Watt's happening? Double blow to power generation

By Sridhar Vivan / Updated: Oct 30, 2023, 06:00 IST













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Natural disasters, wind energy shortage, and cloud cover caused this year's power deficit

Low reservoir levels, reduced wind speeds impact power production in Karnataka

The state is grappling with a double setback in power generation. Hydel power production is hampered by low reservoir levels, and now wind energy generation is also facing challenges due to reduced wind speeds.

The wind speed is crucial for power generation, with specific requirements for turbine rotation. For a two-megawatt turbine, a wind speed of three meters per second is necessary, while a 750-kilowatt turbine requires a wind speed of 4.5 meters per second. Machines operate when the wind speed is between 2.5 to 3 meters per second. Unfortunately, the wind speed in areas harnessing wind energy has dropped to less than 2.5 meters per second, impacting operations. In October this year, power generation from wind energy, which typically reached 8,000 MW in 24 hours, has now dwindled to just 500 MW. Typically, wind speeds are higher between May and October, but this year, the reduction started in September and declined in October.

An official from the energy department said, "Severe fluctuations in weather, especially the significant reduction in wind speed, have negatively affected power generation. Remember, the power produced by a wind turbine is directly proportional to the cube of the wind speed. Therefore, even a slight reduction in wind speed significantly impacts power output."

With one form of renewable energy facing challenges, the Energy Department is shifting its focus to tap into another source. Energy Minister KJ George said, "Soon, we plan to expand the Pavagada Solar Park from its current capacity of 2,300 MW, adding another 2000 MW in 10,000 acres. We are also actively working on expanding solar power generation in Gadag and Kalburagi. These initiatives reflect our deliberate actions in this direction. We are striving to implement KUSUM B & KUSUM C initiatives aimed at promoting the use of solar energy among farmers. KUSUM B primarily incentivizes the adoption of stand-alone solar pump sets by individual farmers, availing of an 80% subsidy. These power plants can be established on agricultural or barren land, providing an additional income source for farmers through land leasing. Emphasising KUSUM - C, which involves the installation of solar power plants at substations, these plants can be set up on government land, agricultural land, or barren land, ensuring a continuous and sustainable power supply to agricultural consumers."

This year, the power deficit is attributed to natural calamities, including drought, a shortfall in wind energy, and cloud cover. The State Government also plans to procure power from Kudagi by December 1 and establish a barter system with Punjab and UP. From April 23 to October 15, 1627 M.U. of Electricity, amounting to Rs 1,102 crore, was purchased.



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–KJ George , Energy Minister

George recently conducted a review meeting with senior officials and solar irrigation pump manufacturers. During the meeting, George discussed the need for solar irrigation pumps in agriculture, emphasising their advantages. Solar pumps contribute to the state's long-term energy security, reduce the burden on farmers, and promote ecologically sustainable growth by minimising the carbon footprint. Karnataka actively aims to reduce dependence on fossil fuels and promote cleaner energy sources. The adoption of solar-powered irrigation is expected to reduce the burden of over Rs 1 lakh crore towards electricity subsidy for agriculture and cut the oil import bill by decreasing diesel consumption by 1.38 billion litres per annum, as per the Ministry of New & Renewable Energy (MNRE). Solar pumps are currently deployed through the central government-led PM-KUSUM scheme or under state schemes, with the solar water pump selected scheme launched in the state and implemented from 2014-15 for the 5 HP category.

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