



Luanda energy efficiency

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Increasing electric power availability to diversify the economy and meet the increasing energy demand of a growing population is among the Angolan government's highest stated priorities. To achieve a targeted 8.9 GW of installed generation capacity and a 60 percent electrification rate by 2025, the government has instituted an ambitious infrastructure plan.

Current electrification rates are estimated at 43 percent in most cities and less than 10 percent in rural areas. As a result, both businesses and residents rely heavily on diesel generators for power. The government's announcement to reduce government subsidies and the resulting higher fuel and electricity prices over the coming years are expected to create demand for alternative energy solutions.

Angola holds great potential for renewable energy production. Mapping studies completed by the MINEA identified potential for 16.3 GW solar power, 3.9 GW wind power, and 18 GW in hydropower throughout the country. To address rural demand, the government is pursuing the development of small-scale off-grid projects, using both fossil fuels and renewable technologies (small hydro, solar, wind, and biomass).

Angola's transmission infrastructure is made up of three separate major grid systems (northern, central, and southern), in addition to isolated grids in the east. The northern grid runs 400kv and 220 kv lines, and covers Luanda, Uige, Bengo, Zaire, Malange, Kwanza Norte, and Kwanza Sul provinces. The central network includes 220kV lines from Benguela to Huambo and Bie.

The southern grid serves Huila and Namibe and uses 220kv lines. Plans exist to link the grids through a north-central-south backbone and expand the grid from 3,354 km to 16,350 km by 2025. However, the four main power production plants - Lauca, Capanda, Cambambe and Soyo combined cycle - are interconnected, and are also connected to more than four of the transmission lines of 400kV: thus, creating some interconnectivity and redundancy of the three grids.

Currently, the northern and central backbone are interconnected, and 10 of the 18 provinces of Angola are part of it, namely: Luanda, Bengo, Uíge, Cuanza Norte, Cuanza Sul, Benguela, Huambo, Bié, Malanje and Zaire.

Angola is currently a non-operating member of the Southern African Power Pool, but plans exist to connect to the pool through Namibia (Baynes Dam). Namibia and Angola are set for a joint construction of the Baynes Dam hydroelectric plant with an installed capacity of 600 MW. The power production would be shared, 300 MW for each country; Power Africa is supporting the project. An additional connection in the north of Angola with the Democratic Republic of Congo is also being considered. The two countries' grids would connect via the Inga Dam.

Power transmission infrastructure in Angola will have to be enhanced to support new production capacity.



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Many of the current and future generation projects will require the development of new transmission infrastructure. Commercial and technical losses are significant during distribution. A considerable number of those consuming electricity are not yet metered, and establishing the required infrastructure is a high priority of the government distribution utility ENDE.

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