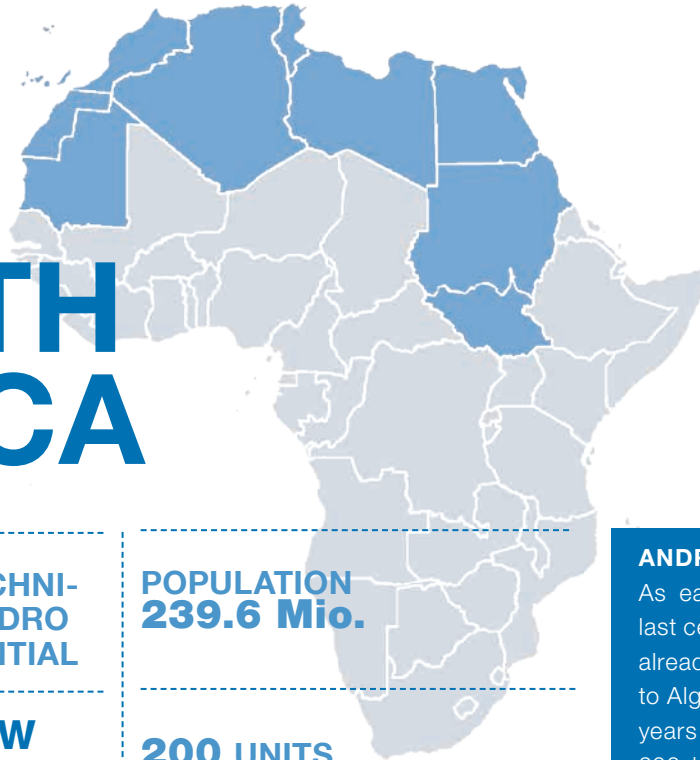


NORTH AFRICA

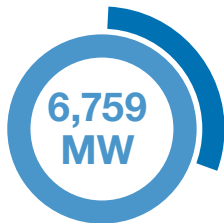


91,252 GWh TECHNICALLY FEASIBLE HYDRO GENERATION POTENTIAL

POPULATION
239.6 Mio.

2,001 MW
INSTALLED BY
ANDRITZ HYDRO

200 UNITS
INSTALLED BY
ANDRITZ HYDRO



22,722 GWh
HYDRO GENERATION

**TOTAL INSTALLED
HYDRO CAPACITY**

358 MW HYDRO
CAPACITY UNDER
CONSTRUCTION

ANDRITZ HYDRO

As early as the beginning of the last century ANDRITZ HYDRO had already made equipment deliveries to Algeria. Through the intervening years the company supplied about 200 hydropower units across the region, with a total capacity of about 2,000 MW. Major projects such as HPP Roseires or Jebel Aulia in Sudan are on ANDRITZ HYDRO's reference list, as well as HPP Matmata, Afourer and Al Massira in Morocco, and HPP New Naga Hammadi, New Esna, and the recent order for HPP Assiut in Egypt.

The Sahara Desert covers about 75% of the North African region, which encompasses Algeria, Egypt, Libya, Mauretania, Morocco, Sudan, South Sudan, and Tunisia.

Along with the Sahara, other dominant geographical structures are the Atlas Mountains in the west, the Nile River and its delta in the east and the Mediterranean coastline to the north. Countries in this part of Africa, such as Tunisia, Algeria, Morocco and Egypt, are relatively economically advanced. One major source of income is oil – Algeria has the largest oil reserves in Africa and Libya is in second place. Furthermore, most of the region's economies are export-oriented and show solid growth rates.

In contrast with some Sub-Saharan countries, hydropower does not play such an important role as an energy source. For instance Libya has no potential identified; Mauretania has only 132 GWh, and Tunisia just 250 GWh of technically feasible hydropower potential. However, Egypt and Sudan both have significant hydropower potential – 50,000 GWh and 31,000 GWh, respectively. There are also a number of large hydropower schemes installed. In Morocco some pumped storage hydropower plants as well as some small hydro developments are of interest. Furthermore, the newly-formed country of South Sudan could secure an economic boost by introducing some hydropower schemes, which would also serve to improve the living standards of

the population and increase access to electricity.

A number of North African countries plan to increase their use of renewable energy resources. In the wide uninhabited desert regions the possibilities for wind and solar installations are varied. Some solar power stations have already been built and some wind power stations are in planning. Algeria and Tunisia have government programs designed to increase their renewable share to at least a quarter of the national energy mix by 2030, while Sudan has also implemented similar plans.