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Southern states can help India achieve RE target

Bengaluru, 19 January 2021: Leveraging the combined renewable energy potential of Karnataka, Kerala, Tamil Nadu, Telangana, and Andhra Pradesh can help India achieve its nationwide RE target of 450 GW by 2030.

According to a study conducted by research-based think tank Center for Study of Science, Technology and Policy (CSTEP), the 5 southern states jointly have solar power potential of 1,526 GW and wind power potential of 1,124 GW.

In its report titled 'Study on Grid Impact on High RE Scenarios in Southern India', CSTEP says that Karnataka, Kerala, Tamil Nadu, Telangana, and Andhra Pradesh could together have a maximum excess power capacity of around 23 GW and 51 GW in 2022 and 2030, respectively, on account of renewables in the region. The study points out that conventional power generation would need to be backed down to accommodate the increasing levels of RE in the coming years.

The CSTEP report was officially released today by Mr Vivek Kumar Dewangan, Additional Secretary, Ministry of Power, Government of India, at the Karnataka Power System Transformation Workshop organised by the International Energy Agency (IEA) in partnership with NITI Aayog and CSTEP.

Acknowledging CSTEP's efforts and giving serious consideration to the recommendations made in the report, Mr Dewangan said: "We need to plan an inter-regional corridor and a transmission mechanism, so that excess power from the southern region can be exported to the energy-deficient regions. One of our topmost priorities is to build flexibility in the system to accommodate RE. We need a multi-pronged approach for this."

As part of its study for which geospatial analysis was used to identify suitable parcels of land with radiation intensity and wind speed to set up solar plants and wind farms, CSTEP says that the

excess energy being generated by the southern states cannot be safely absorbed within the region. Thus, the region needs to export the excess amount to energy-deficient regions.

The CSTEP report points out that such interactions between regions would require the strengthening of inter-regional transmission capacity. Without this, the only option would be to curtail the generation of excess energy by backing down either renewables or thermal power plants.

Network strengthening measures for the horizon year 2022 would entail investments to the tune of INR 385 crore. An additional investment of INR 8,860 crore would be needed to cater to the grid demand for 2030.

The CSTEP study concludes that RE can become India's mainstream electricity source provided the transmission infrastructure is strong enough to enable the exchange of excess power to energy-deficient regions. It also recommends measures such as the routine maintenance of thermal generators in the monsoon months of June, July, and August when RE injections into the grid are quite high, building a robust framework for RE curtailment during monsoon, and conducting grid-balancing studies to examine the maximum limit of RE addition.

ABOUT CSTEP

The Center for Study of Science, Technology and Policy (CSTEP) is one of India's leading think tanks, with a mission to enrich policymaking with innovative approaches using science and technology for a sustainable, secure, and inclusive society.

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