Somali Power-Grid Significant Challenges

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Abstract

Since the collapse of the military government in Somalia, the lives and all basic needs of the nation have been shattered in 1991 and the role of the government has disappeared, such as Hospitals, Water Supplies, Power Supplies (Electric) and etc.

Thereafter, private companies were set up to meet the demand for electricity all of which use diesel generations imported from Gulf countries, on their production is very limited and their time life is short also their cost is high, and this is main of the reasons why electricity costs are rising high as I discussed of this paper.

Introduction

My personal research and reading has found reliable sources of Somali energy science who have presented comparative studies and publications.Somalia's power sector faces significant challenges, including lack of sufficiently trained labor, a weak regulatory environment, high investment costs, scarcity of energy production supplies, and poor infrastructure. Given the unavailability of traditional project finance, coupled with local Islamic financial practices, Somalia has developed its own capital-raising mechanisms for infrastructure projects which are evolving as projects grow in size and scale. Companies have successfully raised significant sums from diaspora populations in the U.S. and beyond for energy projects. Despite great strides made recently by the private sector to increase the production and distribution of electricity, the annual consumption of electricity per capita remains among the lowest in Africa and customers pay a high rate 50-125 cents/kWh compared to 0.15 cents/kWh in Kenya and 0.6 cents/kWh in Ethiopia.. Private sector players supply more than 90 percent of power in urban and peri-urban areas using local private mini-grids. They have invested in diesel-based systems of between 500 kVA to 5000 kVA installed capacity per mini-grid. These mini-grids are normally zoned with each operator building, owning and operating the generation, transmission, distribution, maintenance and collecting tariffs. Thus, more than 68 percent of urban/peri urban areas have access to electricity, though at a high cost that might reach a maximum of $1/kWh, one of the costliest places in the world to buy power according to the World Bank papers.

General Production EnergyinSomalia

Since the fall of the central government of Somalia in 1991, electricity service has only played a unique role for Somalis. The generation capacity currently installed is approximately 106 megawatts (MW). as reported by us aid, Although most power companies rely on diesel generators, interest and investment are growing in integrated systems from solar and windenergy resources.

A question has asked one of the companies operating in Mogadishu in the field of electricity told me that they produce 70 megawatts (MW) of energy. In terms of its role as a company, the private energy company in Mogadishu is not the biggest one.

According to a recent study by the African Development Bank, Somalia has the highest resource potential of any African nation for onshore wind power and could generate between 30,000 to 45,000 MW. Solar power could potentially generate an excess of 2,000 kWh/m^2. Only an estimated 16% of the population has access to electricity. Somalia has higher tariffs compared to neighboring countries Kenya and Ethiopia.

Generation Capacity and Installation

There is no national grid. The main urban centers, such as Mogadishu and Hergeysa, have standalone systems which are often inefficient and largely privately owned. Electricity system losses in Somalia are on average 25%, and sometimes as high as 40%.[3]The production generation estimates of the studies of independent organization in Somalia and Africa show:-

1. Installed Capacity: 106 MW
    a. Diesel: 100 MW
    b. Solar:5 MW
    c. Wind: 0.9 MW.

According to the African Development Bank (AfDB), there are plans to make development and investment in Africa, particularly Electricity and natural energy, on 2030 to produce 500 megawatts MW energy.

Connections

This is the method measuring the connection of electricity in country as estimated by international organizations and Africa development bank.

1. Current Access Rate: 15%
    a. Rural: 1%
    b. Urban: 35%
2. Households without Power: 2.4 million

Donor Engagement System

The World Bank completed a power master plan study in August 2018 which details a 20 year least cost plan, gap analysis of regulations, laws, standards, and the institutional and human resource development needs to develop the sector. The Somali government has prioritized the drafting of an energy policy, strategy, and regulatory framework to facilitate more private sector investment in alternative renewable energy, and also to explore the possibility for technically viable cross-border energy trade with neighboring countries.[1]

The Somaliland Electrical Energy Act was prepared with the support of USAID and the UK's Department for International Development, while the Somalia National Energy Policy resulted from a European Union-funded project.

There are great governments and international organizations in these currently supports the Somali government and private sector to increase the availability of quality energy and to reduce tariffs through the provision of a wide range of technical assistance to develop the electricity supply industry.

Efforts include:

1. Providing institutional capacity building for Somali public energy agencies;
2. Providing technical assistance to private sector companies to improve the capacity and efficiency of operations;
3. Improving collaboration between private sector entities throughout Somalia, including the country's energy association, in order to increase technical capacity within the energy sector;
4. Undertaking targeted energy demand/generation studies; and
5. For targeted industries, such as fisheries and dairy, improving access to renewable energy solutions.[2]

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