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India's Need For Water Free Solar Panel Cleansing

Increasing water scarcity could pose a severe constraint to energy supplies and solar expansion in India.

The global drive to switch to cleaner energy sources, has put the Indian solar energy industry on a growth trajectory. India has set a new solar target of 100 GW to be achieved by 2022. This target is aimed to address both domestic energy demands while also tackling the bigger issue of climate change. We note that though most of the issues with regard to solar power generation are addressed, the one issue that is put on the backburner is that increasing water scarcity could pose a severe constraint to energy supplies and solar expansion in India.

Water necessity for producing power from solar energy using photovoltaic technology is only a fraction of that used for coal, which



is India's primary fuel. However, water scarcity in India, which is a pertinent problem, could still hamper the country's solar plans. This, keeping in mind that the locations identified for large scale solar PV parks are in water-scarce regions, here we must note that 79 per cent of new energy capacity in India is expected to be built in areas that already face water scarcity or water stress, according to a recent report from the World Resource Institute. The issue only intensifies with solar panels in arid and desert regions as dust accumulates easily, drastically decreasing efficiency. Solar panels require constant cleaning to maintain efficiency. CEEW estimates the water requirements for operation and maintenance in India to lie between 7000 and 20000 litres per MW per wash, where panels are usually cleaned on a weekly basis (though this amount will vary with the scale and location of plants). By not factoring in water constraints, the amount of electricity generated by India's solar plants will be much lower.

While the other issues of solar infrastructure may need to be addressed, the solution to 100% water-free solar panel

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cleansing technology is the need of the hour, not just to increase efficiency, but also work towards a sustainable solution in a cost-effective manner. India's eagerness to invite supporting technologies has opened avenues for many innovative solutions to be introduced into India to aid in its ambitious solar targets and this technology is just the beginning of our attempt to build a greener future for our future generations ◀

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