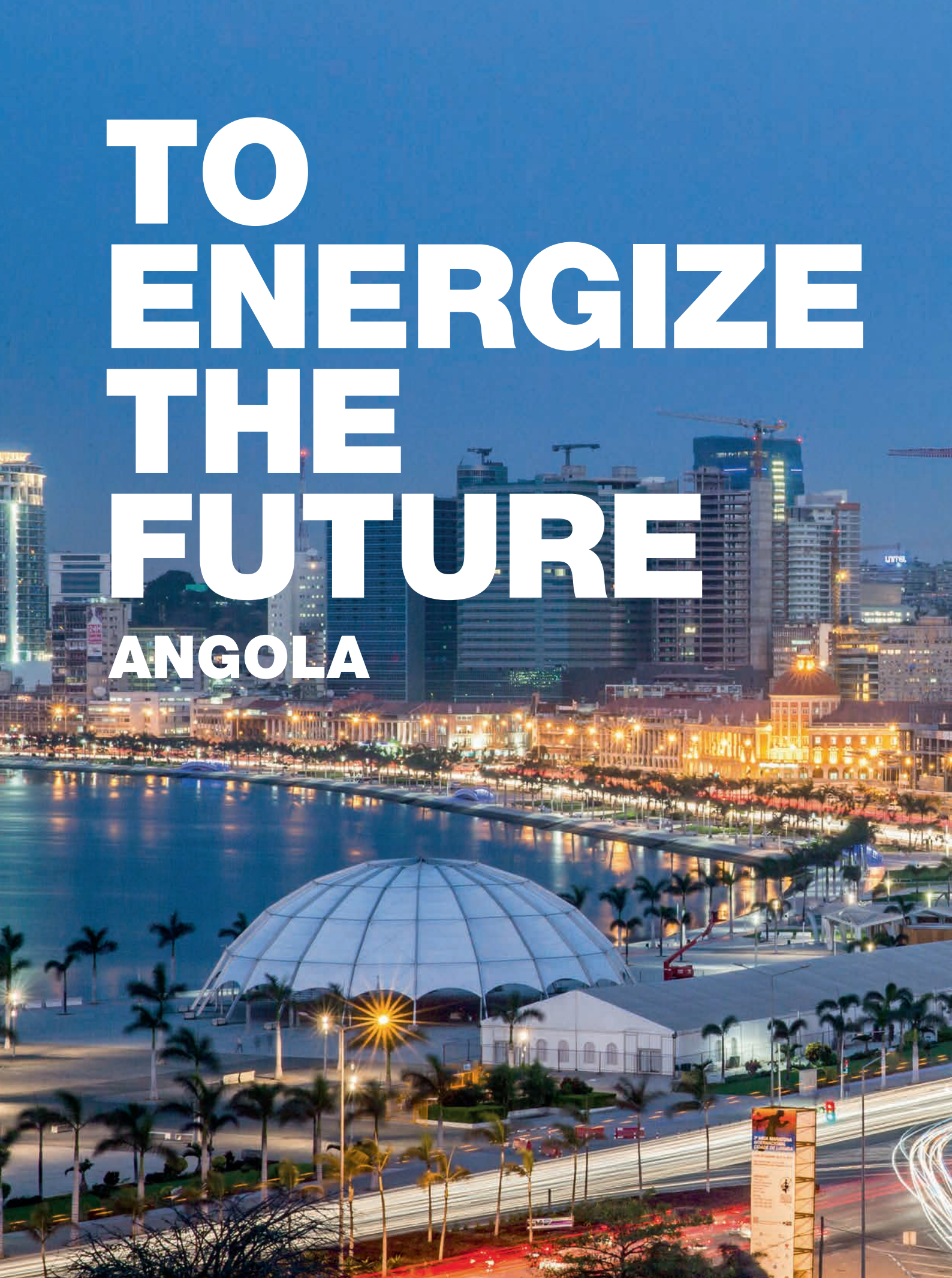

TO ENERGIZE THE FUTURE

ANGOLA

Site works machine hall HPP Laúca

by Wilhelm Karanitsch
wilhelm.karanitsch@andritz.com

Depending mainly on oil and diamonds, Angola has one of the fastest growing economies in the world. In the last 15 years the country has significantly improved its financial status, infrastructure and living standards. There is a huge demand for electricity due to rapid urbanization and population growth, especially in the capital city of Luanda. Currently only about 33% of the population has access to electricity.

Angola's government plans to increase the electrification rate up to 60% by 2025, investing billions in the energy sector to construct new power stations, transmission and distribution networks and to rehabilitate existing facilities. Angola not only wants to improve its energy supply, but also to become an electricity exporting country in the Southern African Development Community (SADAC).

A special focus is on energy production from hydropower – there is an estimated potential of about 150,000 GWh/year corresponding to an impressive installed capacity of about 18,000 MW. Only some 4% of this hydropower potential has been tapped so far.

Angola has already defined potential hydropower projects in the three main river basins – the Cuanza River in the north, Catumbela River in central Angola and Cunene River in the south. In the coming years it is expected that the power production capacity will be increased from the existing 1,528 MW up to about 5,000 MW. Angola is also planning to open up the energy market for private investors in the near future, especially with regard to smaller hydropower projects.

ANDRITZ HYDRO

ANDRITZ HYDRO has been active in Angola since the 1950s, supplying equipment for HPP Cambambe (272 MW), HPP Matala (42.63 MW), HPP Neuville (38.6 MW), and numerous small hydropower plants. ANDRITZ HYDRO is ready and looking forward to support Angola in its extensive plan to develop its promising hydropower potential.

Lowering rotor unit #1 HPPLaúca

Areal view of HPP Laúca site

Francis turbine for HPP Laúca

HPP Laúca

In 2014, ANDRITZ HYDRO received a contract to supply the electro-mechanical equipment for HPP Laúca, a new hydropower plant located in the middle part of the Kwanza River. The project consists of a main power house with six units and an eco-power house with one unit. Total capacity of HPP Laúca will be 2,070 MW with a head of about 200 m. It will supply renewable energy to meet the rapidly growing demand of the capital Luanda.

The scope of supply for ANDRITZ HYDRO includes design, supply, installation supervision, and commissioning of the Francis turbines, generators, main transformers, isolated bus ducts, control and protection system, as well as the security, access control and telecommunication systems for the above mentioned main and eco-power houses. The project is in the main installation phase. The rotor of the first unit was lifted into position in December 2016; the commissioning period has started in the meantime.

At HPP Laúca several social activities are taking place, e.g. a permanent training center was established directly on site, where currently 85 people are being trained. ANDRITZ HYDRO has supplied the equipment for three labs of this training center. The objective is to prepare technicians for operation and maintenance of HPP Laúca and for future projects of power generation and transmission in Angola.

HPP Luachimo

In March 2017, ANDRITZ HYDRO was awarded the contract to supply the complete turbine equipment for the new Luachimo hydropower plant, located on the Luachimo River, near Dundo village, Lunda-North Province. The general scope comprises the construction of a complete new 36 MW powerhouse next to the old power station. ANDRITZ HYDRO will supply four horizontal Compact Axial Turbines (CAT), four hydraulic power units, the sealing and lubricating water supply systems, and the turbine governors. Transportation up to site, installation and the commissioning are completing the contractual scope. The commercial operation of the new hydropower plant will start in June 2019.

ANGOLA FACTS

25.02 Mio.	Population
33%	Access to electricity
1,578 MW	Installed hydro capacity
2,784 MW	Hydro capacity under construction
70%	Share of generation from hydropower
4,000 GWh	Hydro generation
150,000 GWh	Technically feasible hydro generation potential

ANDRITZ HYDRO

368 MW	Installed capacity
18	Installed units
23.35%	Fleet share

The World Bank, IEA, World Energy Outlook, Hydropower & Dams World Atlas 2016