Evrensel Global Energy

Mozambique Power Story – A compelling case for Microgrids. FEB 2025

Mozambique has vast power resources that include enough hydroelectric generation to meet 80% of current domestic demand while exporting as much of 60% of its power production to South Africa and a further portion to Zambia and Zimbabwe. The current domestic demand, however, goes to major cities, commercial and industrial use, while more than 60% of the country's population does not have access to electricity.

Mozambique has reserves of natural gas, mostly onshore, of an estimated 180 **trillion** cubic feet, by far the greatest reserve in Southern Africa. In the meantime, Mozambique is listed as one of the 10 poorest countries in the world.

Mozambique now has a new government and there is an aura of hope with the potential development of its vast natural resources and planned programs to lift its people out of hardship and poverty.

Major oil and gas companies are well-established and are investing heavily in the natural gas sector to extract and export LNG to India and Southeast Asia from 2 ports where natural gas to LNG conversion plants and ship-loading infrastructure is under development.

A second hydroelectric generating plant is now under development on the Zambezi River just 37 miles downriver from the massive Cahora Bassa plant that has installed capacity to generate more than 2000 MW of electricity. The new plant is designed to generate another 1500 MW. Unfortunately, the bulk of that power is likely to be exported to South Africa, Zambia and Zimbabwe, which is great for the state-owned power company but not a solution for the 21,000,000 people who live in many parts of Mozambique where access to electricity is non-existent.

There are many large and smaller hydro generating plants throughout the country. The problem is that transmission and distribution of electricity to most largely rural areas is extremely limited due to challenges with terrain, distance, and funding.

The story above is very typical of a huge number of electricity-access deprived regions throughout sub–Saharan Africa—so much so that energy development companies around the world are spending a great deal of time, money, and intellectual resources to find solutions. The African Continent has an estimated 600 million people who don't have access to electricity.

The business of providing electricity to consumers can generally be summed up as Generation, Transmission, and Distribution. In the case of most of the 54 countries in Africa, **Transmission** is the biggest hurdle preventing universal access to electricity. The reasons are numerous, but in general it is known that, while urban African cities and towns may have working distribution networks that are connected to a national grid, thousands of rural villages and outlying areas have no grid connection at all and rely on primitive cooking, lighting, and heating methods for survival.

Electrification of electricity-deprived rural communities in Africa is being addressed primarily by development of microgrids which are usually off-grid power systems consisting of a relatively low-power generation source capable of providing 2.5 to 5 kilowatts each to local residences, shops and small commercial enterprises. Their generating capacity (installed capacity) can be in the range of 0.5—2+ MW depending on the anticipated load in the service area.

Microgrids, which are being financed and built in multiple African countries today can be powered by diverse sources of generation including solar, wind, hydro, biogas, natural gas, or propane. The newest advanced available technology is micro-scale nuclear reactors which have been developed to generate electricity at levels as low as 0.5 MW.

The most comprehensive microgrid program in Africa today is “GET FiT” (Global Energy Transfer Feed in Tarrifs) which is an EU initiative to support rural electrification in Africa. The program has funded microgrid projects to date in Uganda and has helped initiate projects in Zambia. There is also an initial level of talks with the Mozambique department that is involved with energy development, although no projects have been announced yet.

The bottom line of this story is that Mozambique has the potential to become an energy powerhouse in Southern Africa, the Asian sub-continent, and Southeast Asia. Shipments of LNG from Mozambique ports, however, will not help 21,000,000 rural Mozambique people get access to electricity. If the Mozambique government leadership were to leverage the substantial revenues that will be earned from LNG exports in the near future, electrification of the county’s rural people can advance with minimal short-term capital investment which can create maximum long-term returns.

Evrensel Global Energy has the resources, in terms of investment capital, knowledge, and world-class development partnerships, to take the microgrid initiative head-on. Mozambique is a beautiful country with incredible resources. Its people deserve to grow and prosper from the bounties of their native land. We are here to help make that dream a reality.

We look forward to working with the good people of Mozambique to make it happen!