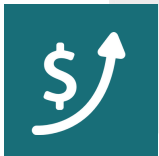




THE 250 MW WALVIS BAY POWER PROJECT

Key Strategic Benefits



**INCREASED
INVESTMENT IN
NAMIBIAN POWER
SECTOR**



**INDEPENDENCE AND
SECURITY OF POWER
SUPPLY**



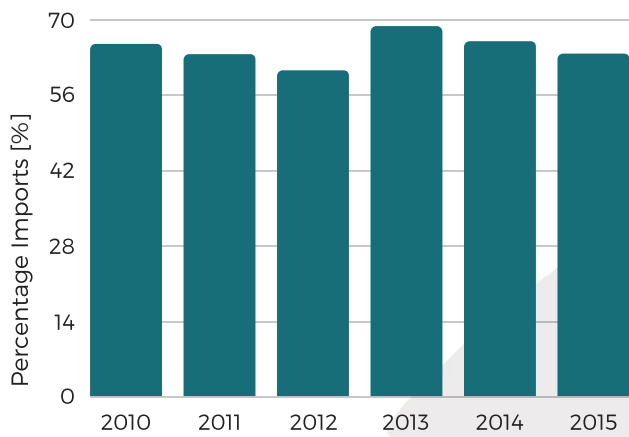
**STIMULUS FOR JOB
CREATION AND
DEVELOPMENT**

About the Project

Namibia is a developing country with increasing energy demand, this demand is largely serviced via electricity imports from neighbouring countries. This dependence on electricity imports puts the country at risk as security of supply and electricity tariffs are largely dependant on the state of the power supply industry in the region.

To this end, the state-owned utility, NamPower, has been in a process of procuring additional generation capacity via an Independent Power Producer (IPP). The Walvis Bay Power Plant (WBPP) is the only IPP project to have achieved Financial Investment Decision by the NamPower Board. Final negotiations are progressing toward Financial Close.

The project will be financed via private capital, eliminating the burden on the Namibian Fiscus of financing such a large infrastructure project. As NamPower has an investment grade credit rating, no sovereign guarantee is required for the project.



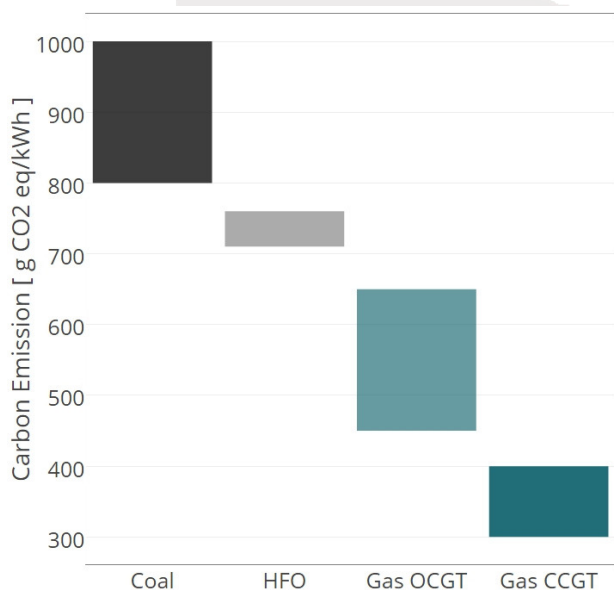
Namibia has been importing in excess of 60% of its electricity for the last 5 years. The Namibian Government as well as NamPower have endorsed the WBPP as the means to reduce this dependency on imports as contemplated in the Harambee Prosperity Plan.

The Project

The 250 MW WBPP consists of three major infrastructure components: the marine island and Exceletrate Energy-supplied Floating Storage Regasification Unit (FSRU), the gas pipeline and the power plant.

The FSRU will store Liquefied Natural Gas (LNG) at -162°C and re-convert this liquid gas to a vapour state as and when required by the power plant.

The gas pipeline will transport the gas from the marine island to the power plant.



NAMIBIA IMPORTS MORE THAN 60% OF ITS POWER NEEDS



GAS HAS THE LOWEST CARBON FOOTPRINT OF ALL FOSSIL FUELS

The power plant consists of six General Electric (GE) LM6000 Aeroderivative Gas Turbines which will convert the natural gas fuel into electricity and evacuate the power to the National grid.

Why LNG?

A complete evaluation was performed to determine the most suitable fuel for the power plant. Coal was eliminated early on due to its poor environmental performance. Careful consideration of Heavy Fuel Oil (HFO) indicated significant disadvantages, these are listed below:

- Significantly higher carbon, sulphur and nitrous oxide emissions in power generation
- Fuel is directly linked to global refining capacity and Brent Crude pricing
- HFO presents major environmental risk to marine life and soil contamination
- Large land-based storage requirements and road logistical requirements
- Higher maintenance requirements on HFO power plants in comparison to gas plants
- HFO not in support of Namibian National goals on climate change
- HFO would provide no compatibility for future Kudu gas integration.

The results of the rigorous evaluation clearly indicated that Natural Gas would be the most suitable fuel for the WBPP.

HFO UNSUITABLE FUEL FOR ENVIRONMENT AND SUSTAINABILITY



Natural Gas has the lowest carbon footprint among the fossil fuels. Furthermore, LNG is a globally traded commodity which is sourced

Power Plant
GE LM6000 Gas Turbine

For more visit <https://www.gepower.com/>



from associated, non-associated and unconventional gas sources. This factor differentiates natural gas from other oil-derived products as the source of gas is not always associated with oil production.

The use of LNG as a fuel will enable Namibia to mitigate its high dependency and reliance on oil and refined fuels. The global LNG market is poised to be in oversupply for the immediate and medium term. The global LNG production capacity stood at 301.5 million tons per annum (MTPA) in January 2016 and a further 142 MTPA of production capacity is under construction world wide. This production growth signifies a 47.1% increase in global supply over the next 5 years.

Trade in the LNG market has displayed a compounded annual growth rate of 6.6% from 2000 to 2014. The strong growth in the LNG market has been supported by countries looking to diversify their energy mix and reduce green house gas emissions.

In addition to the global supply options, Namibia may develop the Kudu fields for liquefaction of natural gas and hence Kudu gas may supply the WBPP in future.

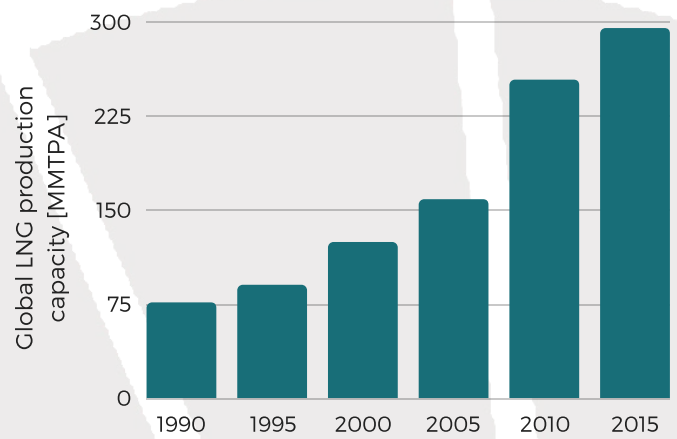
Natural Gas availability in Walvis Bay will position Namibia as a leading energy supplier in the SADC. The FSRU capacity can support in excess of 2,000 MW equivalent power generation and will unlock opportunities in both the electricity and energy intensive industries.

Power Generation

GE provide world-class and leading-edge technologies in the power generation field. With its modular generation concept, the WBPP will provide the highest level of power availability to the power grid.

Over the last 15 years, the LM6000 has been the best selling gas turbine in its class with over

1,200 units deployed and more than 25 million fired hours.

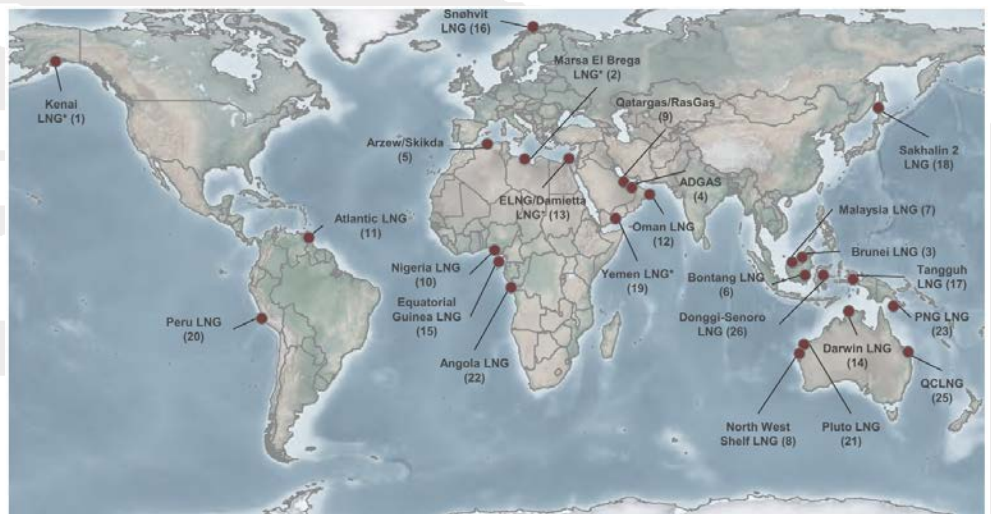


With the integration of wind and solar generation into the power grid, the output of fuel-fired plants needs to be adjusted frequently, to cope with fluctuations in the renewable supply. At above 30% renewables, power grid stability and the risk of National blackouts become significant due to the intermittency of renewable energy. The GE LM6000 unit provides for greater grid stability and complement renewable energy as the units can be brought to full load within minutes and can instantaneously respond to grid frequency variations.

The WBPP is a cost effective competitive solution and under the NamPower tender the project tariff was 40% lower than competing projects.



GLOBAL LNG CAPACITY GROWTH OF 47% OVER NEXT 5 YEARS



Global LNG production sources

Excelerate Energy
Floating Storage Regasification Unit

For more visit <http://excelerateenergy.com/>





40% LOWER TARIFF COMPARED TO OTHER ALTERNATIVES

Jobs and Social Benefits

Kalahari Sustainable Energy (KSE) is the GE approved operations and maintenance (O&M) providers of the facility. At the core of the KSE philosophy is a strong focus on localisation and empowerment of local people through internships. This entails placing young graduates at the power plant where they are exposed to technical theory and practical know-how. The result is meaningful skills transfer and fast-tracked development of local specialist skills. For more visit <http://kse-africa.com/>

KSE will require approximately 50 permanent positions of which 30 will be sourced locally. KSE has committed, in the 5 years that follow, to move to a 20%:80% ratio, where local employees will form the majority of the O&M team.

Garanti Koza Energy (GKE) is the engineering procurement and construction (EPC) partner on the project. The two year construction of the power plant will create approximately 400 local employment opportunities. Realising these opportunities will depend on the availability of skills. GKE will procure up to 80% of the non-strategic goods and services required during construction locally. For more visit <http://www.garantikozaenergy.com/>

The WBPP will further contribute to social development through education bursaries, scholarships and support programs, Veteran social welfare as well as enterprise and infrastructure development. FGK Investments, a local Namibian empowerment company, will hold equity in the project thereby enabling wealth creation for local participants.

Regional Benefits

The Walvis Bay Municipality waste water treatment plant (WWTP) continues to be overloaded with effluent waste water due to increase development.

This increase in effluent has resulted in the WWTP operating above its maximum capacity. The WBPP will invest in increasing the WWTP's treatment capacity by nearly 50% in order to utilise treated waste water for the power plant requirements. The local municipality will not have to contribute capital to the capacity increase works.



LONG TERM SUSTAINABLE TRANSFER OF SKILLS

Furthermore, the supply of water to the power plant will create a stable long-term income stream for the municipality, while the WWTP and power plant specialists can share knowledge and technical expertise.



IMPROVING LOCAL MUNICIPAL CAPACITY

A key strategic value of the project is the creation of a potential Natural Gas market within southern Africa. The importation of LNG will create opportunities for utilising a more efficient and cost effective fuel.

The use of natural gas in manufacturing, mining and industrial sectors could position Walvis Bay for significant economic growth opportunities which will increase the quality of life in the region and the Country. Energy-intensive mining operations relying on diesel fuel may be given a new lease on life by the use of a more cost effective fuel. The opportunity for small and medium scale distributed power via the transportation of LNG will enable Namibians in remote locations to access affordable uninterrupted power.

The SAPP experiences significant capacity shortfalls and Namibia will own and operate a valuable infrastructure asset that can export power if required for many years to come.

The project provides the essential ingredient, power, that ensures timeous economic growth.

For more information on the project visit <https://walvisbaypowerplant.com/>

Progress generates demand for more progress, and that is what ultimately drives and accelerates progress.

Dr. Sam Nujoma, 1988

