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INDICATORS OF ELECTRIC POWER CAPACITY IN ETHIOPIA

Annotation

An attempt is made to review information on the current development of decentralized access to electricity and island electrification in East Africa.

Keywords

Decentralized energy, electric power, East Africa.

In the 2018 reporting year, Ethiopia's total power generation capacity in the main electricity grid was nearly 4.2 GW, almost entirely at the expense of the dominant local generating company Ethiopian Electric Power (EEP), which covered hydropower plants with a total capacity of 3.8 GW, diesel power plants (99.1 MW), a 324 MW wind farm and a geothermal power plant (7.3 MW) (Figure 1). However, it is worth noting that both the thermal power plants and the geothermal power plant in the country are virtually inactive. In Ethiopia, due to the high share of hydroelectric power plants (almost 90%) involved in power generation, the share of other, electricity generation, mainly based on dependence on fossil energy sources, is decreasing and is currently less than 1% [1].

In addition to power plants run by the EEP, mention should be made of the local sugar industry, also owned by the state, which supplies surplus electricity from several captive power plants. However, due to the difficulties of operation and seasonality, these plants are still characterized by a relatively low utilization rate and are of little importance

to the overall power grid [2].

It is important to note that there is an export quota of about 10.5% of generated electricity. The number of countries importing electricity from Ethiopia is currently small: Djibouti and Sudan. In 2022 it is planned to complete large-scale construction of a large number of DC power lines, after which it is expected that electricity from Ethiopia will also be sold to Kenya [1, 3].

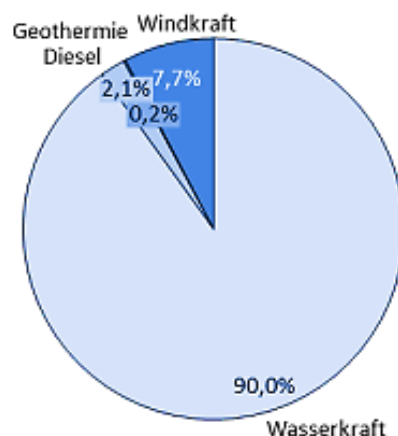


Figure 1 – Percentage of installed generating capacity in Ethiopia's main power system in 2018

Between 2011/2012 and 2017/2018, the amount of electricity produced by EEPs more than doubled, from 6,277 GWh to 13,784 GWh, as illustrated in Figure 2 [1, 4].

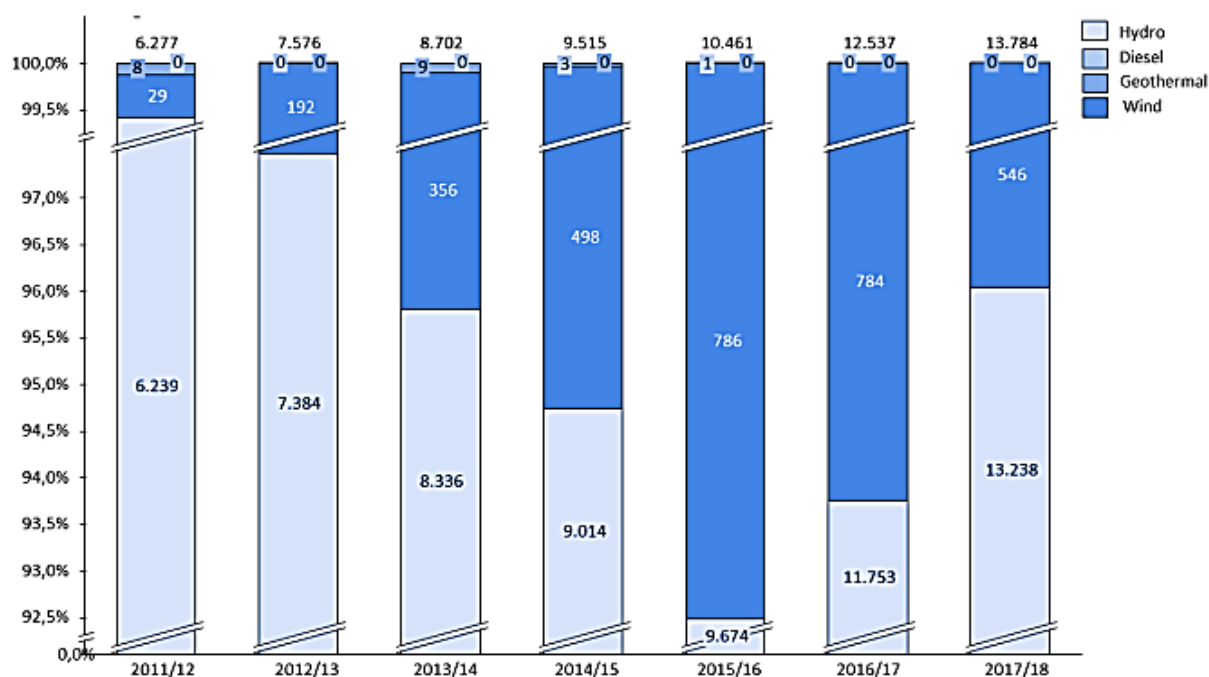


Figure 2 – Ethiopia's electricity production in gigawatt hours

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