Press Release

"Pumped-hydro energy storage vital for meeting India's renewable energy aspirations"

For immediate release

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Pumped-hydro energy storage (PHES) is a crucial enabler in India's transition to a renewable-energy-dominant future. This was the consensus at a webinar organised by the Center for Study of Science, Technology and Policy (CSTEP), a research-based think tank, on Friday. The webinar brought together experts in the field of energy and power to deliberate on the role of pumped-hydro storage in the Indian grid, the current challenges, and the way forward.

"Pumped-hydro and battery storage are two technologies that are at the forefront of energy storage solutions, as India steps up its efforts to reach 450 GW of renewable energy by 2030," said Dr Jai Asundi, Executive Director, CSTEP, in his welcome address.

Mr Pankaj Batra, Project Director, South Asia Regional Initiative for Energy Integration (SARI/EI), Integrated Research and Action for Development (IRADe), said that "the scope for pumped-hydro storage, especially the off-river ones, is huge," adding that the Ministry of Power is developing a policy on PHES.

Mr Sumanth Shankar Rao, Former Managing Director, Mangalore Electricity Supply Company Limited (MESCOM), and Former Director, Karnataka Power Transmission Corporation (KPTCL), opined that while the use of pumped-hydro storage plants is "definitely necessary" in Indian conditions, it is important to choose the size and capacity of the plants carefully. "Instead of a large pumped-hydro storage plant at one place, setting up smaller plants that are distributed in different places, will avoid the evacuation and environmental issues," he said.

Talking about the commercial viability of PHES, Ms Vibhuti Garg, Energy Economist, Lead India, Institute for Energy Economics and Financial Analysis (IEEFA), said: "We need a combination of regulatory mechanisms and support from the government and planners to make PHES a viable option." She echoed the views of Mr Sushil Kumar Soonee, Advisor, Power System Operation

Corporation (POSOCO), on the need for the Central Electricity Authority (CEA) to initiate action for the growth and uptake of PHES, given that they are the planners. “Market is no substitute for planning,” he said.

Mr N. V. Raghuramu, Retd. Superintending Engineer, Karnataka Power Corporation Limited (KPCL), was of the view that “the need for PHES is not debatable, but it has to be made cost-effective.”

At the webinar, CSTEP made a presentation on its year-long study on the “Pricing Mechanism of Pumped-Hydro Storage in India,” which was supported by the Shakti Sustainable Energy Foundation (SSEF).

Dr Ammu Susanna Jacob, Senior Research Engineer with the Energy and Power Sector at CSTEP, presented the study findings at the webinar and said that a differential pricing mechanism (with separate pumping and generation prices), along with alternative funding mechanisms, is recommended to boost the growth of PHES in India.

The policy brief on the study is available here.

Mr Manu Maudgal, Director, Clean Power Programme, SSEF, and Mr Abhishek Nath, Sector Head, Energy and Power, CSTEP, were moderators at the event.

For more details and a complete recording of the webinar, please contact us at: cpe@cstep.in

About CSTEP:

Headquartered in Bengaluru, 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. CSTEP’s areas of focus are Climate, Environment and Sustainability, Energy and Power, AI and Digital Labs, Materials and Strategic Studies, and Computational Tools.