To: Mr **Stéphane Séjourné**, Executive Vice-President for Prosperity and Industrial Strategy

Ms **Teresa Ribera**, Executive Vice-President for Clean, Just and Competitive Transition

Mr **Wopke Hoekstra**, Commissioner for Climate, Net Zero and Clean Growth

Mr **Dan Jørgensen**, Commissioner Energy and Housing at European Commission

Mr **Maroš Šefčovič**, Commissioner for Trade and Economic Security, Interinstitutional Relations and Transparency

Mr **Valdis Dombrovskis**, Commissioner for Economy and Productivity, Implementation and Simplification

22 January 2026

Call for a Sequenced Framework to Procure Long-Duration Energy Storage in Europe

Dear Executive Vice-Presidents and Commissioners,

The undersigned organisations jointly submit this letter to highlight the need for a sequenced framework for long-duration energy storage (LDES) in Europe, in light of the Union's transition to a highly renewable, secure, and competitive energy system. Achieving this transition requires solutions capable of delivering reliable and affordable power and heat across hours, days, and seasons.

Long-duration energy storage (LDES) is a class of technologies capable of storing energy in chemical, electrochemical, mechanical, or thermal forms, and releases electricity over multi-hour to multi-day, weekly, or seasonal durations. LDES encompasses pumped hydropower storage (PHS), gravity-based systems, compressed air energy storage (CAES), liquid air energy storage (LAES), compressed gas energy storage (CGES), thermal storage (sensible, latent, or thermochemical), electrochemical systems such as flow and metal–air batteries, and chemical storage through power-to-gas-to-power pathways, including hydrogen and synthetic fuels.

By converting variable renewable generation into firm, time-shifted supply, LDES sustains system adequacy during extended low-renewable events. This reduces reliance on fossil backup capacity, lowers curtailment, defers grid reinforcement, and enables industrial electrification—supporting security of supply in high-renewables systems at least cost.

Despite its strategic value, LDES deployment in Europe remains far below system needs. This reflects structural gaps across planning, market design, investment frameworks, taxation, and delivery conditions. Existing frameworks remain largely duration-blind, limiting investment in multi-hour and multi-day flexibility. Closing this gap requires a sequenced and coordinated policy framework, aligned with existing EU legislation and implementation processes.

1. Embed LDES in system planning and adequacy assessments

Under Regulation (EU) 2019/943 and its recent revisions, system adequacy assessments are central to EU security-of-supply policy. The European Resource Adequacy Assessment (ERAA) and National Resource Adequacy Assessments (NRAAs) should explicitly assess long-duration flexibility needs using energy-based metrics (GWh), reflecting realistic weather, demand, and renewable scenarios.

Flexibility Needs Assessments promoted under the Electricity Market Design (EMD) Reform and network code development should evaluate storage assets across a range of durations. National Energy and Climate Plans (NECPs) should reflect these findings through duration-aware indicative targets and deployment pathways. LDES should also be treated as a non-wire alternative in Ten-Year Network Development Plans (TYNDPs) and Distribution Network Development Plans (DNDPs) cost–benefit analyses, in line with the Trans-European Networks for Energy (TEN-E) framework.

2. Reform ancillary and stability markets, and grid fee and tax frameworks, in line with the Electricity Market Design Reform

As conventional synchronous generation retires, system operators require new sources of inertia, voltage control, restoration, congestion management, and multi-hour reserves. Existing ancillary service markets—largely designed for fossil-based systems—do not yet reflect these system needs.

Consistent with EMD Reform objectives and network code reforms, Member States should develop technology-neutral market products for multi-hour reserves, congestion management, and grid-forming capabilities, including inertia, voltage support, and black-start.

In parallel, grid fee and taxation frameworks must ensure cost-reflective and non-discriminatory treatment of storage. In several Member States, stored electricity is subject not only to double network charges but also to additional taxation when reinjected into the grid. In other cases, charges applied to pumped hydropower storage are based on gross rather than net revenues. Such practices distort operational incentives and undermine investment. Tariff and tax treatment should distinguish between grid-supporting and grid-stressing behaviour, in line with Article 18 of Regulation (EU) 2019/943.

3. Align capacity mechanisms with ERAA outcomes and the Clean Industry State Aid Framework

Capacity mechanisms will play an expanding role across Europe, particularly following revisions to ERAA methodology and the introduction of the **Clean Industry State Aid Framework (CISAF)**.

It should be recognised that some LDES technologies can, under specific market conditions, operate in energy-only markets without capacity remuneration. However, in most cases and for most technologies, long-duration assets face revenue volatility, long lead times, and risk profiles that are not adequately addressed by energy-only markets alone.

Duration-aware capacity remuneration—using de-rating factors based on both power and energy (MW and MWh), contract lengths aligned with asset lifetimes, and locational signals where appropriate—ensures coherence with ERAA adequacy parameters and enables LDES to compete fairly with other firm resources, while safeguarding system reliability and State aid compatibility under CISAF.

4. Deploy targeted investment instruments and enable long-term contracting

LDES assets deliver system value over long operational lifetimes and therefore benefit from investment frameworks that recognise their capital-intensive nature and long-term contribution. While market revenues remain central, they are often insufficient on their own to support deployment at scale. Building on CISAF, the Innovation Fund, and national financing facilities, targeted instruments are required to reduce the weighted average cost of capital and unlock investment.

Furthermore, barriers to market mechanisms such as 24/7 power purchase agreements should be removed, and their proliferation supported. These tools could complement—rather than replace—market revenues by improving long-term revenue visibility and enabling industrial consumers to access firm, clean power aligned with system needs, thereby supporting orderly progression toward commercial maturity.

Long-duration energy storage is a system enabler for Europe's clean energy transition, industrial competitiveness, and energy security. Aligning planning, markets, grid tariffs, taxation, and investment frameworks with the physical realities of a high-renewables system is essential to avoid higher system costs, continued reliance on fossil backup, and delayed decarbonisation.

We therefore call on EU institutions, national governments, regulators, and system operators to fully integrate LDES into ERAA methodologies, EMD Reform implementation, CISAF-aligned capacity mechanisms, grid fee and tax reform, and market-based contracting frameworks—ensuring that Europe can deploy LDES at the scale, speed, and locations required.

Supporting organisations:

energy storage europe association
Cleantech for Europe
eurelectric powering people
Global Renewables Alliance
WBCSD World Business Council for Sustainable Development
FCA Future Cleantech Architects
LDES Long Duration Energy Storage Council
FLOW BATTERIES EUROPE A united voice for flow batteries
EnergyTag