

Kenya Power Forecast Scenario

Thermal Generation And Capacity Forecast

BMI View: *Growth in Kenya's thermal power sector will remain hampered throughout our 10-year forecast period due to logistical issues and protests surrounding planned projects. Although investment is currently focused on renewable energy growth, we highlight that as the Kenyan economy grows, so will interest into expansion of thermal power.*

Latest Updates

- The construction of the planned coal-fired Lamu Power plant, already facing the possibility of long delays, is now being challenged by a group of 30 community-based organisations. The groups have been protesting against the proposed plant due to environmental and health concerns, as well as the effects expected on Lamu Old Town, the oldest Swahili settlement in East Africa.

Structural Trends

Kenya's thermal power generation will remain based on primarily oil-fired power, which is currently generating all 3.3TWh of Kenya's thermal power. Although the Kenyan government has plans for building both gas-fired and coal-fired capacity, we do not currently include these in our generation forecasts due to constant delays in project implementation and protests surrounding the planned new capacity.

The planned coal-fired power plant is a 1,050MW coal power plant in Lamu County. We note that this power plant could potentially provide a significant boost to overall electricity capacity, and although the plant has been slated to be finished in 2017, we do not currently include it in our forecasts. The plant has been experiencing multiple delays; in the resettlement of people living in the area of the plant's construction, political infighting over the plant and the statement by the plant's future operator, Centum Investments, that the plant might not start generating power for the first two years after construction is finished.

Protests have been occurring in Lamu County, which have centred on the environmental and health concerns should the power plant be constructed. Concerns also exist over the future of Lamu Old Town, the oldest Swahili settlement in East Africa and a UNESCO World Heritage site.

The ambiguity over the fuel supply for the plant will also work to delay its implementation, initially it was planned for the plant to use South African coal, after which it would switch to Kenyan coal reserves. Delays in the transition to Kenyan coal will mean that Kenya will have to rely on more expensive imported coal for

longer. Kenyan coal was due to come from the Kitui region, but the construction of a 250km railway to the plant could take up to six years to complete and will be costly.

Kenya was also planning on constructing a 400MW gas-fired power plant in Mombasa, but the plant has been put on hold by the government, which has stated it first wants to assess the viability of the gas reserves that have been found before further steps are taken on the project.

Our overall thermal power generation forecasts therefore remain at the level produced by Kenya's oil-fired plants, and we do not forecast an increase above 3.7TWh during our forecast period up until 2025. Kenya's current electricity generation investment focus is geared towards non-hydropower renewable electricity, especially its substantial potential capacity in geothermal energy. However, our view is that further growth in the Kenyan economy will result in the government increasing their focus into conventional thermal power generation in order to complement their renewables capacity.

Renewables Generation And Capacity Forecast

***BMI View:** Non-hydropower renewable electricity generation growth will be driven by ongoing governmental commitment and significant geothermal potential. Towards the end of our 10-year forecast period, renewable power will contribute to over 50% of Kenya's power mix and it will be SSA's second biggest renewables market.*

Latest Updates

- The Kinangop wind project was been shelved in February 2016 due to constant protests, which led to a depletion of project funds before it could be fully implemented. **General Electric** (supplier) and **Iberdrola Ingeniería** (engineering, procurement, construction and commissioning) were the two main firms in charge of the project.
- **Ormat Technologies**, the operator of the Olkaria III geothermal power plant, has increased the capacity to 139MW by adding a fourth unit in the complex with a capacity of 29 megawatts (MW).

Structural Trends

The majority of Kenya's power generation towards the future will come from non-hydropower renewables sources as Kenya exploits its geothermal capacity and completes construction on the Lake Turkana wind farm in 2018.

BMI forecasts that non-hydropower renewable generation will grow at an average annual rate of 7.1% from 2016 to 2025. This means Kenya's non-hydropower renewables will increase its share in the total electricity generation mix up to over 52% in 2024, up from 40% in 2016.