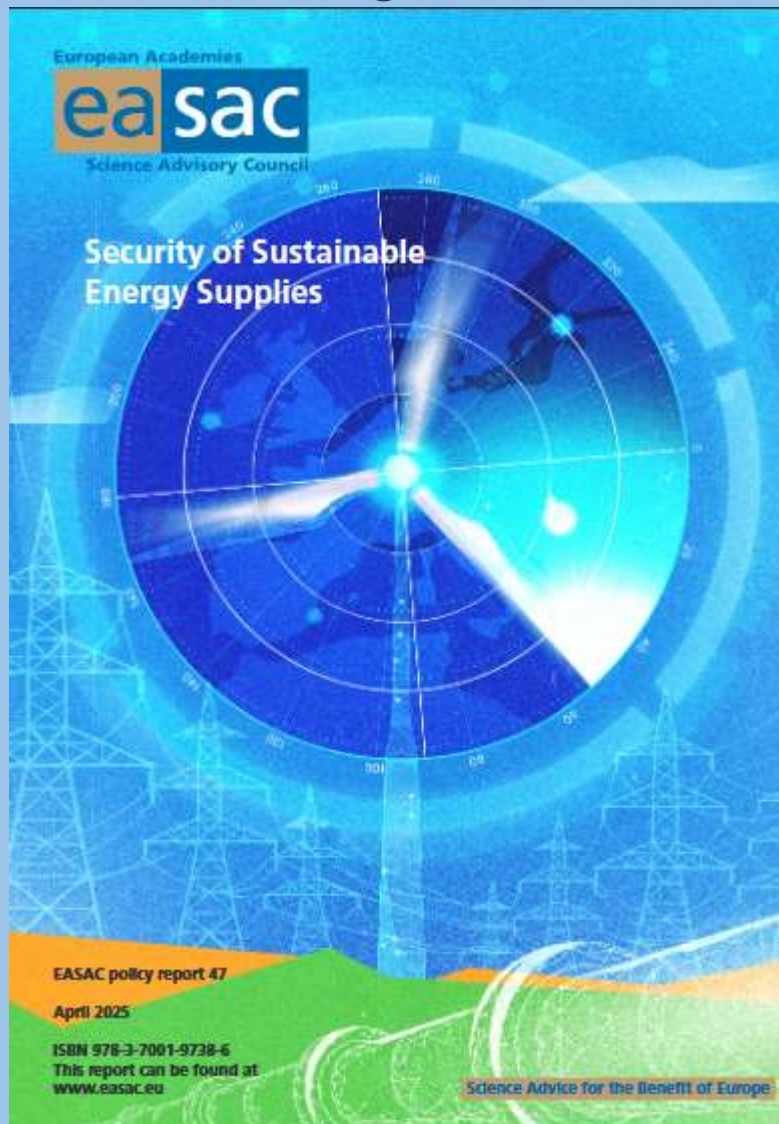




## IENE Briefing Note No. 23



## Energy Security in the Spotlight

**April 2025**

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## The EASAC Report on Energy Security

On April 8, the European Academies Science Advisory Council (EASAC) released a pivotal report titled **“Security of Sustainable Energy Supplies”**, addressing the intricate challenges Europe faces in securing a sustainable, affordable, and resilient energy future. This comprehensive analysis underscores the urgency of transitioning to renewable energy sources, enhancing infrastructure, and implementing robust policy frameworks to mitigate climate change and ensure energy security.

A number of key messages from the EASAC report are most pertinent and can be summarized as follows:

### 1. Urgent Transition to Renewable Energy

EASAC emphasizes that the next decade is critical for reducing carbon emissions. Renewable energy sources—such as wind, solar, hydro, and geothermal—are identified as the most viable options for achieving significant CO<sub>2</sub> reductions. The report advocates for immediate investment in renewable infrastructure and the phasing out of fossil fuels to meet climate targets.

### 2. Risks Associated with Natural Gas

While natural gas is often considered a transitional fuel, the report highlights concerns over methane leaks throughout its supply chain. Methane’s global warming potential is approximately 80 times greater than CO<sub>2</sub> over a 20-year period, posing significant environmental risks. EASAC suggests that reliance on natural gas may undermine climate goals and recommends prioritizing cleaner alternatives.

### 3. Opposition to Deep-Sea Mining

The pursuit of critical minerals for renewable technologies has led to proposals for deep-sea mining. EASAC warns against this practice due to potential irreversible damage to marine ecosystems and questions the necessity of such operations, advocating for the exploration of recycling and sustainable sourcing methods instead.

### 4. Concerns Over Forest Biomass Energy

The report critiques the use of forest biomass as a renewable energy source, noting that burning wood releases CO<sub>2</sub> and contributes to deforestation. Even with carbon capture and storage technologies, the

environmental benefits are questionable. EASAC recommends redirecting subsidies toward truly sustainable energy sources that offer immediate emissions reductions.

## 5. Enhancing Energy System Resilience

In light of increasing geopolitical tensions and cyber threats, the report underscores the importance of diversifying energy sources and strengthening infrastructure. Building a resilient energy system is essential for maintaining supply security and protecting against potential disruptions.

## 6. Integrating Health and Climate Policies

EASAC highlights the intersection of climate change and public health, noting that reducing greenhouse gas emissions can prevent numerous health issues related to air pollution and extreme weather events. The report advocates for policies that simultaneously address environmental and health concerns to maximize societal benefits. The EASAC report also provides numerous policy recommendations, including the following:

- **Accelerate Renewable Energy Deployment:** Implement policies that facilitate the rapid expansion of renewable energy infrastructure and technologies.
- **Phase Out Fossil Fuel Subsidies:** Redirect financial support from fossil fuels to sustainable energy initiatives.
- **Invest in Energy Efficiency:** Enhance building standards and promote energy-saving practices across industries and households.
- **Strengthen Energy Infrastructure:** Develop robust and flexible energy grids capable of integrating diverse renewable energy sources and withstanding potential threats.
- **Promote Sustainable Resource Management:** Encourage recycling and responsible sourcing of materials critical to the energy transition.
- **Integrate Health Considerations:** Ensure that energy and climate policies account for public health impacts, fostering a holistic approach to sustainability.

For a comprehensive understanding of EASAC's findings and recommendations, the full report is available [here](#). This report serves as a clarion call for policymakers, industry leaders, and the public to take decisive action toward a sustainable and secure energy future for Europe.

In the context of the preparation of the EASAC Report, Costis Stambolis, Chairman and Executive Director of IENE, participated in the working group as an expert seconded by the Academy of Athens. The publication of the Report by EASAC is very timely in view of rising global concern on energy security. A case in point being the international summit on the "Future of Energy Security" which took place in London on April 24/25, which was jointly organized by the UK government and the International Energy Agency (IEA). ([here](#))

### **IEA: Future of Energy Security Summit**

The Summit on the Future of Energy Security concluded at Lancaster House in London with a strong signal of renewed international cooperation and resolve. Co-hosted by the IEA and the UK Government, the landmark two-day event brought together decision makers from 60 governments and over 50 major energy companies, alongside international institutions and civil society organisations, to confront a major global challenge: securing the energy systems of today and tomorrow.

With [keynote speeches](#) from **UK Prime Minister Keir Starmer** and **European Commission President Ursula von der Leyen**, the Summit was a unique international event, bringing together a diverse range of countries and businesses. Convened at a time of heightened geopolitical uncertainty, rising energy demand and accelerating technological change, the event provided a platform to reassess and reframe energy security in a rapidly transforming world. It was co-chaired by UK Secretary of State for Energy Security and Net Zero Ed Miliband and IEA Executive Director Fatih Birol.

"In challenging geopolitical and economic times, this Summit has demonstrated that while the nature of energy security is evolving, the need for international cooperation remains constant," said **IEA Executive Director Fatih Birol**. "What emerged from our discussions was not only a shared understanding of the challenges ahead, but a recognition that the solutions – whether technical, political, or financial

– will be more effective if pursued together. This Summit has made it clear for the world that we are in a new era of energy security – and the IEA will build on its decades of leadership by continuing to spearhead international efforts to ensure secure, affordable and sustainable energy supplies for all.”

The Summit opened with a clear recognition that energy security can no longer be understood solely in terms of traditional risks. While safeguarding oil and gas supplies and maintaining emergency response mechanisms remain critical, participants agreed that the future of energy security must also encompass newer dimensions such as cybersecurity, extreme weather events, supply chain resilience for critical minerals and clean technologies, and integration of electrified and decentralised systems.

The [Chairs' Summary](#) emphasised the need for a “holistic approach to energy security”, highlighting the overlapping pressures that are reshaping the global energy system. Clean technologies – such as wind, solar, nuclear and battery storage – are being deployed at unprecedented speed, helping to reduce reliance on fossil fuel imports and protect consumers from price volatility, the summary noted.

Technology and innovation featured prominently in the discussions. As energy systems become more digital and interconnected, the potential of artificial intelligence and advanced analytics to improve forecasting, efficiency and resilience was widely acknowledged. At the same time, participants flagged the growing exposure of critical infrastructure to cyber threats, emphasising the need to embed resilience from the outset – through regulation, investment and international coordination. The IEA was encouraged to build on its ongoing work in this area and lead further efforts to improve knowledge-sharing and benchmarking for emerging technologies.

The growing role of electricity – particularly in transport, heating and industry – was another major focus. As electrification of more and more of the economy accelerates, securing power grids becomes both more difficult and more important. Delegates called for long-term policy frameworks that anticipate future system needs, including flexible generation, storage demand-side response and regional interconnection. Several interventions noted that without strategic grid expansion and modernisation, efforts to scale up clean power could be undermined by physical and operational bottlenecks.

Finally, the Summit spotlighted the growing geopolitical and economic implications of clean energy supply chains. From mining and processing of critical minerals to manufacturing solar panels and wind turbines, supply chains are increasingly central to global energy security. Participants recognised both the opportunities for new industrial development and the risks of overdependence on a limited number of suppliers.

For further information on Energy Security visit [www.iea.org](http://www.iea.org)