

IDCOL Solar Mini-Grids: Frontier Energy Investment in Bangladesh



Bangladesh is now swiftly moving towards its target of 100% electricity coverage for all by 2021. As on date, 99% of the people have been brought under electricity coverage with total power generation of 24,982 MW. However, when the target was set by the Government back in 2009, the power generation capacity of the country was around 4,942 MW. There were frequent power outages and a significant portion of the rural population lacked access to electricity. Government adopted the Power Sector Master Plan 2010 where generation target was set to be 24,000 MW by 2021. However, a coordinated approach was also required to achieve that target that included private sector participation to ensure electricity for off-grid rural population.

In this backdrop, to supplement Government's target of 100% electrification by 2021, [Infrastructure Development Company Limited](#) (IDCOL) initiated the Solar Mini-Grid project initiative in 2009 to ensure the supply of clean electricity to the off-grid islands and remote rural areas where grid electricity may not be expanded within the next 5 to 10 years. The first project came into operation in 2010 and so far IDCOL has financed installation of 26 solar mini-grids with cumulative capacity of 5 MW.

IDCOL financed solar mini-grids are now providing uninterrupted supply of grid quality electricity to households as well as commercial, educational, rural health facilities and irrigation pumps in the remote rural areas. Generation capacity of a single mini-grid ranges from 100 kWp to 280 kWp. IDCOL uses a participative business model in which 50% of the project cost is provided as grant to reduce the CAPEX, making the projects financially viable for the project sponsors and offer an affordable tariff to the rural customers. 30% of the project cost is extended as concessionary loan with a tenor of 10 years, and the remaining 20% is invested by the sponsors as equity. IDCOL also provides technical assistance support to the project sponsors which includes staff training, promotional assistance for customer acquisition and retention, supply chain development etc. The projects are owned and operated by the project sponsors who are mostly private sector project developers. Project sponsors are responsible for the operational sustainability and maintenance of the projects, as well as the after sales services to customers.

IDCOL's business model ensures affordable electricity tariff for customers as well as reasonable return for the project sponsors with minimum return on equity being 13-15% and payback period being six to eight years. The implementation framework is designed to improve energy access and enhance productive uses of energy in underserved rural areas. It created a nexus between energy, agriculture, health, and communication to create an environment for smart sustainable rural living, aligned with the main theme of [6th ARE Energy Access Investment Forum](#). The initiative won the ARE Awards 2020 for ensuring sustainable energy access in the off-grid Bangladesh.

Please contact with Mr. Ashraf Hossain Bhuiyan (ahossain@idcol.org) for further information.