Rural microgrids afghanistan

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An innovative solar mini-grids project will lay the foundations for Afghanistan"s mini-grids market, with the aim of helping the country to reduce its greenhouse gas emissions while tackling rural energy poverty and supporting a green recovery amid the COVID-19 crisis.

The Green Climate Fund (GCF) approved funding of around $17.2 million for the project with a total budget of $21.4 million, which will be implemented by the Ministry of Rural Rehabilitation and Development and co-financed by the United Nations Development Programme (UNDP) as well as the Ministry of Rural Rehabilitation and Development (MRRD).

Renewable energy mini-grids are independent energy systems that operate outside of the national electricity grid. As renewables equipment becomes cheaper and disruptive digital technologies more accessible, mini-grids have garnered a lot of interest from public and private actors as a solution to bridge the energy access gap in areas where expanding the national grid would be too costly or challenging.

Afghanistan"s rural energy poverty challenge

In Afghanistan, decades of instability and war have led to widespread poverty and massive under-investment in infrastructure, including in energy.

The country"s Nationally Determined Contribution (NDC) under the Paris Climate Agreement identifies extreme hunger and poverty as key issues for the country, and states that climate change could deepen both. The COVID-19 crisis now adds a new layer of challenges. At the core of these intertwined crises lies rural energy poverty--a complex, multifaceted issue with considerable environmental, social and health impacts.

Only 30 per cent of people in the country have access to electricity through the national grid. Most people without access to the national grid rely on costly and polluting diesel generators or kerosene for basic energy needs. In rural areas, 95 per cent of people are using fuels such as firewood or charcoal for cooking and heating. This leads to health issues related to air pollution and forest degradation.

This widespread energy poverty is also significant for Afghanistan"s greenhouse gas emissions. If the 24.5 million people who are currently not connected to the grid resort to diesel generators for their energy needs, it would amount to 2.76 million tCO2 emissions per year.

That"s where mini-grids come in. A rapidly deployable solution, expected to become cost-effective in the near future, mini-grids have great potential to bring steady electricity to communities while reducing air pollution and greenhouse gas emissions.

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Making solar mini-grids possible

The mini-grid market is currently almost non-existent in Afghanistan. The country"s power sector policies and regulations are not in place to guide the development and operations of mini-grids by the private sector. This means necessary investments cannot take place, and scaling up access to clean energy cannot happen.

The project will lay the foundations for a national mini-grids market by creating an enabling environment that will facilitate private sector investments through suitable policies and regulations, green procurement guidelines, institutional frameworks, delivery models and financing, technological solutions, and capacity building.

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