Press Release
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New Commentary on Energy System Integration

Shielding Europe from Energy Price Shocks and Shortages by Accelerating Change

Brussels, 16 April 2026 – Europe is facing its biggest energy crisis in a century, mandating an accelerated transition to home-grown renewable energies. Today, the European Academies Science Advisory Council (EASAC) published a new Commentary which emphasises that radical energy system transformation and integration is a strategic imperative.

With debates in Europe intensifying over how to mitigate the impact of soaring energy prices, ensure security of supply, and restore affordability and industrial competitiveness, the Commentary provides a timely roadmap for action. It highlights how integrating renewable energy sources and modernising grid infrastructure can enable a faster decarbonisation, reduce dependence on volatile fossil fuel markets, alleviate grid congestion, and lower energy costs for everyone.

"The current oil and gas crisis just points to one single possible direction, doubling down on decarbonisation efforts to make Europe more secure," says Prof. Paula Kivimaa, Co-Chair of the EASAC Energy Steering Panel.

How energy system integration mitigates the energy crisis:

- Coupling end-use sectors through electrification of heating, transport, and industry as well as the integration of thermal energy storage, **reduces the use of fossil fuels and thus costs**;
- Implementation of grid flexibility management measures and appropriate voltage and frequency controls **decreases dependency on backup generation from fossil fuels**;
- Smart systems match daytime loads with the available solar photovoltaic generation and optimise storage for night-time use, thereby **reducing the needs for grid reinforcements with their associated costs and permitting delays**.

Prof. Kivimaa notes that crises can often be catalysts for decisive action: "Some of the measures taken to mitigate previous oil crises brought about structural changes in energy policy and consumer behaviour – in particular thermal insulation, energy efficiency standards and a shift in public awareness. These measures continue to have an impact. Today, we have the additional benefit that renewable energy technologies are much more advanced. If policymakers act fast and decisively, we can reduce the impacts of future crises from fossil fuel trade and supply chains."

Commentary launch: 16 April 2026, 15 h – 16.45 h CEST

Programme and registration: https://easac-events.eu/event/energy-system-integration

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About the European Academies Science Advisory Council (EASAC)

EASAC unites the national science academies of the EU Member States, Norway, Switzerland and United Kingdom, to collaborate in giving advice to European policymakers. Through EASAC, the academies work together to provide independent, evidence-based advice about the scientific aspects of European policies to those who make or influence policy within the European institutions. www.easac.eu

Annex: The Crisis in Numbers

- **Fossil Fuel Dependence:** Despite progress, 57% of the EU's energy needs are still met by net imports, with oil and gas accounting for 67% and 24% of imports, respectively. The war in Iran has further disrupted supply routes, pushing prices higher and exposing Europe's vulnerability to geopolitical shocks.[1]

- **Energy Costs:** European gas prices have surged by 70% since February 2026, with household electricity prices ranging from €10 to €38 per 100 kWh across the EU.[2] Inflation driven by energy prices is projected to reach 2.7% in Q2 2026, reversing recent disinflationary trends.

- **Renewable Growth:** Renewables now supply 48% of the EU's electricity, with solar and wind leading the transition.[3] However, grid limitations threaten to stall further expansion, risking Europe's 2030 climate targets.

- **Grid Congestion:** Over 120 GW of planned renewable energy projects in Europe are at risk due to outdated grid infrastructure, with congestion management costs nearing €9 billion in 2024 alone. Bottlenecks are forcing countries to curtail renewable output and revert to fossil fuels, undermining climate goals and energy security[4].

[1] https://ec.europa.eu/eurostat/web/products-eurostat-news/w/wdn-20260318-1
[2] https://ec.europa.eu/eurostat/web/products-eurostat-news/w/wdn-20260310-1
[3] https://ec.europa.eu/eurostat/web/products-eurostat-news/w/wdn-20260318-1
[4] https://www.entsoe.eu/eraa/2025/ and https://ember-energy.org/latest-insights/crossed-wires-grid...