Mogadishu benefits of energy storage

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The Ministry of Energy and Water Resources (MoEWR) of Somalia has issued a competitive tender for the provision of solar and storage technology at 46 different sites in the capital Mogadishu.

The most significant energy resource currently used in Somalia is biomass, and heavy dependence on petroleum fuels. Estimates of the energy needs met through traditional biomass fuels, wood and charcoal vary between 80% and 90% over the whole country. Petroleum products, accounting for about

One of the biggest electricity companies in Mogadishu, BECO, set up a solar plant to supplement and, in the long run, potentially replace diesel generators that individuals and businesses have ...

Controlling and Monitoring System signifies a significant stride toward achieving energy efficiency in Mogadishu and similar urban environments. It offers an intelligent and automated approach to energy management, contributing to sustainability, cost savings, and occupant comfort.

This study aims to determine the optimal separate and combined grid designs for implementing hybrid renewable energy systems in Mogadishu, Somalia. The goal is to identify technically feasible, economically viable configurations and maximize system reliability.

Lack of access to electricity is widely cited as a large contributor to poverty. Without electricity, families don"t have a non-polluting source of energy for cooking. Refrigerators are unusable. Children can"t do their homework after dark. Communities can"t access all that the Internet offers for education and upward mobility. Hospitals and schools can"t offer full services. As a result, increasing access to electricity is often a goal of development efforts.

Somalia has particularly struggled with a lack of access to electricity. Before the civil war broke out in 1991, Somalia had a national power grid that produced 70 megawatts (MW) of electricity for the whole country. But the power grid was destroyed during the war and private corporations now provide any electricity available to residents. Currently, BECO produces 35 MW of power for eight cities, which is much less than its demand of 200 MW. Many Somalis avoid using electricity in order to avoid the monthly costs as 69% of Somalis are currently living in poverty.

Power companies in Somalia heavily rely on imported fossil fuels for diesel-powered generators. These generators are CO2 emitters and can heavily pollute the air. Despite the widespread use of generators, Somalia has only 106 MW of power nationwide, according to the United States Agency on International Development. The World Bank reported in 2018 that 64% of Somalis didn"t have access to electricity.

Because Somalia struggles with a lack of electricity and high electric costs, BECO"s new solar power plant

has the potential to positively impact many people"s lives. When it opened, the power plant had the capacity to produce 8 MW. The solar power plant is only in use four hours a day, with BECO"s preexisting generators providing the rest of the electricity that the city needs. But residents" electric bills have already gone down.

With the addition of the solar power plant, electricity costs in Mogadishu have already dropped from $0.49 to $0.36 per kilowatt-hour. BECO had originally decided to invest in solar power because of the high cost of importing diesel fuel for generators. By cutting costs, the company can offer cleaner energy at a more affordable price.

BECO plans to invest $40 million to bring the plant"s capacity to 100 MWp by 2022. This increase would enable the power plant to produce more electricity than twice its current output. However, the success of the solar plant will depend on battery storage.

BECO"s solar power plant is just the first step in Somalia"s possible path toward renewable energy. The African Development Bank reported in a study that Somalia had a greater potential for renewable energy than any other country in Africa. Onshore wind power could produce up to 45,000 MW of electricity. Solar energy has the potential to produce 2,000 kWh/m?. If other Somali electric companies follow BECO’s example, Somalia"s electrical production could increase many times over.

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