Utility-scale solar bangladesh

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We are witnessing a global paradigm shift induced by climate change. The Paris Agreement calls for an unprecedented scale-up of global climate finance to reach $100 billion a year by 2020 in order to avoid catastrophic consequences, while the Taskforce for Financial Climate-Related Financial Disclosure (TCFD) is aiming to become a new reporting standard. As a result, companies are increasingly working to incorporate sustainability into their strategies and portfolios. ETIAM Insights is your trusted partner on the sustainability pathway.

Global Climate Scope ranks Bangladesh in the 41st position from all observed markets in terms of attractiveness for renewable energy investments. The segment the country is lacking most is experience. However, considering the stable fundamentals and the significant opportunities, the future of renewable energy potential in Bangladesh looks bright. Additionally, and importantly, there are high-potential investment opportunities. The country"s current situation places investors in its renewable energy transition in a perfect position to be rewarded once the boom starts.

Bangladesh’s installed renewable energy capacity is 650.53 megawatts (MW). Solar making up 416 MW, with hydropower producing 230 MW. The total figure was up from 579 MW in 2018. The jump isn"t significant, but it marks a trend for what’s coming next. For now, solar power dominates the renewable energy mix in Bangladesh. Wind power, for now, remains at near-zero levels. By the end of 2021, the government is planning to reach at least 10% in renewables contributing to its total energy mix. Currently, the figure is standing at only 3%.

While renewable energy"s share in the country"s power mix remains negligibly low, there is massive potential for solar and wind energy in Bangladesh. A report on the renewables technical capacity found that Bangladesh could deploy up to 156 gigawatts (GW) of utility-scale solar and 150 GW of wind.

According to estimates, Bangladesh receives considerable amounts of solar radiation with 1,900 kWh/m2 per year. Daily, this figure translates to 4 to 6.5 kWh/m2.

Recently, the government issued a National Solar Energy Roadmap (SREDA) draft. It recommends a new solar target to address the sluggish clean energy progress. The aim is to have up to 40 GW by 2041, with 40% coming from rooftop solar. If the government prioritises the accelerated action plan, by 2041, Bangladesh could see a solar power potential making up 50% of its installed capacity.

Additionally, with an estimated 1,500 km2 of ponds, Bangladesh has a significant potential for floating solar. According to estimates, even utilising only one-third of the ponds for solar installations can generate 15 GW. Furthermore, Bangladesh also has 2,500 km2 of shallow water areas. Installing floating solar on just 10% of these areas would generate 25 GW. Big lakes like the Kaptai and the thousands of kilometres long river

pockets could add 20 GW.

Regarding land-based options, it is calculated that Bangladesh has around 5,000 km2 of potential for roof systems. Fulfilling just 10% of this could generate 25 GW.

The U.S. National Renewable Energy Laboratory (NREL) concluded that Bangladesh has significantly more wind power potential than previously thought, especially at a hub height of 140 to 160 metres. The areas with the highest potentials reaching 724 km, like the coastline along the Bay of Bengal, Kuakata, Sandwip, and St. Martin. Wind power installation in these areas would solve a lack of energy access for locals who have remained off the grid.

The government is already beginning to move in that direction. In December 2020, it approved a major 55 MW wind power project in Mongla. Other projects are also in the pipeline.

The biggest challenge facing the renewable energy transition in Bangladesh is the switch from coal to liquefied natural gas (LNG). According to IEEFA, such a move is unnecessary as it will only slow down the clean energy transition.

Another obstacle is the overcapacity problem that had remained unaddressed for years.However, a switch in focus from coal-and LNG-fired power to renewables could successfully address this.

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