

## What could the Mambilla Dam do for Nigeria?

The Mambilla Hydropower project will be a complex of four dams and two underground stations in the eastern Nigerian state of Taraba. The Chinese Export-Import Bank is funding 85% of the US\$4.8 billion cost, and when completed, the dam will be Nigeria's largest power plant at 3,050MW. The project, in development for 55 years, is expected to be commissioned in 2027 if construction begins this year.

### The project still faces obstacles

Key risk factors include:

- **Network unreliability.** Mambilla plans to use existing grid infrastructure to transmit generated power. Yet the country's transmission and distribution infrastructure is insufficient and bottlenecks already routinely prevent evacuating power.<sup>1</sup> Exporting power to the West African Power Pool (WAPP) could partially alleviate this issue.
- **Right of way settlements.** Legal challenges over compensation settlements for land could delay construction.
- **High financing costs...** The Federal Government will owe a massive loan to China EXIM, in addition to the remaining 15% counterpart funding.
- **...which will need to be repaid in a loss-making market.** Nigeria's electricity market lost a combined revenue of about ₦1 trillion (~US\$2.6 billion) in 2019. About a third of these losses were due to unbilled or uncollected revenue, and the rest to generation constraints that the dam is meant to alleviate.<sup>2</sup>
- **A market further stressed by COVID-19.** Nigeria's economy is in recession while project construction will likely face further delays by restrictions imposed to contain the pandemic.

### But the benefits would be enormous

Besides creating thousands of jobs directly, and enabling the growth of many more through more reliable energy services, Mambilla will have a number of additional benefits:

- **Low carbon electricity.** 3GW of hydropower from the dam will help Nigeria achieve its Vision 30:30:30 (30% renewable energy and 30GW capacity by 2030). An operational Mambilla power plant can contribute to this goal by providing about 4.7 billion kWh of low-emissions electricity a year.
- **Increased regional trading.** Power from Mambilla could be partially exported through the WAPP, a group of 14 member countries and 27 national utilities.<sup>3</sup> The WAPP can help optimise Mambilla's generation capacity by facilitating economies of scale through a wider market with more investment capacity, improving regional market competition at wholesale and retail levels, and ensuring electricity supply security in the region. Building this market could save US\$5-8 billion dollars per year regionally.<sup>4</sup>
- **Alignment with the Presidential Power Initiative (PPI).** Mambilla aligns with the PPI, a broad partnership with the German firm Siemens to resolve existing challenges in

the power sector and increase electricity supply. The PPI targets a grid capacity of 25,000 MW by 2023 and prioritizes addressing constraints at the transmission and distribution networks.

- **Non-power benefits.** The planned size of the project was increased in 2012 to allow for greater direct-use through irrigation and farmland development to improve agricultural production and food security. The project will consist of four dams that will control the flow of the Donga River and will also contribute to agriculture, manufacturing, and tourism by helping to control flooding, improve irrigation, and promote recreational activities. States like Benue and Taraba can benefit significantly from these positive spill-over impacts to relieve their socio-economic and security problems.

## Conclusion

The Mambilla project is currently conducting site surveys, sensitization, enumeration, skill acquisition, capacity building programs, and preparation for compensating affected groups. The federal government just attributed N425 million of the 2021 budget for Mambilla's construction, upholding its commitment to contribute 15% (US\$870 million) of the cost.

Despite Mambilla's current progress and government funding, it remains to be seen if it will be completed by the seven year projection, as access to budgeted finance as well as a possible change in administration in 2023 pose significant risks to slow construction.

## Endnotes

1. Precious Akanonu, [Six Ways To Improve Nigeria's Crumbling Transmission Network](#), Energy for Growth Hub, June 9, 2020.
2. [Nigeria Electricity Market Intelligence Report: Quarter 2, 2019](#)
3. Benjamin Attia, [Big Solar Bankability & Utility Performance Can Benefit From Power Pools](#), Energy for Growth Hub, September 22, 2019.
4. World Bank Group, [Regional Power Trade in West Africa Offers Promise of Affordable, Reliable Electricity](#), April 20, 2018.