

# EUSEW 2026 Strategic Brief

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## Europe's Clean-Energy Autonomy Challenge

Renewables, electrification, smart grids and  
resilient supply chains after EUSEW 2026

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# IMPRESSUM

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## About CIRUU Energy

CIRUU Energy is an energy-sector consultancy focused on energy security, clean-energy transition strategy, critical raw materials, policy intelligence and international partnerships.

## CIRUU Energy Europe | Brussels Office

CIRUU Energy's Brussels-facing work operates at the intersection of European energy policymaking, industrial compliance and the Africa–Europe commodity corridor. We provide EU-specific regulatory intelligence, CBAM compliance advisory, carbon-market intermediation, and institutional engagement with DG ENER, ACER and EU member-state authorities.

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## Method Note

This brief is based on CIRUU Energy's internal analysis of public EUSEW 2026 sessions, livestream materials and transcript-based session summaries. A full report on the EUSEW is available for purchase. Please visit our website. [ciruuenergy.com](https://ciruuenergy.com)

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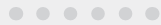
## Disclaimer

This brief is provided for general information and strategic discussion purposes only. It does not constitute legal, financial, investment or technical advice.

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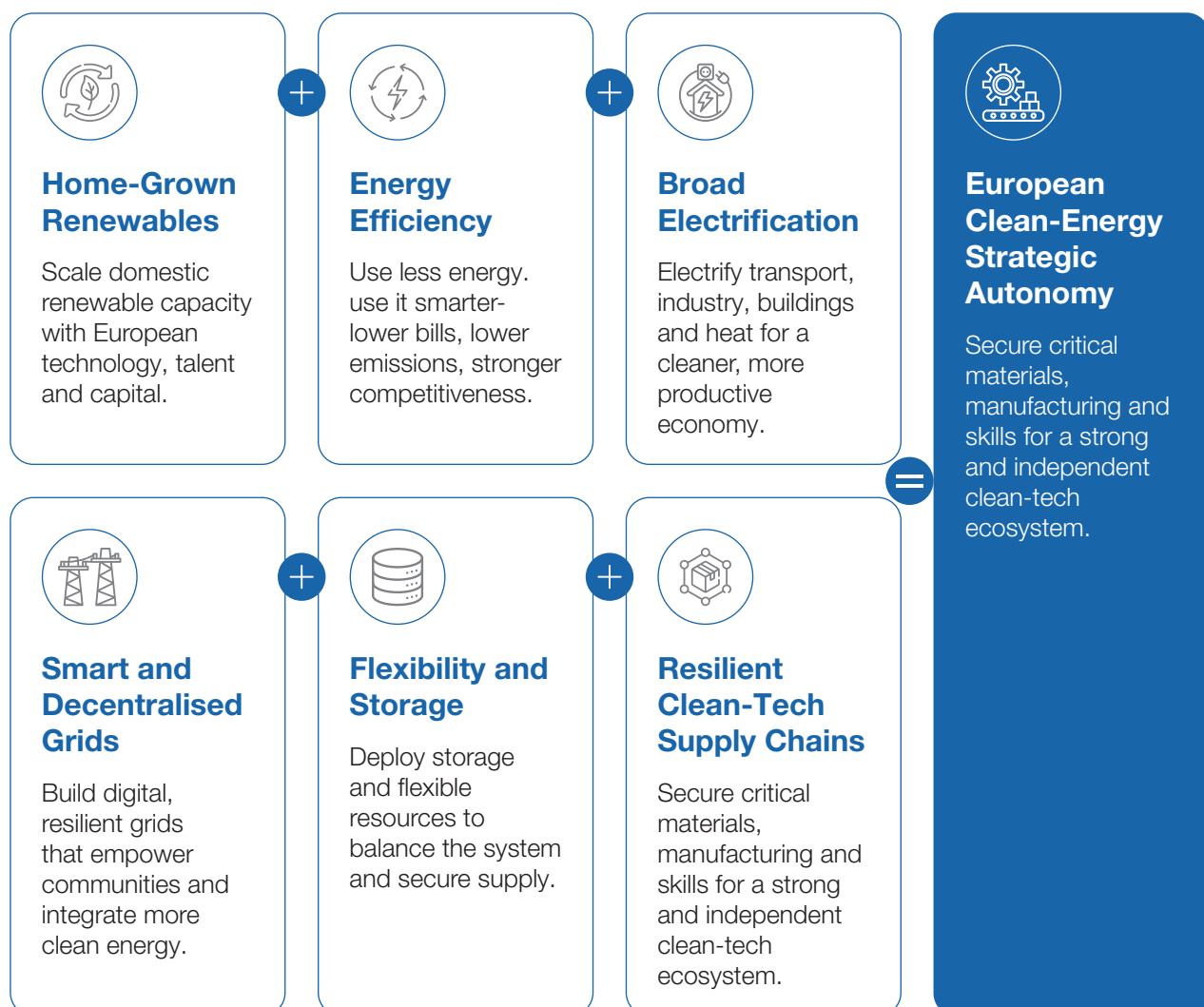
# EXECUTIVE SUMMARY



EUSEW 2026 marked the 20th anniversary of European Sustainable Energy Week. In substance, the conference showed how far European energy policy has moved since 2022. Security, affordability, competitiveness and strategic autonomy now stand at the centre of the clean-energy debate.

This brief argues that the main strategic message of EUSEW 2026 was clear: Europe must build a clean-energy system capable of reducing structural dependency. Fossil-fuel exposure, grid congestion, fragile supply chains, permitting delays, weak local capacity and affordability pressures are not isolated problems. They are interconnected inhibitors of a clean and autonomous energy system.

## CIRUU Energy reads this challenge through a single policy equation:



Renewables reduce exposure to imported fossil fuels, including gas from the Russian Federation. Efficiency lowers the energy that must be produced, imported, transported, stored and paid for. Electrification allows clean power to replace fossil fuels in transport, heating, buildings and industry. Smart and decentralised grids connect new generation with new demand. Flexibility and storage make a renewable-heavy system reliable. Resilient supply chains reduce the risk of replacing fossil dependency with new dependency on clean-tech components, raw materials, software or manufacturing capacity.

Strategic autonomy in this context does not mean isolation. Europe will continue to need trusted partnerships, especially where domestic capacity is structurally limited. This applies to critical raw materials, clean-tech value chains, finance, Mediterranean infrastructure and cooperation with African partners. The question is where Europe must build its own capacity, where it needs reliable partners, and where existing dependencies have become strategically dangerous.

The executive conclusion is clear: EUSEW 2026 framed the energy transition as a question of European strategic autonomy. The next phase will be judged by Europe's ability to turn clean-energy ambition into controllable capacity: technically, industrially, financially, locally and socially.



Less dependency.  
More security.



Stronger economy.  
More jobs.



Lower emissions.  
Healthier future.



Empowered  
communities. Social  
fairness.



# STRATEGIC AUTONOMY:

## Europe's new energy-policy frame



Over the past twenty years, the centre of gravity has moved from market liberalisation and fossil-fuel supply security, towards climate policy, and now towards resilience, competitiveness and strategic autonomy.

This does not mean that earlier priorities have disappeared. Market integration, affordability and decarbonisation remain central. However, energy policy is no longer only about prices, emissions or infrastructure. It is about Europe's ability to protect its economy, citizens and political room for manoeuvre in an increasingly volatile international environment.

The 2022 energy crisis remains the turning point. It exposed the strategic cost of fossil-fuel dependency: large parts of the European economy depended on continuous external fossil flows that could be weaponised, disrupted or repriced.

EUSEW 2026 therefore treated clean energy as more than a climate instrument. Renewables, efficiency, electrification, grids, storage and resilient supply chains were presented as instruments of security and sovereignty. They reduce exposure to imported fuels, lower vulnerability to price shocks and increase Europe's capacity to act under pressure.



### Dangerous Dependency

- Little Control
- Few Alternatives
- High Disruption Exposure
- External Leverage Over Europe



### Manageable Interdependence

- Diversified Supply
- Resilient Infrastructure
- Trusted Partnerships
- Domestic Capacity To Choose

Strategic autonomy is not full independence. It is the ability to act under pressure.

Strategic autonomy should not be misunderstood as full independence. Europe will continue to need imports, partners, technologies, materials, investment and international cooperation. The more useful distinction is between manageable interdependence and dangerous dependency.

This is why strategic autonomy has become a systemic question. It cannot be achieved by one technology, one supplier shift or one policy file alone. It requires domestic clean generation, lower demand, electrified end use, stronger grids, flexibility, storage, industrial capacity and trusted supply chains to reinforce each other.

The central issue after EUSEW 2026 is whether Europe can build the material, industrial, financial and local capacities that make this envisioned autonomy real.

# RENEWABLES:

## Europe's domestic energy-security resource



The REPowerEU discussion made clear that renewables are becoming a security instrument in the future. A trend away from fossil fuel dependency is already visible. Russian gas imports have fallen sharply, from around 45% of EU gas imports in 2022 to around 12% in 2025. Russian coal has been banned, and Russian oil imports have been significantly reduced. EU gas demand also fell by 19% between August 2022 and January 2026.

This is a major shift, but it does not solve the strategic problem. Supplier diversification can reduce exposure to one hostile actor, but it still leaves Europe exposed to global fossil markets, price shocks, shipping routes, geopolitical crises and competition for liquefied natural gas.

The stronger answer presented at EUSEW 2026 was home-grown clean energy. Since 2021, the EU has installed around 260 GW of renewable capacity. The Bulgarian example showed how quickly deployment can move under favourable conditions: solar capacity increased from around 1 GW to 7 GW in five years. In strategic terms, this is the most important feature of renewables: once built, they reduce the need for continuous imported fossil flows.

Renewables provide the domestic resource base for electrification. Without large-scale renewable deployment, electrification would merely shift dependency from one part of the energy system to another. With renewables, electrification becomes a route away from fossil-fuel exposure.

The question is whether Europe can deploy renewables fast enough, connect them to the grid, finance the surrounding infrastructure, and build enough storage, flexibility and industrial capacity to turn renewable generation into system strength.

The conclusion is simple: renewables are Europe's main domestic energy-security resource. Their strategic value lies not only in lower emissions, but in reducing the political and economic power of imported fossil fuels over Europe's future.

### Key Indicators



**45% → 12%**

Russian gas share of EU gas imports, 2022 to 2025



**-19%**

EU gas demand, August 2022 to January 2026



**+260 GW**

EU renewable capacity installed since 2021



**1 GW → 7 GW**

Bulgaria solar capacity in five years (example)

# ENERGY EFFICIENCY:

## The first autonomy resource



Energy efficiency appeared throughout EUSEW 2026 as a practical answer to several problems at once: import dependency, affordability, grid pressure, investment needs and social vulnerability.

Its strategic value is simple. Every unit of energy saved reduces the amount Europe must produce, import, transport, store or subsidise. In that sense, efficiency is the first autonomy resource. It reduces the size, cost and exposure of the system Europe has to build.

Energy efficiency includes better buildings, renovation, efficient heating and cooling, industrial process optimisation, efficient appliances, digital energy management and smarter use of local infrastructure. Its purpose is not only to save energy, but to reduce structural pressure across the whole energy system.

The problem is that Europe's efficiency potential is still not being converted fast enough into real demand reduction. Inefficient buildings, poor housing quality, high upfront costs, weak renovation capacity, fragmented advice and limited access to finance continue to slow progress. For many households and SMEs, efficiency is rational in theory but difficult in practice.

This is also why efficiency is a social issue. Energy poverty is not only caused by high prices or low income. It is also linked to inefficient homes and the inability of vulnerable households to invest in better solutions. In 2024, around 9.2% of the EU population, roughly 40 million people, struggled to pay their energy bills. Short-term relief may be necessary, but it does not solve the structural problem if homes remain inefficient.

Efficiency also matters for industry, SMEs and grids. Lower energy use reduces exposure to volatile prices and can be the first feasible step before larger investments in self-generation, clean heat or process electrification. Every avoided unit of demand also reduces pressure on networks, storage, generation and public budgets.



Energy efficiency reduces the system Europe has to finance, build and protect.

The roadmap is therefore practical. Europe needs to make the energy-efficiency-first principle operational: scale renovation finance, improve trusted advice, support SMEs with simple funding and technical assistance, align efficiency with local heating and cooling plans, and protect vulnerable households through structural improvements rather than temporary crisis relief alone.

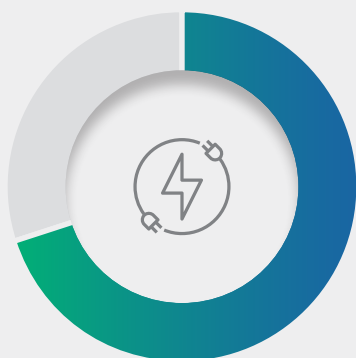
The conclusion is direct: energy efficiency is not only about saving energy. It is about reducing the material burden of European strategic autonomy and making renewables, electrification and grid expansion easier to deliver.

# ELECTRIFICATION:

## Turning clean power into system transformation



**Clean electricity is ahead. Electrification is lagging.**



**70%**

EU electricity already low-carbon



**23%**

EU electrification rate

Electrification was one of the clearest strategic messages of the conference. The point was not only that Europe should produce more clean electricity. The stronger argument was that clean electricity must replace fossil fuels across the wider economy.

The Day 2 keynote made this explicit. Electricity was presented as home-grown, increasingly low-carbon and central to Europe's industrial future. Around 70% of electricity produced in the EU is already low-carbon. At the same time, the EU electrification rate remains around 23%. This gap between cleaner electricity supply and slow end-use transformation defines one of Europe's main implementation problems.

Electrification means using clean power where fossil fuels still dominate: transport, heating, buildings and industry. Electric vehicles reduce oil dependency, heat pumps reduce gas demand, and industrial electrification can reduce exposure to fossil process heat where it is technically and economically feasible. In this sense, electrification turns renewable generation into practical fossil-fuel displacement.

The early signs are visible. EUSEW 2026 referred to 500,000 electric cars registered in the EU in the first quarter of 2026, and to more than 400,000 residential heat pumps sold in France, Germany and

Poland combined. These figures show direction, but also the scale of the remaining task. Transport, heating, buildings and industry will not electrify through policy ambition alone.

The current barriers are practical. Electrification requires grid capacity, affordable electricity, charging infrastructure, heat-pump deployment, industrial investment, installer skills and public confidence. If electricity remains expensive compared with gas, the economic case weakens. If connection queues are long, investment slows. If installers and technical skills are missing, households and companies cannot act even when the technology exists.

The roadmap is therefore clear. Europe needs to align clean-power generation with faster grid connections, fairer electricity pricing, targeted industrial support, clean-heat deployment, charging infrastructure, skills development and finance. Electrification must be treated as a system transition, not as a collection of separate consumer choices.

The conclusion is direct: electrification is the mechanism that turns clean electricity into lower fossil-fuel use across the economy. It connects renewables to real economic use and reduces fossil-fuel exposure across transport, buildings, heat, industry and digital infrastructure.

# SMART AND DECENTRALISED GRIDS:

## The infrastructure of autonomy



Grids were presented as one of the decisive constraints of the next energy phase. The question is whether electricity can reach the right place, at the right time, under conditions that allow households, cities, industry and investors to act.

This is why grids have become strategic infrastructure. Renewable electricity only becomes system capacity if it can be connected, transported and used. Without sufficient grid capacity, clean energy remains stranded, electrification slows down and industrial projects lose credibility.

The pressure is strongest at distribution level. Heat pumps, rooftop solar, electric vehicles, batteries, data centres, industrial electrification and energy communities all connect locally. Distribution grids are therefore no longer passive infrastructure at the edge of the system. They are becoming the operating layer of the clean-energy economy.

Cities can no longer plan climate action while distribution system operators plan grids separately. Electrification, decentralised generation and local flexibility require a common planning logic. The city-grid interface must move from ad hoc coordination towards long-term strategic collaboration.

Grid congestion is already becoming an economic constraint. Long connection queues do not only delay technical upgrades. They affect competitiveness, local development, climate targets and the credibility of electrification. Where companies, municipalities or households cannot connect new demand or generation, the transition slows down in practice.

Smart and decentralised grids are a way to make the clean-energy system governable. Better forecasting, smart meters, digital twins, automated grid management and data sharing can help use existing infrastructure more efficiently. But digitalisation also creates new risks. Cybersecurity, data governance, inverter security, software control and trusted suppliers now belong to the energy-security agenda.

Europe needs stronger distribution grids, faster connection processes, anticipatory investment, common city-DSO planning, secure data sharing, digital grid-management tools and cybersecurity standards. Physical capacity and digital control have to develop together.

Strategic autonomy will be built through networks. Europe's clean-energy system needs grids that can connect decentralised generation, manage decentralised demand and remain secure under digital and geopolitical pressure.



# FLEXIBILITY AND STORAGE:

## Making renewables system-ready



A system with high shares of wind and solar needs the ability to shift, store and release electricity when it is needed. This is the role of flexibility and storage. They turn variable renewable generation into usable system capacity.

Without sufficient flexibility, Europe faces higher curtailment, more fossil backup, weaker investment signals and greater price volatility. The system must be able to absorb renewable output and make it available across time.

Flexibility appeared across several EUSEW 2026 themes: batteries, demand response, smart charging, industrial load shifting, local consumption, energy communities and storage markets. The common point is simple: renewable-heavy systems need resources that can respond to changing supply and demand.

The scale is significant. Storage forms part of the wider investment challenge for generation, grids and end-use electrification, with annual investment

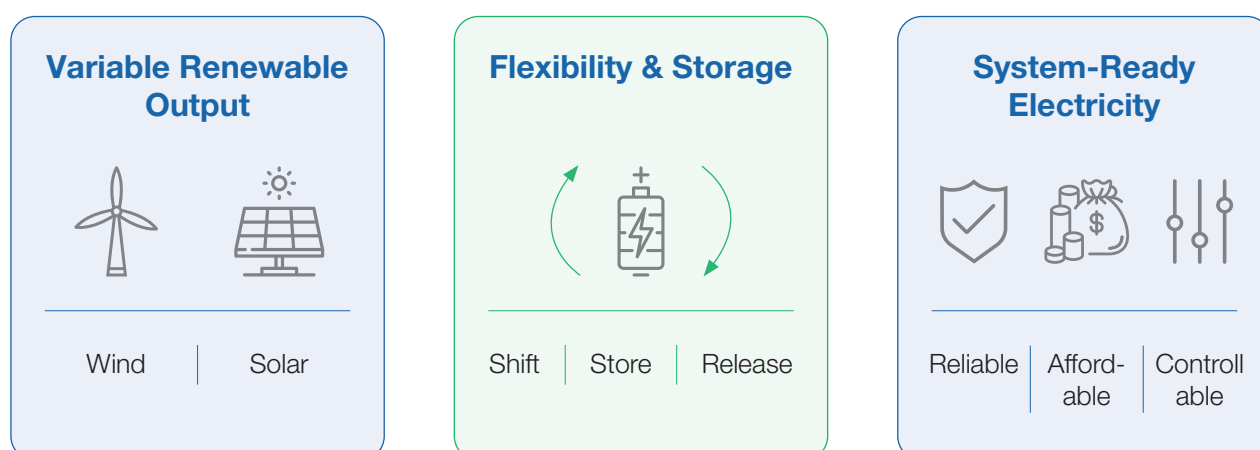
needs of around EUR 660 billion from 2026 to 2030 and close to EUR 700 billion per year beyond 2030.

Digital systems can help coordinate flexibility, but they are not enough on their own. Smart meters, forecasting tools and automated control only deliver value when the market design allows flexible assets to be used and rewarded.

Europe needs more storage deployment, stronger demand-side response, smart charging, flexible industrial demand, local flexibility markets, and tariffs and contracts that reward system value. Flexibility must move from technical add-on to core market principle.

Flexibility and storage are what make renewables system-ready. They allow a renewable-heavy system to remain reliable, affordable and controllable. Without them, Europe may build renewable capacity without building a resilient energy system.

## Flexibility turns renewable output into usable system capacity



# RESILIENT SUPPLY CHAINS:

## Avoiding new clean-tech dependencies



A clean-energy system depends on materials, components, processing capacity, manufacturing ecosystems, software and trusted suppliers. Europe can reduce exposure to imported fossil fuels and still remain vulnerable if it depends too heavily on external actors for solar panels, batteries, inverters, critical raw materials, grid components, electrolyzers or clean-tech manufacturing.

Critical raw materials are the most visible part of this problem. Mining access alone is insufficient. The recurring missing links are of a practical nature: processing, refining, component manufacturing, recycling, offtake agreements, financing tools and stable industrial demand.

A raw-material project does not become bankable only because it is strategically desirable. It needs credible buyers, long-term offtake, reliable infrastructure, permits, community acceptance and a clear revenue model. Without those conditions, even politically important projects can remain stuck.

The same applies to industrial capacity. China's strength is not only that it has access to minerals. Its advantage lies in processing, refining, component production, battery assembly and manufacturing scale. Europe therefore needs to look beyond extraction and ask which parts of the value chain it can finance, host, control or secure through reliable partnerships.

Circularity is important, but it does not remove the need for primary supply in the near term. Recycling, second-life batteries and better material recovery can reduce future pressure, but deployment over the next years still requires new materials and processing capacity. Europe needs both: diversified primary supply and stronger circular systems.

Resource-rich countries increasingly reject being treated as suppliers of raw inputs. Resilient supply chains require industrialisation, skills, technology transfer, infrastructure, processing and local value creation in partner countries. Otherwise, strategic partnerships risk repeating old extraction patterns under a clean-energy label.

Resilient supply chains are the external and industrial foundation of Europe's clean-energy transition. Europe does not need full self-sufficiency. It needs to know which dependencies are acceptable, which are dangerous, and which value chains must be actively shaped before the next crisis exposes them.

” Resilient supply chains require fairness and trust.



# CONCLUSION:

## CIRUU Energy's Reading



Europe has moved from crisis response to transition execution. That phase is more difficult. The main risks are practical: projects that remain financially fragile, infrastructure that is not ready, supply chains that are politically exposed, local actors that lack capacity, and citizens who may experience the transition as costly or confusing. In this regard, the conference at times seemed overly optimistic.

The concept of “strategic autonomy” must be handled carefully. Read narrowly, it can become a defensive geopolitical concept: a language of self-sufficiency, bloc logic and industrial closure. History has shown that this strategy can be dangerous. Europe cannot build a clean-energy system by retreating from interdependence. It will continue to need materials, technologies, markets, finance, infrastructure corridors and international partners.

The better reading is diversified and flexible interdependence. Europe should reduce dangerous dependencies without pretending that independence is possible or even desirable. The practical task is to know which dependencies are manageable, which are strategically risky, and which partnerships can remain stable under pressure.

From this perspective, the next phase requires that strategic priorities must become investable projects. Infrastructure must be planned before it becomes a bottleneck. Supply chains must be built on trust, transparency and fair value creation for all partners.

Local actors, such as municipalities, SMEs, installers, and grid operators need the capacity to deliver. Citizens need practical routes into clean heat, renovation, efficiency and electrification without being left with unfair costs or confusing choices.

For CIRUU Energy, this is where strategic intelligence can add value. Organisations active in the energy transition need to interpret policy signals in relation to practical delivery conditions: infrastructure readiness, emerging dependencies, partnership quality, investment risk and local implementation capacity. The task is not to predict everything, but to identify where pressure is building early enough to act.

CIRUU Energy supports this transition and works to help make it successful across the energy value chain: from policy interpretation and energy-security analysis to supply-chain risk, partnership assessment and strategic communication.

For interest in CIRUU Energy's services, please visit our website and book a consultation.

**A full comprehensive report on EUSEW 2026 is available for purchase. Please get in touch for further information.**

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