Press release

UNDER EMBARGO UNTIL 00:00:01 BST 25 JUNE 2025

India stakes claim to become a global pumped storage leader, with 44.5GW of projects at various stages of development

Pumped storage is seen as the answer to energy storage needs in India, as many projects gain approval or reach completion

- India sets bold aim to add 51GW of pumped storage hydropower by 2032.
- The Central Electricity Authority approved six major projects totalling 7.5GW in 2024/25 and plans to approve at least 13 more projects – representing a further 22GW – in 2025/26.
- India and Bhutan are advancing their long-standing hydropower partnership, signing an MoU to support up to 5GW of new joint capacity.

The 2025 World Hydropower Outlook, released today by the International Hydropower Association, reveals India's pumped storage hydropower (PSH) aspirations, with the country aiming to add 51GW of PSH by 2032.

Momentum is already building. As of early 2025, around 44.5GW of PSH capacity is at various stages of development. The Central Electricity Authority approved six major projects totalling 7.5GW in 2024/25 and plans to approve at least 13 more projects – representing a further 22GW – in 2025/26. Private sector developers are playing a major role, with Greenko, Adani Green and JSW Energy together expected to deliver nearly two-thirds of the national target.

A key milestone is due in September 2025, when Greenko will commission its first PSH plant – the 1.68GW Pinnapuram project. Adani Green's 500MW Chitravathi project is expected to follow in 2027, with further large-scale PSH development progressing across several Indian states.

Cooperation with Bhutan is also strong, as new agreements are in place to develop both the 770MW Chamkharchhu-1 and 600MW Kholongchhu hydropower projects.

Malcolm Turnbull, IHA President, commented: "Encouragingly, this year's World Hydropower Outlook shows that global new capacity is accelerating after several years of stagnation. With increased solar and wind power on the grid, hydropower is playing an increasingly vital role in the global energy transition - providing flexibility, storage and resilience. It also has the advantage of being a predominantly domestic industry which is important for energy security. But markets alone won't deliver what is needed. Continued momentum will require bold policy action, including reforms to reward hydropower's multiple benefits and faster permitting. The only resource we lack is time."

Press release

Eddie Rich, IHA CEO, added: "As the renewable energy market continues to grow, pumped storage hydropower is playing an increasingly vital role in ensuring system flexibility and stability. This year's Outlook reaffirms that for many regions, increased conventional hydropower remains the priority essential to achieving global climate and development goals. In the face of growing climate volatility, we must build not just clean energy systems, but resilient ones. Water, wind and sun, gets the job done!"

South and Central Asian Hydropower in numbers:

- Generation by hydropower: 564TWh
- Total installed capacity: 166.5GW
- Capacity added in 2024: 4,012MW
- Total pumped storage installed capacity: 7,711MW
- Pumped storage capacity added in 2024: 0GW

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Notes to editors:

Global highlights of the 2025 World Hydropower Outlook include:

- Global hydropower capacity grew by 24.6GW in 2024, including 16.2GW of conventional hydropower and 8.4GW of pumped storage hydropower
- The global hydropower development pipeline now exceeds 1,075GW, including 600GW of pumped storage and 475GW of conventional projects.
- China continues to dominate global hydropower development, with 14.4GW of new capacity added in 2024, including 7.75GW of PSH.
- Africa more than doubles the previous three years' development, commissioning 4.5GW of new hydropower capacity in 2024.
- Europe saw a decade-high 680TWh in hydropower generation supported by strong rainfall, while EU and national policy measures drive momentum for pumped storage.

More information:

- The 2025 World Hydropower Outlook will launch during London Climate Action Week at a high-level global event hosted by EBRD in Canary Wharf, in partnership with EBRD, the British Hydropower Association, and the Global Renewables Alliance.

About IHA:

The International Hydropower Association (IHA) is the global voice of sustainable hydropower. It is a non-profit membership organisation committed to sustainable hydropower. Its mission is to advance sustainable hydropower by building and sharing knowledge on its role in renewable energy systems, responsible freshwater management and climate change solutions. IHA seeks to achieve this through monitoring the hydropower sector, building an open, innovative and trusted platform for knowledge, and advancing strategies that strengthen performance.

Learn more: www.hydropower.org

Press release

The International Forum on Pumped Storage Hydropower, held at UNESCO Headquarters in Paris from 9-10 September is expected to gather 400 Heads of State, government ministers, CEOs, and leaders to unlock the full potential of pumped storage. Building on the momentum of the 2021 Forum — which featured leaders like Mark Carney, Canada's Prime Minister, and former US Energy Secretary Jennifer Granholm — this year's event will turn global ambition into high-impact action. Learn more: www.pumpedstorageforum.com

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