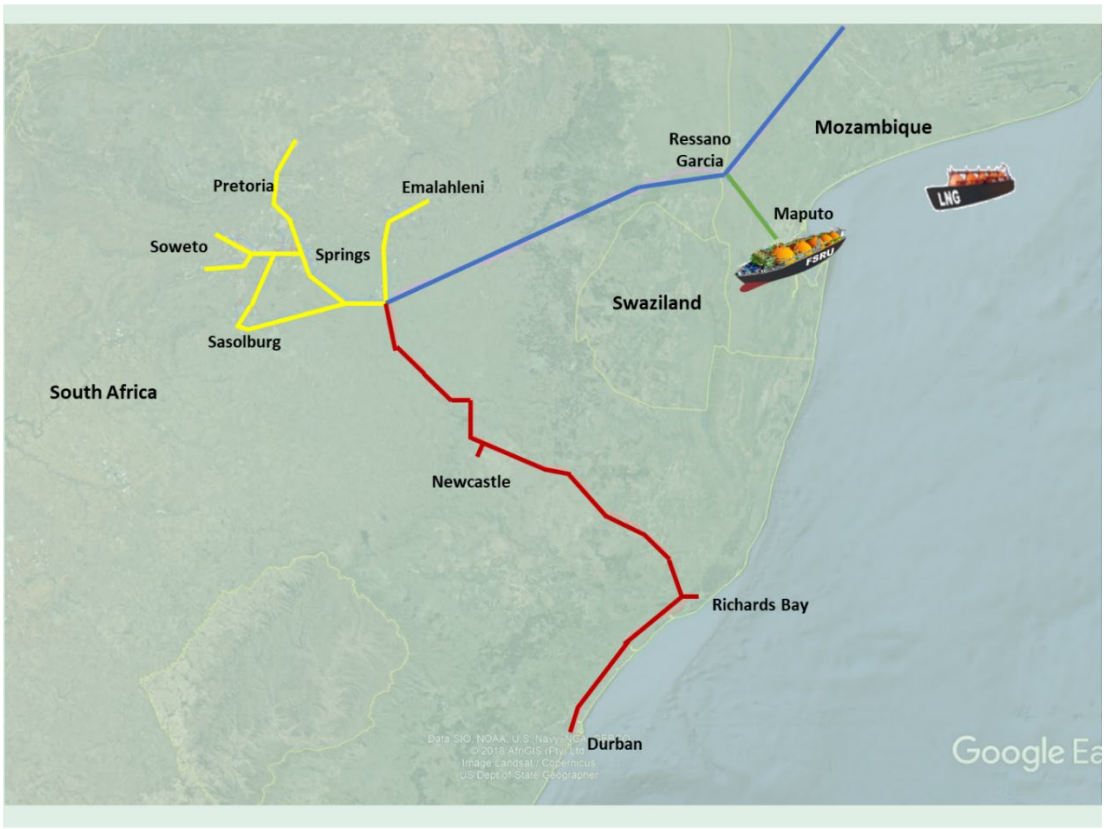

Figure 2: Project location Maputo. Connected to the Southern Africa Gas Network

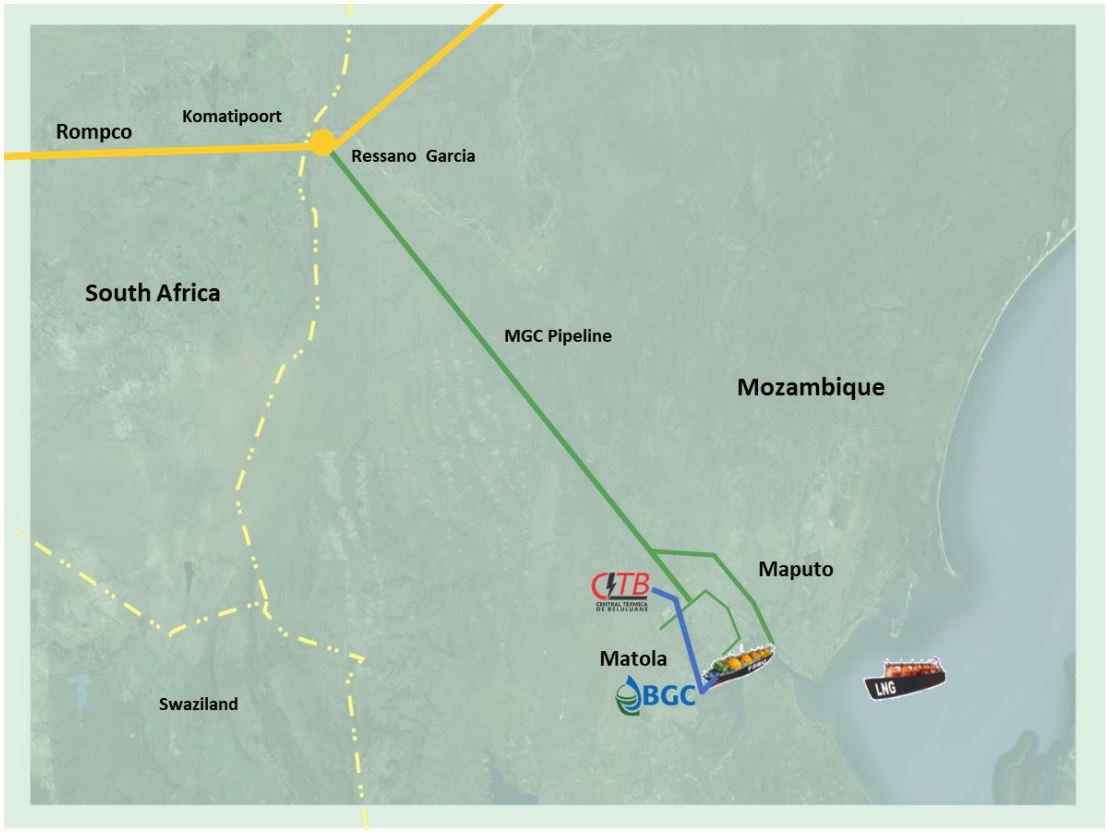

Figure 3: Access to South Africa Gas Pipeline System

1.3.2. Virtual LNG pipeline

An integral part of the Project includes a cryogenic vehicle and train filling facility to be constructed close to the FSRU and BGC marine facilities. This facility is being designed to expand as the market grows. This facility will initially include multiple loading bays and be able to service the energy demand of customers who are not connected to a natural gas pipeline network as soon as 2023.

Even though this will be the first of its kind in Southern Africa, the filling, transportation, storage, and on-site regasification of LNG is not a new concept and has been proven countless times internationally. What makes the "virtual" supply of LNG such an exciting prospect is that trucks can deliver competitively priced LNG and supply markets (and power stations) at more than 1,000 km from the loading point, which has historically not been able to enjoy the benefits of affordable, clean energy.

LNG is the perfect fit for many utilisations and the lowest carbon fossil fuel for the environmental transition of Factories, Mines & Transport companies.

LNG is already running thousands of heavy-duty trucks, pit-mine trucks, gen-sets, boilers, heaters and other processes in various countries. More than 1 million trucks are loaded with LNG every year.

On top of economical savings, LNG is the perfect partner of your Greenhouse Gas (CO_2, SOx, NOx) and fine particulates target reductions.

LNG is the reliable partner of your industrial process and easily combines with renewable energies and biogas developments.

Figure 4: Virtual LNG - 1,000km travelling radius

Figure 5: Total Pitpoint LNG service station, The Netherlands

Figure 6: Steel Mill, China @CIMC Enric

2. PROJECT PROMOTERS

The Beluluane Gas Company is backed by a strong group of Mozambican, South African and international promoters who have experience in all aspects of development, construction and operations of gas-related infrastructure assets in Mozambique and also worldwide through an internationally renowned oil and gas partner. The Project Promoters include Gigajoule, Matola Gas Company and the French Energy Major, Total.

Figure 7: BGC Project Promoters

Gigajoule

Gigajoule is an integrated energy company that invests in, builds and operates energy infrastructure. Gigajoule's foundation is its extensive business and engineering know-how and their strong belief in regional partnerships. Gigajoule has vast experience in the natural gas industry, especially in Mozambique. The Promoters successfully created MGC in 2004, completed the construction of 100km of gas pipelines in 2005, the first compressed natural gas in Southern Africa in 2007 and now supplies gas to over 30 industries, gas vehicles, and busses and supports 240 MW power generation capacity in Ressano Garcia and Maputo.

Total

Total is a major energy player, which produces and markets fuels, natural gas and low-carbon electricity. Total's 100,000 employees are committed to better energy that is safer, more affordable, cleaner and accessible to as many people as possible. Active in more than 130 countries, Total's ambition is to become the responsible energy major. A pioneer in LNG, Total has been a market leader for over 40 years and possesses the second-largest LNG portfolio in the world, granting the company the ability to supply LNG to any destination across the globe.

In Mozambique, Total is since 1991 a distributor of petroleum products and related services and operates a network of 50 services stations.

Since 2019, Total is a key player of the growing Mozambican LNG exports industry, as Operator and Sponsor of the 12.88 mtpa "Mozambique LNG" integrated liquefaction project under construction in the North.

MGC

MGC owns and operates a natural gas transmission and distribution network in the Maputo province of Mozambique. Following the construction of the ROMPCO pipeline from the Temane and Pande natural gas fields in central Mozambique, MGC was founded in 2004 and built and operate the gas supply network to all industries in the Maputo province. The off-takers include 2 power stations, an aluminium smelter, and various medium-size and small industries. In 2007 MGC introduced CNG into the region which is now widely used for vehicles and as a bulk supply to industries off natural gas the distribution network.

3. PROJECT KEY DATES

Table 1: Project Milestones

COMPLETED MILESTONES	Completion Date
First Concept Study	2012
MoU between Gigajoule and Total	2017
Concession Approved by Council of Ministers	July 2019
JDA between Gigajoule and Total	Nov 2019
ONGOING ACTIVITIES	**Expected Completion Date**
EIA	August 2020 (On schedule)
FEED	October 2020 (On Schedule)
FID	Early 2021 (On Schedule)
EPC Award	First half 2021 (On Schedule)
Construction Start	Mid-2021 (On Schedule)
Targeted First Gas (market dependent)	2023

4. SUMMARY

According to the 2020 IGUA Annual Report, natural gas makes up 24% of global energy consumption, growing at a rate of 5% per annum. South Africa's natural gas supply only constitutes 3% of the energy mix, which has experienced no growth in the last 7 years. IGUA Annual report highlights that the current natural gas supply is expected to decline in the short term by approximately 20% per annum.

The BGC Project has advanced to a stage that firm Term Sheets can be offered to selected customers. We hereby request information from Southern African industries in order for BGC to start engaging with the market.

The Gas and Power Users form can be accessed HERE, or email Annexure 1 to info@bgc.co.mz.

ANNEXURE 1

REQUEST FOR INFORMATION

RESPONDENT INFORMATION				
REGISTERED COMPANY NAME				
COUNTRY OF REGISTRATION				
COMPANY TRADING NAME				
STREET ADDRESS				
TELEPHONE NUMBER	CODE		NUMBER	
RESPONDENT CONTACT NAME				
RESPONDENT CELLPHONE NUMBER				
RESPONDENT E-MAIL ADDRESS				

CURRENT INDUSTRIAL DEMAND INFORMATION				
TYPE OF INDUSTRY				
LOCATION OF PROJECT				
CURRENT FUEL TYPE (LPG, DIESEL, NATURAL GAS, ETC.)				
CURRENT FUEL CONSUMPTION (INDICATE LITERS, KGS, GIGAJOULES, ETC.)		PER MONTH		PER YEAR
AVG CURRENT FUEL PRICE (DELIVERED)				

CURRENT ONSITE POWER DEMAND INFORMATION				
CURRENT POWER DEMAND		KWPeak		KWH PER YEAR
CURRENT POWER SUPPLIER				
CURRENT OWN GENERATION (ONSITE)			KWH PER MONTH	
OWN GENERATION FUEL TYPE (LPG, DIESEL, NATURAL GAS, ETC.)				
CURRENT OWN GENERATION FUEL CONSUMPTION (INDICATE LITERS, KGS, GIGAJOULES, ETC.)		PER MONTH		PER YEAR

FUTURE DEMAND INFORMATION				
TYPE OF INDUSTRY				
REASON FOR FUTURE DEMAND		GROWTH		NEW PROJECT
IF NEW PROJECT, INDICATE	DATE OF COMMISSIONING:			
POTENTIAL INDUSTRIAL DEMAND		GJ PER MONTH		GJ PER YEAR
POTENTIAL ONSITE POWER GENERATION		KWPeak		KWH PER YEAR

***NOTE: FORM TO BE PLACED ON COMPANY LETTERHEAD**