Solar energy policy dhaka

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Like the rest of the world, Bangladesh has to transition from non-renewables such as oli, coal etc. to renewable energy sources to reduce its overreliance on energy imports and diversify the country"s energy mix. To showcase Bangladesh"s commitment towards fighting climate change, the country has already scrapped plans for 10 coal-fired power plants amounting to 8,711 MW (Megawatts). Till 2021, the government has divested around $3 billion from coal-fired plants to shift its focus from coal to other alternatives. By 2041, Bangladesh aims to generate 40% of its energy from renewable sources and by 2050, the country aspires to achieve zero carbon emission.

In 2012, the government formed the Sustainable and Renewable Energy Development Authority (SREDA) to promote clean energy. Additionally, the Infrastructure Development Company Limited (IDCOL), a parent organization of the Ministry of Finance is the only finance institution specialized in renewables that has so far financed various solar projects amounting to a capacity of 322 MWp (Megawatt Peak).

In 2009, the central bank of the country, Bangladesh Bank (BB) launched the "Solar Energy, Biogas and Effluent Treatment Plant Sector Refinance Scheme" to encourage the establishment of solar panels, bio-gas plants and industrial ETP (Effluent Treatment Plant). Under this scheme, BB announced its "Sustainable Finance Policy for Banks and Financial Institutions" in 2020 and made it mandatory for the banks to provide 2% of all the loans in renewable energy and green projects.

For a resource constrained country like Bangladesh, solar is the best alternative due to TWO main reasons. First, solar is much cheaper than other renewable options. Wind turbines cost $38 per MWh, Hydropower costs $64 per MWh, Geothermal costs $75 per MWh and Biomass costs $114 per MWh, whereas Solar costs $36 per MWh.

Bangladesh has the world"s largest off-grid solar power program – a fact that is underreported in the media. In 2014, the country had around 3 million SHS whereas the rest of the world had 4 million. Currently, Bangladesh has around 6 million solar home systems which has lightened the lives of 20 million people in rural areas, mainly in off-grid areas. Bangladesh ranks 5th among 161 countries in solar photovoltaic (PV) employment. In 2020, the country was able to create 137,000 jobs in solar home systems.

Many people living in rural and remote hilly areas or hinterlands of Bangladesh didn"t have access to the grid electricity where 70% of the population resides. These remote off-grid communities used kerosene lamps, sometimes diesel generators to satiate their energy needs. A huge portion of the population were penalized due to this energy poverty for generations. SHSs was a revolutionary energy step for them. The fact that Bangladesh used industrial scale batteries for SHSs, was also a reason for their terrific performance.

Previously, the households who had excess energy from the SHS would throw the cable to their neighbors if

they needed electricity. A climate tech company, SOLshare invented the world"s first peer-to-peer (P2P) exchange network by formalizing this informal energy trading in Bangladesh. Due to this P2P energy trading, remote households with rooftop SHS can sell excess electricity into the microgrid network, from where the neighboring households or businesses will be able to purchase electricity. P2P energy trading has allowed the people of the hinterlands of Bangladesh to make money out of the sun.

Bangladesh has completed the construction of 10 large solar parks which are already operational. The largest solar power plant of the country is the Solar Park by Beximco located in Gainbandha. The plant has 52,000 solar panels with a capacity of 200 MWp. A total of 8 solar parks are in the pipeline and 22 solar parks are in the planning phase.

The biggest challenge for Bangladesh in terms of solar parks or plants is the scarcity of land. A rough estimate of the land required to set up a 1 MW solar power plant is around 4.5-5 acres for Crystalline Silicon technology and around 6.5-7.5 acres for Thin-Film technology. To preserve agricultural lands due to the dominance of agriculture in the economy, a national land use policy from 2001 prohibits conversion of fertile agricultural land for other purposes.

Additionally, it"s often difficult to acquire lands for new projects which have halted the progress of many solar projects. Often, it"s found that several hundred individuals share the ownership of appropriate lands for solar plant projects. Thus, it takes a huge amount of time for land acquisition. Much like the entire world, GoB is now exploring options or practices that will not eat up a big piece of land.

Bangladesh is the largest delta in the world. For a land scarce nation like Bangladesh where water resources are enormous, utilizing its water bodies for Floating Solar Power Plants could be a game changer. Floating solar PV has the potential to significantly reduce the burden of land requirements. In 2006, Japan became the first country to set up a floating solar power plant.

In 2019, for the first time ever in the country, the Mongla Port Municipality installed a 10 kWp floating solar PV system on the water surface of the reservoir of its water treatment plant as a pilot project.