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President of the European Commission
1049 Bruxelles/Brussel
BELGIUM

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Hon Madam President

Europe must back pumped storage to secure its energy future

- A letter from Europe's hydropower leaders and the International Hydropower Association

Europe's clean energy transition has reached a decisive moment characterised by increased curtailment, growing periods of negative pricing and grid destabilisation. Wind and solar are being deployed at extraordinary scale, but because there is insufficient long-duration electricity storage, their full potential cannot be realised. **To keep the lights on, ensure affordable prices, and reduce dependency on imported fuels or technologies, Europe urgently needs large-scale infrastructure to store electricity when it is abundant and deliver it when needed.**

Pumped storage is the proven solution. It provides over 90% of the world's electricity storage and has been relied upon for decades to balance grids and safeguard supply during system shocks. It offers storage at scale, low lifetime costs, resilience over many decades of operation and tremendous opportunity to boost the local job creation and supply chain. Without greater investment in pumped storage, Europe faces wasted renewable generation, volatile prices, and mounting system risks. With it, the continent can deliver secure, affordable and fully decarbonised electricity. At the EU level, some studies indicate a need for approximately 200 GW of electricity storage by 2030 and 600 GW by 2050. This would mean more than doubling the existing fleet within the next five years, and a seven-fold increase over the next two decades.

China, the world's leader in chemical battery technology, **has over 90GW of pumped storage project under construction, more than the entire rest of the world combined**. This shows that China understands pumped hydro is essential to its own economic future and energy security, independent of any positive environmental impact that PSH brings in addition.

Europe, the world's leader in hydropower technology and manufacturing, is not deploying this technology as fast as it needs to. There is a complacent assumption in some quarters that the storage challenge can be met entirely relying on chemical batteries and/or that market forces alone will ensure sufficient new-build of long-duration energy storage.

Pumped storage supports both affordability and reduces dependence on energy imports, as it does not rely on critical raw materials such as lithium and cobalt, or other imported technologies and fuels. It is therefore a key opportunity that Europe should not neglect to source greater energy security, independence and reinforce its industrial leadership.

At the launch of the Paris Pledge on Pumped Storage in September, our industry united behind a clear set of actions to unlock Europe's pumped storage potential. In accordance with your mission letter to Commissioner Dan Jørgensen, which specifically calls for an initiative to accelerate the rollout of renewable energy and energy storage, we now urge the European Commission and member states to respond with decisive policy action.

Future European and national legislation, should focus on long-duration **electricity storage, reward the full range of services it provides to the grid, streamline permitting processes, and introduce financial instruments to de-risk investment**. These steps are not aspirational - they are practical, achievable, and essential.

The recently announced Tripartite Contracts must be designed to support pumped storage deployment comprehensively across Europe, delivering long-term, sustainable solutions that strengthen local supply chains. European technology providers are willing to enhance engineering and manufacturing capacity which have been maintained despite past low business activity.

The sector is ready. More than 35 GW of new projects are already in development across the European Union. With the right policy frameworks, they can be delivered in the timescale needed to underpin Europe's energy transition and strengthen its resilience in the face of geopolitical and climate shocks.

Europe has shown global leadership before in driving renewable energy. It must now do so again by placing pumped storage at the heart of its strategy. The technology is proven, the pipeline is real, and the opportunity is urgent. We have all the resources we need except for time. Let's pump it up!



— *Signed by Malcolm Turnbull, President of the International Hydropower Association, and leaders of European Hydropower Sector:*

- Ana Paula Marques, Executive Board Member & CEO of Renewables Division, EDP
- Bruce Douglas, Chief Executive Officer, Global Renewables Alliance
- Emmanuelle Verger, CEO EDF Hydro
- Daniele Bellini, Director of Hydro for Edison
- Frédéric SAUZE, CEO, ANDRITZ HYDRO GmbH
- Frederic Ribieras, Hydro Power CEO, GE Vernova
- Hörður Arnarson, CEO, Landsvirkjun
- Isidro Pescador Chamorro, Head of Hydroelectric, ENEL
- Jan Lüder, President & CEO Voith Hydro, Voith Hydro Holding GmbH & Co. KG
- Janice Goodenough, Chief Executive Officer, HYDROGRID
- Julia Souder, Chief Executive Officer, Long Duration Energy Council
- Julio Castro, Chief Executive Officer, Iberdrola Energía Sostenible España
- Karl Heinz Gruber, Managing Director of VERBUND Hydropower
- Kristian Ruby, Secretary General, Eurelectric
- Pål Eitrheim, EVP Nordics, Statkraft AS

Paris Pledge policy recommendations:

European Union Level

1. Propose a dedicated initiative to boost the roll-out of electricity storage.
2. Ensure that legislative proposals concerning non-fossil flexibility address long- duration electricity storage separately from short-duration electricity storage and other energy storage solutions.
3. Promote the adoption of the Renewable Energy Directive (RED III) and the Market Design Reform.

Member States Level

4. Implement the recent European energy focused directives and reforms.
5. Remunerate the provision of system services and security of supply for all time frames, and where revenue stabilisation mechanisms are introduced ensure that PSH can participate.
6. Eliminate double grid fees on electricity storage technologies to enhance the economic viability.
7. Introduce fast-streamed permitting processes for PSH development.