Electrifying Europe: the infrastructure opportunity behind the EU action plan

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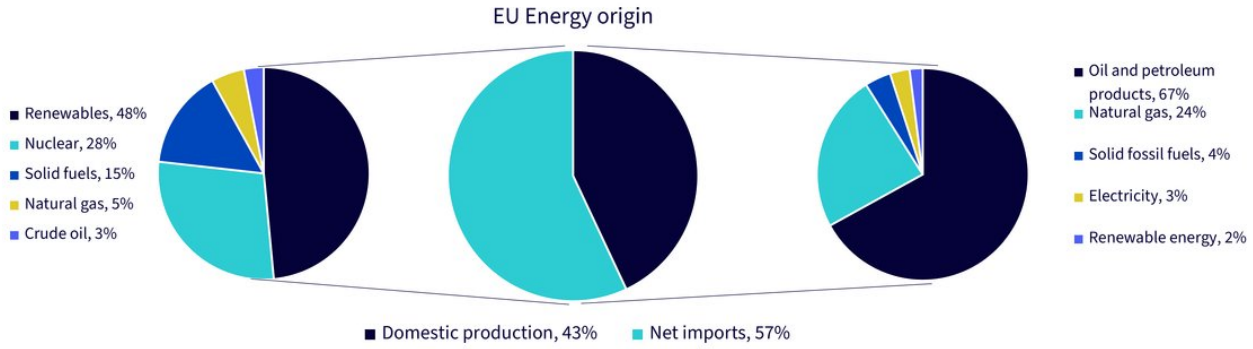
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Key Takeaways

- Electrification supports both energy security and decarbonisation, by shifting more energy demand away from imported fossil fuels towards electricity.
- Europe's grid is a key constraint. The Commission estimates around €1.2 trillion of transmission and distribution investment may be needed by 2040.
- The opportunity extends beyond power generation to the companies supplying and building cables, transformers, substations, switchgear, HVDC systems, inverters and digital grid equipment.
- Where the equipment comes from increasingly matters. EU policy is placing greater emphasis on cybersecurity, supply-chain resilience and European manufacturing capacity.

Europe's energy transition is often presented as a generation story: build more wind and solar, then replace imported fossil fuels. But it is also an energy-security strategy. In 2024, the EU produced 43% of its energy domestically and met the remaining 57% of its needs through net imports, dominated by oil and natural gas. This leaves European households and businesses exposed to geopolitical disruption and volatile global fuel prices.

Figure 1: Europe's energy origin and import mix

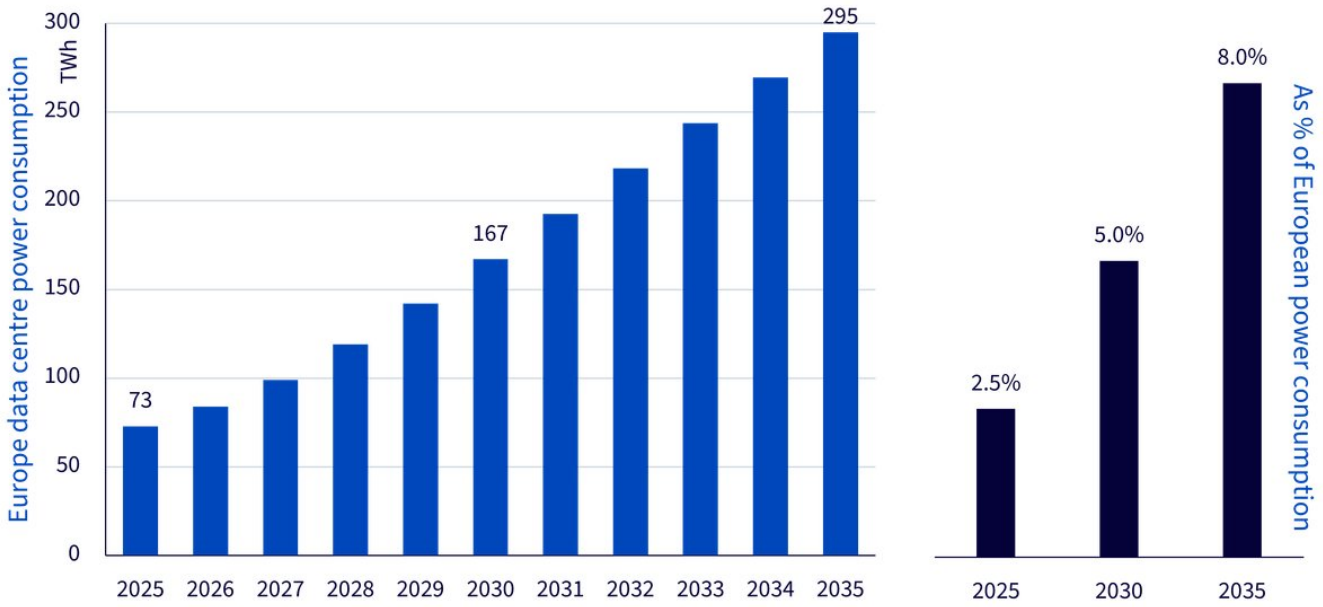


Source: Europe Commission. "In focus: EU energy security explained", 20 April 2026.

Electrification offers one route to reducing that dependence. Europe's electricity system is already considerably cleaner than its overall energy mix, with renewables supplying around half of gross electricity consumption. The EU's Electrification Action Plan seeks to increase electricity's share of final energy use from about 23% today towards an indicative 46% by 2040[1].

That would bring more industrial processes, heating and transport onto the power system. Data centres and other electricity-intensive activities will add further demand. At the same time, the grid must connect more renewable and other low-carbon generation, often located far from existing centres of demand. Europe therefore needs more than additional generating capacity. It also needs networks that can carry and manage larger volumes of electricity.

Figure 2: Rising AI power demand is making grid capacity the binding constraint



Source: Morgan Stanley, 'Powering AI Comes To Europe', 03 December 2025. **Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.**

A power target meets a physical constraint

Around 40% of Europe's distribution grids are more than 40 years old[2], and new grid connections can already take years. The European Commission estimates that Europe may need around €730 billion of investment in distribution grids and €477 billion in transmission, including offshore networks, by 2040. Together, that amounts to roughly €1.2 trillion[3].

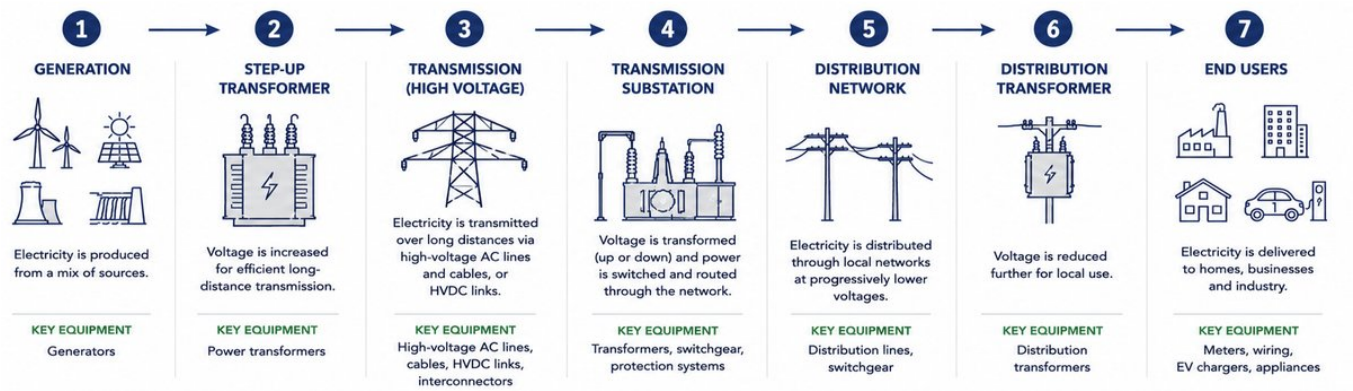
Much of the investment will be needed at distribution level because electrification happens locally. A factory replacing fossil-fuel equipment with electric systems, a depot installing high-power chargers or a neighbourhood adopting heat pumps can all require stronger local networks, substations and transformers. Transmission investment is needed for a different set of pressures: connecting offshore generation, moving power between countries and relieving congestion.

Building more infrastructure will only address part of the problem. A more electrified system must handle two-way power flows from distributed solar, batteries and electric vehicles and respond faster to changes in supply and demand. Smart meters, digital controls and more flexible connections can help operators make better use of existing network capacity.

The opportunity runs through the grid infrastructure chain

The investment reaches companies that supply and build the infrastructure needed for the electricity system. High-voltage and subsea cables connect offshore generation and cross-border interconnectors. Transformers adjust voltage levels. Switchgear protects equipment and controls power flows. Substations, high-voltage direct current (HVDC) systems, power electronics and digital controls are all needed to transmit and manage electricity reliably.

Figure 3: Flow of electricity and key equipment



Source: WisdomTree.

Current order books suggest that demand is already strong. Prysmian reported a transmission backlog of around €16.8 billion at March 2026[4]. Nexans reported an adjusted transmission backlog of €7.9 billion, providing visibility through 2028[5]. Siemens Energy's group order backlog reached a record €154 billion in its second quarter, supported by strong demand in Grid Technologies[6].

Prysmian, Nexans and NKT combine cable manufacturing with engineering and installation capabilities for large transmission and interconnection projects. Siemens Energy supplies transformers, substations, HVDC and other high-voltage technologies. ABB and Schneider Electric cover electrical distribution, switchgear, automation and energy-management systems.

These products are used across renewable, nuclear, storage and interconnection projects. Grid equipment suppliers are therefore less dependent on the success of any single generation technology.

Keeping more of the electrification value chain in Europe

Europe could reduce its dependence on imported fossil fuels only to create new dependencies on imported electrical technologies. Recent EU restrictions on public funding for projects using inverters from 'high-risk countries' show that policymakers are increasingly aware of that risk[7].

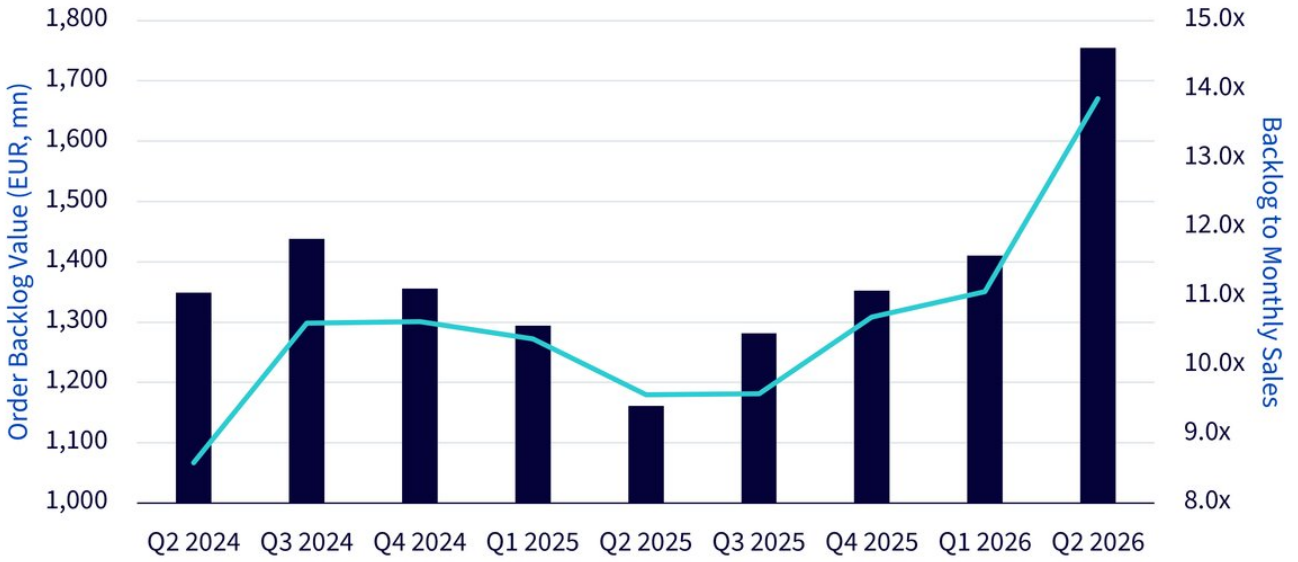
Modern inverters are more than simple hardware components. They connect solar and battery systems to the grid, can receive remote software updates and can influence power flows. Chinese manufacturers have supplied around 70% of Europe's inverters in 2023, a figure also cited in a recent European Commission assessment[8]. European suppliers, such as Germany-based SMA Solar Technology, the world's third-largest solar inverter manufacturer[9], provide an alternative, with products spanning utility-scale solar, storage and grid-integration applications.

Figure 4: 2026 global solar inverter manufacturer ranking

Rank	Headquarters	Manufacturer
1	China	Sungrow
2	China	Huawei
3	Germany	SMA
4	China	Goodwe
5	United States	Enphase
6	China	Hoymiles
7	China	Ginlong Solis
8	Israel	Solaredge
9	Austria	Fronius
10	China	APsystems

Source: Wood Mackenzie. Huawei's ranking is based on Wood Mackenzie's estimation.

Figure 5: SMA Solar Technology backlog recovery gains momentum



Source: Bloomberg, company filings. As of 12 August 2026. **Historical performance is not an indication of future performance and any investments may go down in value.**

Restricting access to established suppliers may raise costs or slow deployment in the short term. But the policy reflects broader concerns about cybersecurity and dependence on foreign suppliers of critical infrastructure.

The proposed Industrial Accelerator Act takes this further. It would introduce European-origin and low-carbon criteria into selected public procurement and support schemes in strategic sectors. Although the proposal is not final legislation, the policy direction is clear: Europe wants more of its infrastructure spending to support European manufacturing and supply-chain capacity.

Conclusion

The Electrification Action Plan points to a substantial investment cycle. Turning policy into spending will depend on project execution and on suppliers adding capacity, but the direction is clear. Raising electricity's share of final energy use from around 23% towards 46% will require far more than new generation.

Renewable power remains essential, but so do the cables, transformers, substations, switchgear, power electronics and digital systems needed to connect, transmit and control it. For investors, the opportunity therefore extends beyond power generation to the companies building the physical backbone of Europe's electrification.

What WisdomTree Offers

The WisdomTree Europe Infrastructure UCITS ETF (WBLD) is designed to capture this opportunity through companies involved in building and supplying Europe's next generation of infrastructure. Its value-chain approach targets exposure to construction firms and key component suppliers, avoids pure operators, and aligns the portfolio more closely with the areas where public funding, procurement rules

and industrial policy may drive growth. The portfolio allocates meaningful exposure to electrical equipment suppliers which are directly relevant to the electrification trend in Europe.

Figure 6: WisdomTree Europe Infrastructure UCITS ETF's coverage in the infrastructure value chain



Source: WisdomTree.

An investment in the WisdomTree Europe Infrastructure UCITS ETF may involve a number of risks. The value of shares in the fund may go down as well as up and investors may lose some or all of the amount invested. The fund provides exposure to companies associated with the European infrastructure theme and may therefore be more sensitive to economic, political, regulatory or industry-specific developments affecting these companies. There is no guarantee that the anticipated growth in European infrastructure investment will materialise or that companies exposed to this theme will benefit from it. Please refer to the KID and prospectus for full details of the risks associated with an investment in the fund.

[1] Source: European Commission, 'Electrification', energy.ec.europa.eu, August 2026.
[2] Source: European Commission, 'Electrification', energy.ec.europa.eu.
[3] Source: European Commission, 'EU guidance on ensuring electricity grids are fit for the future', energy.ec.europa.eu.
[4] Source: Prysmian, Financial Report at 31 March 2026.
[5] Source: Nexans, First-quarter 2026 financial information.
[6] Source: Siemens Energy, Earnings Release Q2 FY2026.
[7] Source: Wood Mackenzie, 'Ban on inverters from high-risk countries, led by China, to affect 14% of EU solar demand through 2030', woodmac.com.
[8] Source: European Commission, Impact Assessment accompanying the proposal for a Regulation amending the Cybersecurity Act, 2026.
[9] Source: Wood Mackenzie, 'Solar inverter manufacturer ranking 2026', woodmac.com.

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