A clean break: leaving fossil volatility for clean tech security

Shifting from the vulnerability of fossil fuel dependency toward home-grown manufacturing and more resilient clean tech imports

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About

This report shows how Europe can shift from the vulnerability of fossil fuel dependency toward home-grown manufacturing and more resilient clean tech imports. By leveraging electrification, it outlines a pathway toward a future of greater energy security and self-sufficiency for the continent.

Read the report online at:
https://ember-energy.org/latest-insights/a-clean-break-leaving-fossil-volatility-for-clean-tech-security/

Key highlights

>100%

Domestic manufacturing can meet more than 100% of EU demand for wind turbines, EVs and heat pumps.

€30 billion

In 2025, European exports of wind turbines and EVs were worth just over €30 billion.

2.3 million

By 2030, 2.3 million Europeans could be employed by the clean tech industry.

Domestic clean tech can propel Europe towards long-term energy security

The US-Israel war with Iran and the subsequent energy crisis have once again exposed Europe's vulnerability from its heavy reliance on imported fossil fuels. Accelerating electrification offers a two-pronged solution: it replaces imported energy with domestic clean power while strengthening Europe's industrial competitiveness and boosting demand for homegrown technologies.

Some of this transition can be delivered by Europe's domestic manufacturing base which supports millions of jobs and can already meet domestic demand for key clean technologies such as heat pumps, wind turbines and EVs. Electrifying the economy also fundamentally changes the nature of Europe's energy requirements; moving away from volatile fuel consumption toward a more resilient, infrastructure-based system that reduces long-term risks.

01

In the first two months of the US-Israel war with Iran, fossil fuel price spikes cost Europe an additional €18.5 billion

The EU remains heavily dependent on fossil fuels, with 85% of its supply imported from outside the bloc. This continued reliance leaves Europe's economy and cost of living highly vulnerable to geopolitical disruptions beyond its control.

02 Electrification provides an alternative: in 2025 alone, EVs in Europe avoided the consumption of 67 million barrels of oil worth €4.1 billion

Further deployment of clean tech such as electric vehicles, heat pumps, clean power and storage will continue lowering the fossil import bills of Europeans.

03 Europe can domestically produce twice as many electric vehicles and wind turbines as it deploys annually and triple the number for heat pumps

More than 4.6 million electric vehicles (EV) can be built in Europe each year, against a demand of 2.6 million. 93% of EV battery cells can be domestically made. For wind turbines the manufacturing potential is 30 GW annually, but only 14 GW were installed in 2025. EU manufacturers can also produce 7.5 million heat pumps every year, almost three times the total annual demand.

04 The clean tech manufacturing industry already employs around 1.8 million people, and could grow to 2.3 million by 2030

Europe's wind industry alone directly and indirectly supports 443,000 jobs while the heat pump industry supports another 433,000 jobs. This manufacturing base also generates significant export value: in 2025, Europe exported €3 billion worth of wind turbines, and €29 billion worth of EVs.

05 One shipment of solar panels produces the electricity equivalent of one LNG tanker. But unlike LNG, once imported, solar panels produce power for over 20 years

Even with a reliance on clean tech imports, the dependency is fundamentally different to fossil fuels. Fossil fuels need to be imported every year to keep producing energy, cannot be recycled and any supply chain disruption immediately impacts consumers. The clean tech imports produce energy for years after their import and keep producing energy even if supply chains stop.

The EU has a strong clean tech manufacturing base

2.3 million jobs
could be secured in 2030 by expanding clean tech manufacturing in the EU.

€4.1 billion saved
in fossil import costs by EVs in Europe in 2025, avoiding 67 million barrels of oil consumption.

€3.1 bn
was the value of the EU's wind turbine exports in 2025.

4.6 million EVs
can be built in Europe each year - comfortably higher than the current demand of around 2.6 million.

30 GW wind
turbine capacity can be produced by European manufacturers every year, double the amount installed in 2025.

€28.7 bn
was the value of the EU's EV exports in 2025.

270 assemblers
of heat pumps in Europe.

93% battery cell demand
for EVs in the EU can be met by domestic manufacturing.

7.5 million heat pumps
can be manufactured in the EU every year, almost three times the total annual demand.

Source: 'A clean break: leaving fossil volatility for clean tech security', Ember (2026)

> The US-Israel war with Iran has once again exposed how vulnerable Europe remains to events beyond its control. But the data offers a more encouraging picture. Europe already has a strong clean tech manufacturing base, and where imports are needed, the risks are fundamentally different than in the case of fossil fuels. A solar panel is imported once and generates domestic electricity for decades; fossil fuels require continuous imports, and any disruption immediately puts the lights out. Electrification is not a trade-off between security and affordability – it is the path to both.

Tom Harrison
Energy Analyst, Ember

Chapter 1

Domestic demand for some key clean technologies can be met by products assembled in Europe

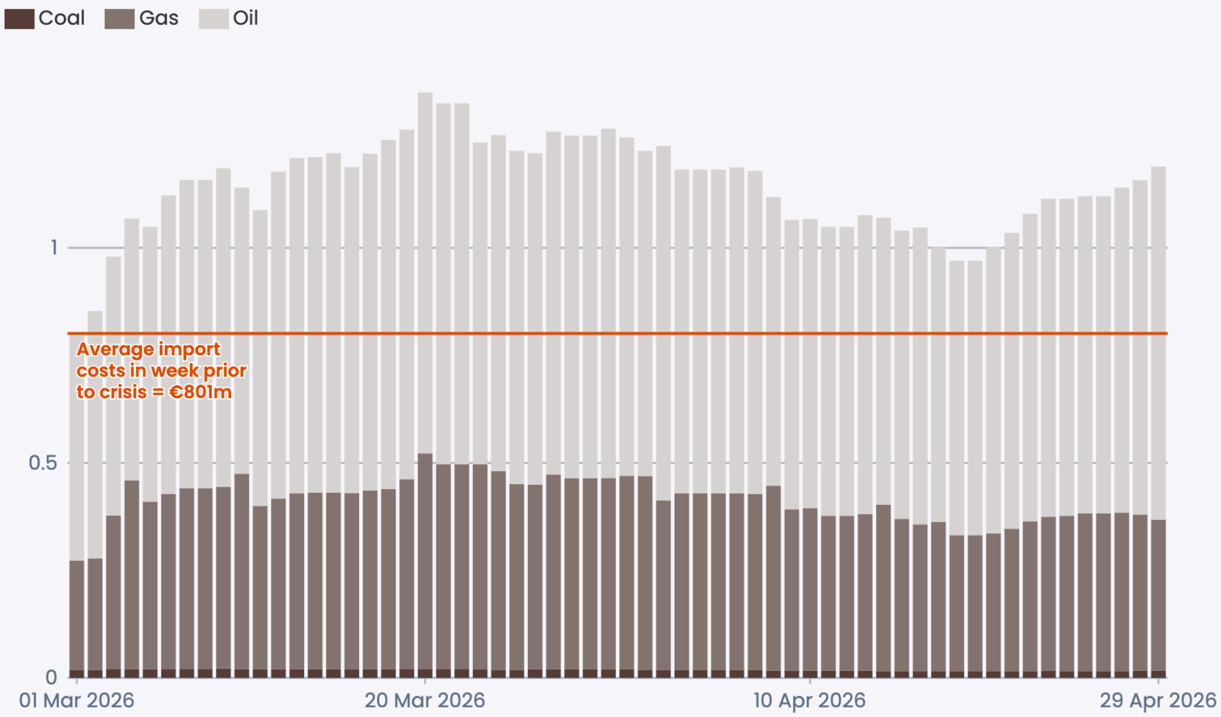
While electrification offers Europe a clear path out of its risky and expensive fossil fuel dependency, concerns remain that it might simply trade one import reliance for another. However, Europe is already building from a position of strength. With a manufacturing base capable of assembling 4.6 million electric vehicles and 7.5 million heat pumps annually, the EU is already proving it can meet much of its clean tech needs at home.

The EU remains heavily dependent on fossil fuels to meet its energy needs. However, due to Europe's limited domestic supply, 85% of the fossil fuels it consumes for electricity, heating and transport are imported from outside the EU. This means that, across the whole economy, 57% of all energy consumed in the EU comes from imported fossil fuels.

As a consequence of Europe's high fossil import dependency, its costs of living and economic competitiveness are directly linked to volatile energy markets over which it has little control. Shocks in these markets are expensive. Between 2021 and 2024 fossil fuel imports cost the EU €1.8 trillion, and in the first 60 days since the conflict in Iran began and global fossil fuel prices spiked, fossil imports have cost Europe an additional €18.5 billion. Europe currently has little option but to incur these costs because its fossil-based energy system requires a constant supply of imports. Yet, as demonstrated most recently by the closure of the Hormuz Strait, Europe has very little power to ensure these fossil fuel flows remain consistent and predictable.

In the first 60 days since the conflict in Iran began, fossil imports have cost the EU an additional €18.5 bn

Daily import cost (€ billion), 2026



Source: Montel, European Commission
Trading day shown on x-axis.
Methodology: 'A clean break: leaving fossil volatility for clean tech security', Ember (2026)

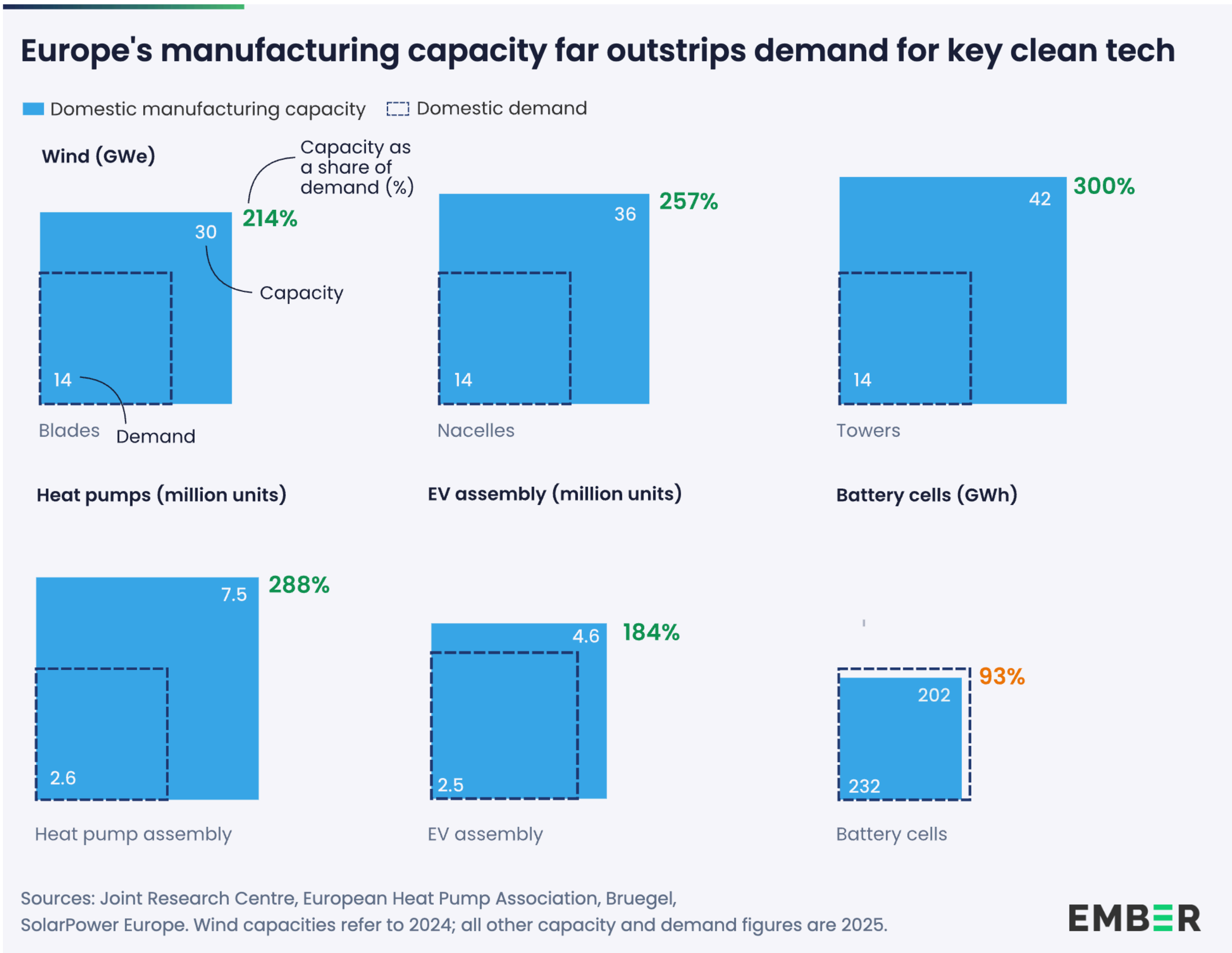
A viable path out of fossil import dependency is available to Europe through clean power and electrification. Clean technologies are already delivering results. In 2025, EVs in Europe avoided 67 million barrels of oil consumption, lowering oil import costs by €4.1 billion. EVs and other clean tech will continue to provide this service, helping to shield the European economy from the very worst impacts of the current fossil fuel crisis.

However, as clean tech manufacturing has surged outside of Europe, especially in Asia, concerns have grown that electrifying Europe's economy will require the bloc to become entirely dependent on clean tech imports from a few major exporters. There is a further fear that this dependency would put the EU at a significant security and geopolitical disadvantage. Indeed the President of the European Commission, Ursula von der Leyen has warned of the risk of trade "interdependencies" being "leveraged and weaponised", and the recently announced Industrial Accelerator Act aims to incentivise production and consumption of EU-made clean technology.

Yet it is important to recognise that Europe already has a strong clean tech manufacturing base which will not only help to curb import needs in the short term but will also provide a strong foundation from which to expand and develop European industry in the future.

1.1 Domestic manufacturing already exceeds current demand for wind turbines, electric vehicles and heat pumps

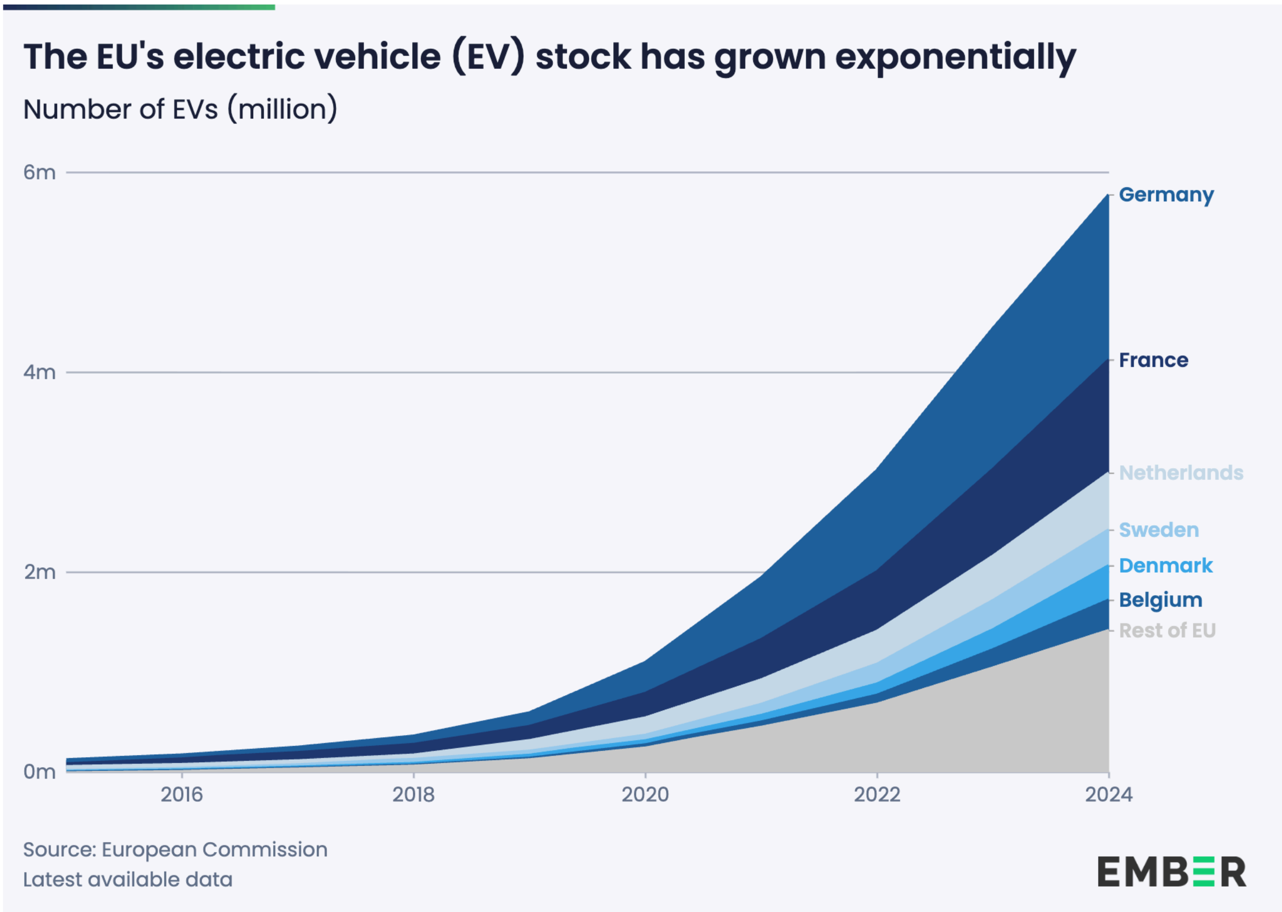
From the extraction of mineral resources, through to the manufacture of sub-components and finally to the assembly of the end product, clean tech manufacturing is global in scale relying on frequent movement and exchange of materials across borders. As is the case for many goods consumed within Europe, the EU's domestic clean tech manufacturing landscape does not cover the entire value chain of all technologies. However, for several key clean technologies, typically at the end of the value chain (e.g. final product assembly) Europe has a strong existing manufacturing base. This means that European manufacturing can meet a significant share of domestic demand at present.



Wind turbines: wind turbines are complex structures made up of three key components: towers, nacelles and blades. These components themselves are built from several sub-components, particularly nacelles which contain generators, gearboxes, transformers as well as many other elements. Analysis of Europe's wind sector has shown that its supply chains are very globalised as sub-components are produced both domestically as well as imported. Often companies headquartered in the EU will import sub-components from factories they own outside of Europe. However, when it comes to production of the major turbine components, the EU can meet all of its demand through domestic manufacturing. For blades, nacelles and towers, in total EU manufacturers can produce equivalent to 30 GW, 36 GW and 42 GW of turbine capacity respectively (in 2024). This far exceeds the level of wind deployment in 2025 (14 GW) and allows the EU to be a net exporter of wind turbine equipment to the rest of the world. Indeed, in 2025 the Danish manufacturer Vestas was the largest supplier of onshore wind turbines outside of China, while Germany-based Siemens Gamesa was the largest supplier of offshore turbines across all global markets.

Heat pumps: similarly to wind turbines, heat pumps are composed of several components including compressors, heat exchangers, fans and electronic controls. Many of these components are not unique to heat pumps and are manufactured for multiple applications in different markets across the world. As a result, many of the largest manufacturers of heat pump components are located outside of Europe. For this reason, in Europe, the supply chain of components used in heat pumps is a mix of domestic manufacturing and imports. While components can be moved between regions relatively easily, complete heat pump units are far more bulky and harder to transport. Therefore the majority of heat pumps sold in the EU are domestically assembled. There are around 270 heat pump manufacturers in Europe spanning the value chain from component production to final unit assembly and installation. At maximum capacity, EU manufacturers can currently produce around 7.5 million heat pumps each year. This far exceeds current domestic demand for heat pumps – in 2025, 2.6 million units were installed across the EU.

Electric vehicle (EV) assembly: Europe's automobile industry is well developed with highly integrated supply chains, ensuring that much of the region's demand for vehicles is met by domestic manufacturing. EVs and internal combustion engine vehicles (ICEV) share many of the same components, differing primarily in their drivetrains. EVs rely on battery packs, leading to different supply chain requirements than ICEVs, however, this does not limit Europe's capacity to assemble the EVs domestically. As consumer demand for EVs has grown, EU automakers have used existing ICEV assembly capacity or built new capacity to assemble EVs. Currently EU Member States have a total annual manufacturing capacity of 4.6 million EVs. This is comfortably higher than current demand of around 2.5 million EVs and allows the EU to be a net exporter of EVs.



Battery cells: at present, total EU demand for EV batteries is around 250 GWhe. EV batteries are installed as packs of cells and these battery cells have four major components: cathodes, anodes, electrolytes and separators. Europe has limited manufacturing capacity for cathodes and anodes but can meet a significant share of its demand for electrolytes and separators – total current capacity is 345 GWhe and 220 GWhe respectively. In addition to this Europe has 232 GWhe of EV battery cell production capacity – enough to meet almost all demand (93%) for EV batteries.

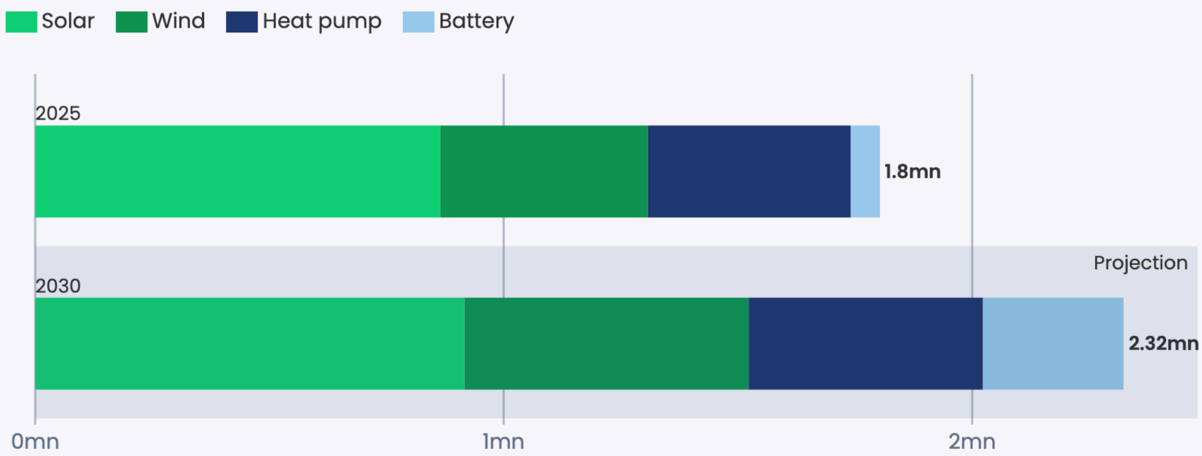
The scale of manufacturing for some of these technologies, in particular wind turbines and EVs, means that clean tech exports provide significant value to the European economy. In 2025, EU wind turbine exports were worth €3.1 billion while exports of EVs amounted to €28.7 billion.

1.2 Expanding clean tech manufacturing could secure over 2.3 million European jobs by 2030

The clean tech manufacturing industry is an important element of the European economy and a significant employer across the region. Europe's wind industry directly and indirectly supports 443,000 jobs while the heat pump industry supports another 433,000 jobs. The solar industry supports almost as many jobs again, employing 865,000 people directly and indirectly. Currently, Europe's battery industry supports 62,000 jobs; however, with the right investment, this number could swell to 300,000 by 2030. Indeed, according to industry bodies, employment across the clean tech industry is set to continue its growth, meaning that by 2030 over 2.3 million people could be employed through clean tech manufacturing.

Clean tech manufacturing jobs in Europe could exceed 2.3 million by 2030

Number of jobs in four clean tech industries (million)

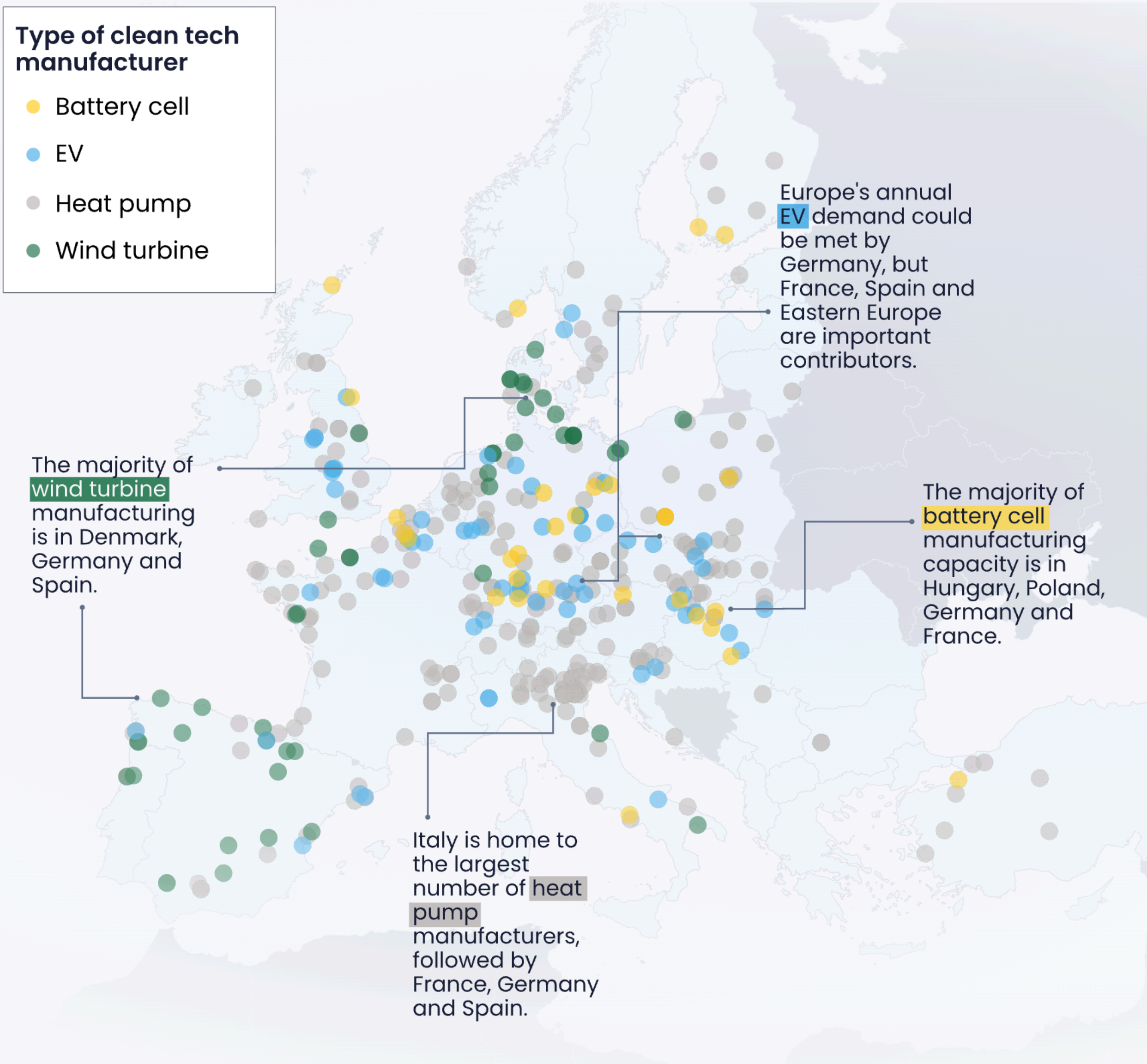


Source: SolarPower Europe, WindEurope, European Heat Pump Association, New Automotive

At present, clean tech manufacturing is widespread across Europe; in fact, 20 Member States are home to at least one clean tech manufacturing site. Wind turbine manufacturing is concentrated in Northern Europe and Spain, while battery cell production is more widespread, covering Central and Eastern Europe as well. EV manufacturing occurs across most of the region, with the exception of the Western

Balkan countries; however, heat pump production is the most widely distributed industry, being found in the large majority of European countries.

Clean tech manufacturing is found in 20 EU Member States



Sources: Bruegel, European Heat Pump Association, NewAutomotive

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Chapter 2

Clean technology imports are fundamentally different to fossil imports

Europe is still dependent on imports for some key clean tech sub-components. Domestic electrode manufacturing can only meet 1% of demand while 90% of permanent magnets are imported. But the risks of clean tech import dependency are fundamentally different, and more manageable, than those of fossil import dependency.

Europe has the capacity to manufacture some or all of the components of each of the clean technologies discussed here. However, it is generally the case that Europe can only meet its domestic demand at the end of the value chain – assembly of components into the final product. This means that further up their value chains, European clean tech, like many other parts of the economy such as household goods manufacturing, construction and even agriculture, is reliant on imports. In some cases, domestic manufacturing is supplemented by imports from competitive manufacturers overseas, such as the main bearings in wind turbine nacelles or compressors in heat pumps. But for some clean tech components or essential materials, the EU has no manufacturing capacity, meaning short-term import dependency is unavoidable.

However, a reliance on imports of clean tech components carries less risk than Europe's current fossil dependence. An electrified energy system would see a paradigm shift in Europe's import requirements, moving from imports of energy flows to imports of infrastructure stock thereby enabling Europe to supply and consume more of its own energy. In doing so, electrification strengthens and improves European security.

2.1 Europe's clean import dependencies tend to exist further up supply chains

At present, Europe has limited capacity to mine and process many of the critical raw materials used in clean, or any other, technologies across its economy. In addition to this, in recent years, overseas competitors have made strong gains in developing, scaling and cutting production costs of key clean tech components. As a result, the majority of the EU's clean tech manufacturing is assembly of components into the final product – the last stage of the value chain.

Wind turbines: Europe has sufficient capacity to assemble the key components of turbines (blades, nacelles, towers) in order to meet its domestic demand. Many sub-components, such as bearings or transformers, are imported into the EU but are also manufactured domestically meaning Europe is not critically dependent on imports. However, in the case of particular sub-components, such as generators that use permanent magnets, Europe is highly reliant on imports. Permanent magnet generators can be used in any type of turbine but are particularly common in offshore wind turbines. Rare earth elements (REE) are required to produce permanent magnets, but currently Europe has no REE mining capacity and only two REE refining plants. In addition to this, while it is beginning to grow, Europe's permanent magnet manufacturing capacity is low. The combination of these factors means that over 90% of permanent magnets used in the EU are imported.

Battery cells: although Europe can meet most of its demand for battery cells through domestic manufacturing, for some sub-components of battery cells, such as electrodes, the EU has limited production capacity. With only 52 GWh of cathode production and just 3 GWh of anode production – equivalent to around 14% and 1% of domestic demand for battery cells respectively – Europe's battery cell assembly plants are heavily reliant on imports of electrodes. For the sub-components Europe does produce, manufacturers still rely on imports for supply of critical raw materials. For example, lithium, nickel and cobalt are all essential to the production of the type of batteries typically used in European EVs. However, according to the European Commission, Europe possesses 1.2%, 4.2% and 4.4% of global reserves of lithium, nickel and cobalt respectively and only produces 0.1%, 1.5% and 0.7% of the global supply. Refining capacity is also limited, especially in the case of refined lithium where Europe is entirely reliant on imports. The result is that the EU imports almost 80% of the primary raw minerals and over 60% of the processed materials for batteries. While new domestic supply chains of critical raw materials are emerging, in the near-term Europe will remain reliant on imports.

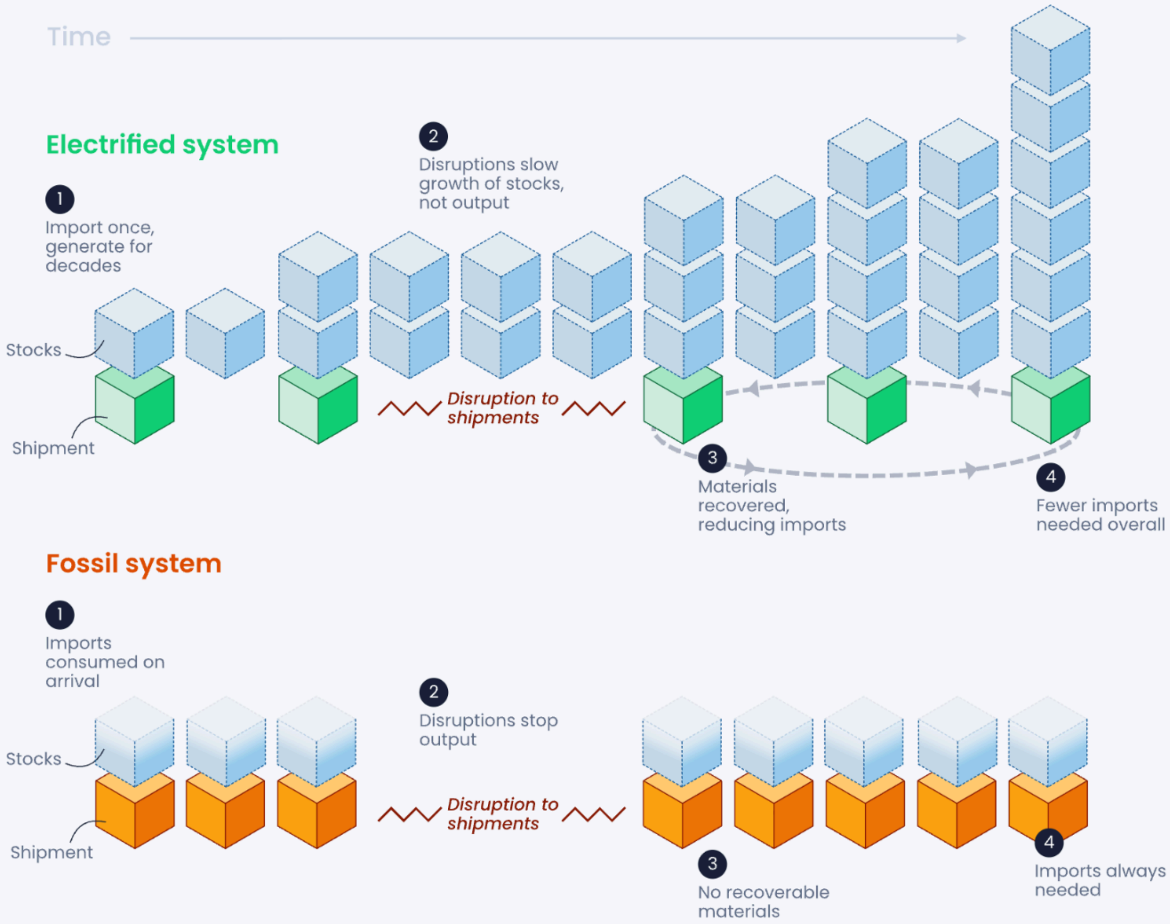
Solar: Unlike other clean technologies, Europe has limited domestic manufacturing capacity throughout the whole value chain of solar panels. There are five key steps in solar panel manufacturing. In order of production, these are: polysilicon, ingots, wafers, cells and finally modules. Currently the EU has manufacturing capacity for three steps of this value chain with 9 GWe, 4.8 GWe and 12.2 GWe of annual capacity for polysilicon, cells and modules respectively. In 2025, the EU added around 65 GW of solar capacity, meaning there is significant shortfall between its domestic manufacturing and demand, leaving Europe reliant on solar panel imports.

2.2 Adopting clean tech and electrifying Europe boosts self-reliance and builds resilience to disruption

While Europe remains dependent on certain clean tech components, electrification is not a simple swap of fossil fuel dependency for another; rather, it fundamentally changes the nature of risk. This is because there is a core difference between the imports required to build an electricity-based energy system, and those required to operate a fossil-based energy system. Electricity-based energy systems import stock of infrastructure, which is not lost on consumption, while fossil-based energy systems must continuously import flows of single-use energy.

Clean tech imports are the building blocks of a secure energy system

The clean energy transition is not a swap of one import for another. It is a shift from importing flows of energy, which is consumed on arrival, to importing stocks of infrastructure, which generates, stores or uses domestic renewable energy for decades.



Unlike fossil imports, clean tech imports...

❶ Accrue

Electrified: Clean technologies only need to be imported once – each import permanently adds to capacity.

Fossil: Fossil fuels are consumed on arrival and must be constantly re-supplied.

❷ Endure

Electrified: Supply chain shocks only slow stock growth – installed infrastructure keeps generating.

Fossil: Supply chain shocks have an immediate impact on energy supply and prices, damaging economic activity.

❸ Recycle

Electrified: As stock of clean tech grows, so do the supply of recoverable materials – steel, lithium, rare earths – reducing future import needs.

Fossil: Fossil fuels leave no recoverable material. Import requirements can only fall through demand reduction.

❹ Reduce

Electrified: Once imported, clean technologies can generate or consume domestic clean electricity – permanently reducing the total volume of imports the economy requires, lowering the import risks.

Fossil: Energy must be continually re-imported in large volumes. Total import requirements never fall and risk always remains high.

Source: Ember
Infographic by Lauren Orso.

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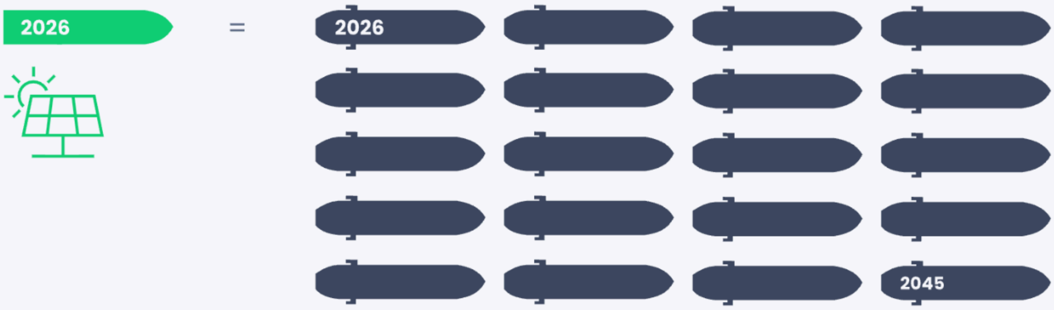
This difference has four important practical impacts:

Clean tech imports accrue in stock over time. Unlike fossil fuels, clean tech is not consumed on use and therefore continues to provide value to an economy after the point of import. For example, once imported and installed, a solar panel will generate electricity for decades without need of further imports. Repeated imports therefore build up stocks of clean tech, increasing a country's ability to produce and efficiently consume domestic energy and improving self-sufficiency over time. By contrast, fossil fuels are lost upon use meaning that imports must be constant just to maintain the status quo. Fossil fuel imports provide momentary value and do not increase self-sufficiency over time.

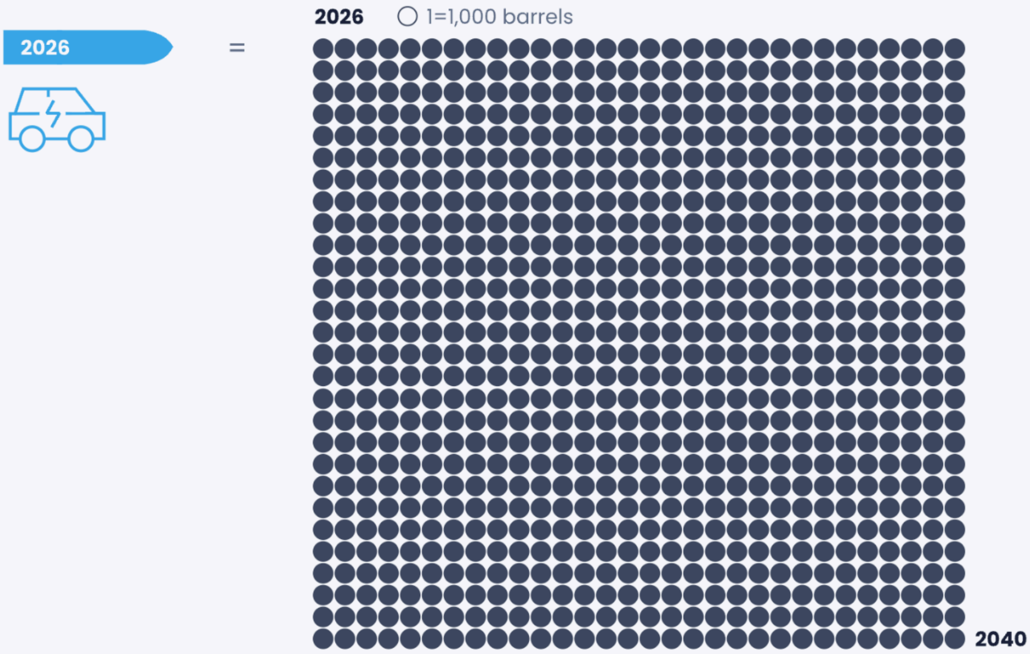
Clean tech import needs are lower in volume than the fossil fuels they replace. Only a single initial import is required for clean tech to begin continually supplying or consuming electricity. For example, to generate 10 TWh of electricity over 20 years requires just a single shipment of solar panels in the first year but a tanker of LNG annually for the entire period. Similarly, a single shipment of EVs can displace 56,000 barrels of crude oil imports each year or a total of 840,000 barrels across a 15-year lifespan. As Europe displaces fossil fuels, this declining import volume will reduce trade disruption risk and make energy prices less sensitive to geopolitical shocks.

One import of clean technology generates years of energy impact

One shipment of solar panels generates 10 TWh of electricity over 20 years — natural gas needs an LNG tanker every single year



One shipment of EVs can displace 840,000 barrels of crude oil over 15 years — 56,000 barrels every single year



Solar estimates assume 600 W panels, 180 panels per TEU container, 4,500 TEUs per shipment, a 12% capacity factor. LNG comparison assumes 72,000 tonnes LNG per tanker and 50% gas plant efficiency. EV estimates assume 10,000 EVs per shipment replacing ICE vehicles driving 12,000 km annually at 7.1 L/100 km fuel economy, including 4% refining losses.

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Clean tech imports build stocks of critical materials that can be recycled. Clean tech imports contain embedded materials such as the lithium in battery cell components or rare earth elements in permanent magnets. These materials accumulate as stocks of clean tech grow. With the introduction of new and improved recycling capacity and the development of circular economies, Europe could extract and reuse these materials reducing import requirements. Indeed, European companies are already establishing domestic supply chains of rare earth elements derived from recycled clean tech waste with the goal of meeting 30% of demand by 2030. Fossil imports, by contrast, leave no residual material stock and import requirements can only fall through demand reduction.

Clean tech imports allow energy systems to endure supply disruptions. If clean tech imports are halted, only the growth of stocks is affected – existing infrastructure keeps generating energy, powering cars and heating homes – and the economy keeps functioning. However, if LNG or crude oil shipments stop, fuel prices spike and energy supplies fail quickly. Stockpiling to build a buffer against disruption also favours clean tech: solar panels require no specialised storage, while fossil fuel infrastructure is expensive and limited. Indeed, after only two months of disruption, Europe's oil reserves are heavily depleted exposing it to further fuel shocks, while in the recent past, Europe has amassed 40 GW of solar panels in its warehouses – enough to cover the best part of Europe's annual solar growth.

Inverters and cybersecurity

While energy systems that depend on clean tech imports are less vulnerable to trade disruption, some of these clean technologies bring different types of risk.

The security of solar inverters has come under scrutiny, particularly their potential vulnerability to cyber-attacks. Solar panels use inverters that convert generated power into usable electricity. In 2024, it was estimated that 80% of inverters installed in the EU were manufactured overseas. This has raised concerns that manufacturers acting under the direction of nation states could interfere with solar power production remotely. Even the threat of such action would provide the controlling country with significant leverage.

However, there are several factors that can mitigate this risk. Firstly, it is not in the interest of an exporting country to exert such a level of control as doing so would severely harm their reputation globally, potentially damaging many other trade relationships. Secondly, the EU has existing solar inverter production capacity meaning domestic inverters can be employed in the highest-risk sectors such as grid-scale projects or defence. Finally, the EU already has cybersecurity protocols in place and can strengthen or expand such regulation if necessary.

Chapter 3

Recommendations

Europe has the tools, the manufacturing base and the policy levers to accelerate its clean tech transition. The following recommendations outline the steps needed to strengthen domestic production, reduce import risks and build long-term energy resilience.

1. **Simple local content criteria** in public procurement, auctions and support schemes. Align European public finance with domestic manufacturing objectives.
2. **"Made in Europe" requirements for security-critical systems**, such as in military or key grid balancing functions, but allowing more flexibility in e.g. household systems. This applies only to components with software – such as solar inverters and steering modules of battery storage units.
3. **Treat defence spending as a catalyst for critical clean tech projects**, including manufacturing and raw material sourcing and recycling. Use the next EU budget to fund projects across the Critical Raw Materials supply chain. Allocate part of the 1.5% portion of the NATO spending goal to the protection of civilian energy infrastructure.
4. **Ensure tech transfer through joint ventures**, using the access to the European single market as leverage in foreign investment projects. This is especially important for Europe's domestic battery manufacturing. Incentivise local benefits in foreign direct investment (FDI) projects.
5. **Build up Europe's domestic recycling capacity** to make Europe a leader in circularity, with a particular focus on permanent magnets and battery components. Enforce stricter control of black mass and scrap metal exports.
6. **Increase Europe's midstream industrial capabilities**, in areas such as permanent magnets, semiconductors, lithium refining. This opens more options for diversification of raw material sourcing.

7. **Promote alignment and institutional partnerships between Europe and its key partners** – such as the G7 – to coordinate financing and improve offtake certainty for clean tech industries, and secure long-term critical raw material supply agreements.
8. **Strengthen Europe's domestic innovation space**, including through startups and R&D, public-private partnerships, in the clean tech sectors. Leverage instruments such as the Scaleup Europe Fund to boost the implementation of domestic innovations in infrastructure projects.
9. **Strategically stockpile clean tech and grid components** to create a buffer against supply disruptions and accelerate grid deployment. Unlike fossil fuels, clean tech requires no specialised storage infrastructure.

The European Commission is already making efforts to reshore more of the clean tech value chain and reduce reliance on imports. The Net-Zero Industry Act, European Critical Raw Materials Act and Industrial Accelerator Act are all steps in the right direction, but need to be implemented quickly and decisively, to both secure domestic clean tech industries, and develop new ones.

Supporting materials

Methodology

Comparison of clean technology and fossil imports

To estimate the number of shipments required to generate 10 TWh electricity over 20 years from solar panels compared with LNG the following assumptions were used.

Solar

- Rated output per solar panel: 600 W
- Solar panels per twenty-foot equivalent unit (TEU) shipping container: 180
- TEUs per container ship: 4,500
- Solar panel capacity factor: 12%

LNG

- Volume LNG per tanker: 72,000 tonnes
- Gas power plant efficiency: 50%

To estimate the volume of crude oil imports avoided by a shipment of EVs it was assumed that a single imported EV would displace all annual petroleum consumption of a single ICE vehicle. The additional assumptions were used:

EVs

- Number of EVs per shipment: 10,000

ICEs

- Average distance travelled annually: 12,000 km
- Average fuel economy: 7.1 L/100 km
- Crude oil to petroleum refining losses: 4%

Increase in EU fossil import costs in the first months of US-Israel war with Iran

Daily average import quantities of coal, oil and gas are calculated using the latest EU import data from Eurostat for Q1-4 2025.

The increase in EU fossil import costs in the first 60 days of the conflict (1 March–29 April) is the difference between:

a) Daily average of imported quantities multiplied by prices as observed in the first 60 days of conflict (1 March–29 April) for corresponding fossil commodity, and;
b) Daily average imported quantities multiplied by prices as observed across the week before the conflict escalated (February 2026).

Fossil commodity prices sourced from Montel.

- The oil price is the settlement price for Brent crude, May 2026 contract.
- The gas price is the day ahead settlement prices for gas delivered at TTF, the benchmark price reference for fossil gas traded in the EU.
- The hard coal price is calculated using the front month settlement price for API 2 Rotterdam coal. The API 2 Rotterdam coal price is the benchmark price reference for hard coal imported into Europe.

Correction note

This report and a graphic within it originally stated that one shipment of EVs can displace 1,400 barrels of crude oil imports each year or a total of 21,000 barrels across a 15-year lifespan. The report and graphic have now been corrected to say that one shipment of EVs can displace 56,000 barrels of crude oil imports each year or a total of 840,000 barrels over a 15-year lifespan.

Acknowledgement

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Cover image

Robotic arms assembling a lithium-ion battery pack for electric vehicles on an automated production line in an Estonian factory.

Credit: SweetBunFactory / Getty Images Plus