

AN UPDATE OF LAKE TURKANA WIND POWER PROJECT

- Aug 10, 2020

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As Lake Turkana Wind Power Project approaches its initial target completion date, it is an opportune time to assess the progress made to date in this remarkable investment into renewable energy.

Lake Turkana Wind Power Project is a massive electricity generating wind power plant that comprises the biggest single investment in Kenya's history, at approximately USD 680 million.

The project boasts 365 wind turbines that are situated between Lake Turkana (which has a relatively temperate climate) and higher desert lands (which have high daily temperature fluctuations); where the difference in local climates generates reliably strong wind streams, which are then funneled and thus accelerated between Mount Kulal and Mount Nyiro to the Lake Turkana Wind Power Project.

Each wind turbine has a capacity of 850kW, thereby totaling 310MW electricity generation capacity, or 15% of Kenya's installed capacity at present. The project also encompasses a high voltage power generation substation and will be complemented by a transmission line, funded by the Government of Kenya, which will connect the project to the National Grid. Lake Turkana Wind Power Project also has a 20-year power purchasing agreement (PPA) with Kenya Power and Lighting Company (KPLC) to supply all electricity generated by the plant.

At the project onset, the Government of Kenya and project investors (including the East African Development Bank) hoped that the project would be generating electricity and supplying the national grid by August 2017. Happily, the project has largely progressed to time. The first turbine was erected in March 2016 and the last turbine was completed exactly one year later by March 2017; other construction was completed by June 2016 and by July 2017 Lake Turkana Wind Power project had 310MW installed electricity capacity ready for commercial use.

However, the government component, a 428km transmission line to connect Lake Turkana Wind Power project to the national grid, has suffered numerous delays, ranging from land management issues with local communities to the main contractor (Spanish firm Isolux) filing for bankruptcy. The delay is likely to increase the project cost, but the Government of Kenya has now fast tracked the completion of the transmission line and expects to have the transmission line completed by Q2 2018 and for the project to be serving the national grid with low cost electricity by Q3 2018.

Despite the minor completion delays, Lake Turkana Wind Power project is expected to bring enormous gains to the Kenyan economy. The project will not only increase Kenya's electricity generation capacity, reduce the cost of electricity to the final consumer and reduce carbon

dioxide emissions by 736,615 tons per year compared to a fossil fuel fired power plant, but it will also improve the livelihoods of those living in the remote Lake Turkana region through bringing improved transport infrastructure, electrification and a fibre-optic cable.