

How can Bangladesh expand renewable capacity in the face of acute land scarcity?

Currently, renewable energy comprises less than 5% of installed capacity in Bangladesh. Solar has been the dominant source of renewables where installation has occurred. Of the installed capacity of renewable energy, solar contributes 80%. However, utility-scale solar plants can be land-intensive, requiring around 3.5 acres of land for 1 MWp. This constraint is perceived as a barrier by Bangladesh policymakers. The country is one of the most densely populated in the world and the perception of solar's land intensity has led to its unpopularity, despite the high resource potential in the country. How can Bangladesh overcome the challenge of land-intensive solar-power plants in the context of constrained land availability and ambitious national renewable energy targets?

Policy challenge

76% of all land in Bangladesh is used for agriculture (opposed to 60%, 39%, and 49% in India, Vietnam, and Kenya, respectively). Policymakers have **stressed** using any available land for agriculture to ensure food security for Bangladesh's massive population. At the same time, the government wants to increase installed capacity of clean energy to **24 GW by 2041**. Policymakers are trying out different modes of solar including **agrivoltaics** and **floating solar**. A waste-to-energy plant is also being built in Dhaka with a capacity of 42.5 MWp. Rooftop solar is another prospect, but this has not moved forward as expected due to reasons including negligence in maintaining solar panels at household level¹. A net-metering policy has also been formulated. Concerns remain around the timing of electricity generation as well, given peak hours in Bangladesh are in the late evening. Therefore, solar needs particular policy support for pricing in addition to the physical infrastructure needs.

Data

- **SREDA Renewable Energy Database**: This database has information on current renewable capacity, location of renewable projects, etc.
- **IGC Energy Dashboard**: Contains hourly electricity production data from all power plants in the country since 2015.

Stakeholders

- Ministry of Power, Energy and Mineral Resources
 - Office of the State Minister for Power, Energy and Mineral Resources
 - Sustainable & Renewable Energy Development Authority (SREDA)
- Infrastructure Development Company Limited (IDCOL)
- Dhaka North City Corporation and Dhaka South City Corporation

For further information or to discuss project generation, please contact the IGC Bangladesh team at bangladesh@theigc.org

¹ As mentioned by the State Minister for Energy at the recent IGC conference **Resilient and resurgent Bangladesh**