

Policy Brief

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# Affordable, sustainable, secure: The EU's electric future

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Empowering EU Electrification

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July 2026



## Key findings:

- 1 Renewables-powered electrification is the most effective mid- and long-term response to shield consumers from fossil energy crises.** By reducing dependence on fossil fuels, it addresses the root causes of price volatility and supply insecurity, and cuts emissions. The EU's Electrification Action Plan is a chance to accelerate the stagnating electrification at only 23 percent of electricity in final energy consumption.
- 2 An electrification target should complement a strong clean and renewable energy target, be defined with national and sectoral granularity, and be backed by clear data.** A simple set of regularly updated Eurostat national and sectoral KPIs on electricity shares in industry, buildings and transport, heat pump stock and sales, and EV registrations would close the current data gap. In addition, concrete policy measures are needed to drive change.
- 3 Technically feasible and economically viable solutions exist across industry, buildings and transport sectors.** Faster grid connection, carbon contracts for difference and power prices that can compete with those of gas can accelerate uptake in industry, while a clean heat market instrument can drive residential heat pump deployment at scale. Targeted support for low-income households, e.g. socially balanced support schemes for heat pumps and EVs, can ensure the transition is fast and fair.
- 4 For Europe, acting now is about both domestic policy and global positioning.** The EU's electrification agenda is part of a broader global momentum, including an anticipated COP31 target. This global shift is opening new markets for cleantech manufacturing. By securing strong domestic demand, Europe can strengthen its own cleantech industry, positioning itself to lead globally while reinforcing its economy at home.

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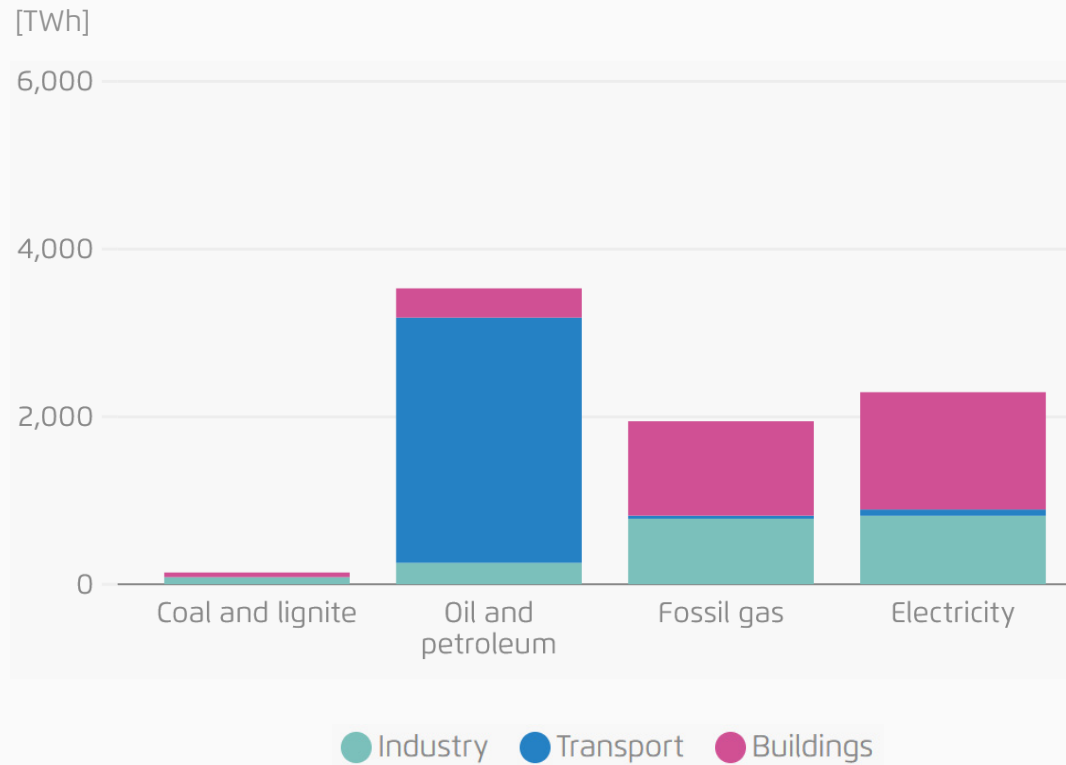
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# The big picture: electrification development in the EU

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# Powering the transport sector with electricity cuts oil use by 80%; electrifying buildings reduces fossil gas use by almost 60%.

Final energy consumption in the EU by sector and fuel in 2024

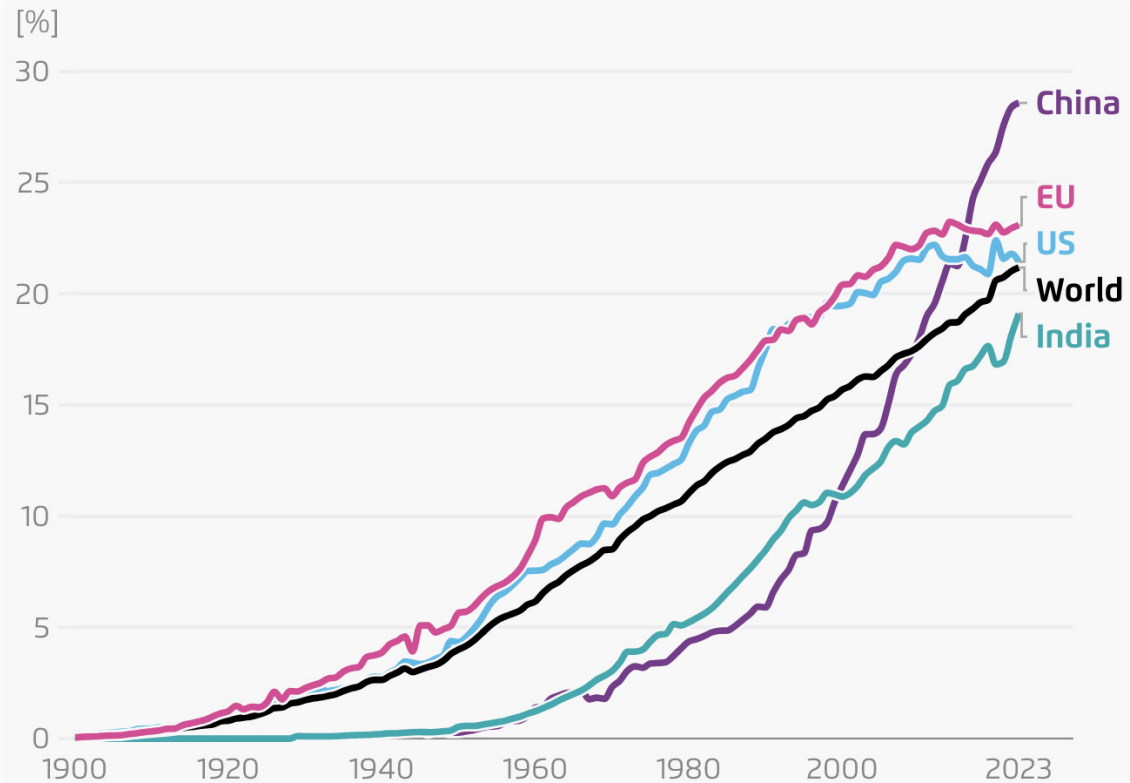


Final energy consumption by fuel and import dependency in the EU in 2024



# While China surpassed Europe already 10 years ago the rest of the world is closing the gap in the global electrification race.

Share of electricity in final energy consumption, 1900–2023



- Despite growing policy ambition, the share of electricity in EU final energy consumption has barely increased. In 2024, the electrification rate stood at 23.4% - broadly in line with a decade-long plateau starting at 23.2% in 2014.
- But looking at more recent developments in 2025, the picture is not uniformly bleak anymore: some indicators point to genuinely dynamic growth:
  - **Heat pumps:** Europe saw more than 2.2 million installations in 2025; in Germany, heat pumps accounted for almost half of the heating market, and UK sales rose by 27%.
  - **Electric vehicles:** EV sales (more than) doubled in Slovakia, Slovenia, Iceland, and Poland. Their overall market share in Europe climbed from 15 to 19%.
- But these encouraging 2025 signals will only appear in the Eurostat electrification statistics at the next annual update in 2027.

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Data – out of date and out of data

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# A limited number of KPIs is sufficient to track electrification progress in the EU properly.

For the EU to reach its electrification ambition, policy measures need to be backed by a set of sector-specific indicators to identify the right points of attack for policy instruments in each member state.

## A limited number of KPIs is sufficient:

### Buildings

1. Share of electricity in buildings final energy consumption
2. Share of heat pumps in buildings stock and heat pump sales

### Industry

1. Share of electricity in industry final energy consumption
2. Share of electricity in the final energy consumption of the subsectors
3. Share of electricity in energy consumption for process heat production

### Transport

1. Share of electricity in transport final energy consumption
2. Share of electric vehicles in stock and registrations in individual, public & commercial transport across all vehicle segments

# Most required data are available already – they just need to be collected earlier, more frequently and made easily accessible.

	Publicly available data per country	Time resolution	Available timeframe at 01.07.2026
Share of electricity in buildings FEC	Yes (Eurostat nrg_bal_s)	annually	1990 - 2024
Share of heat pumps in buildings stock and in sales	No (Numbers are available for 16 European countries from <a href="#">EHPA</a> )	annually	2005 - 2024
Share of electricity in industry FEC	Yes (Eurostat nrg_bal_s)	annually	1990 - 2024
Share of electricity in FEC for process heat	Yes (Eurostat nrg_bal_c)	annually	1990 - 2024
Share of electricity in FEC of the subsectors	Yes (Eurostat nrg_bal_s)	annually	1990 - 2024
Share of electricity in transport FEC	Yes (Eurostat nrg_bal_s)	annually	1990 - 2024
Share of electric vehicles in stock and registrations	Yes (Eurostat road_eqr_carpda)	annually	2013 - 2024

→ **At minimum, the listed KPIs should be:**

- 1) compiled earlier, by the second quarter of the following year,
- 2) reported at quarterly granularity,
- 3) published transparently in the Eurostat database for public access.

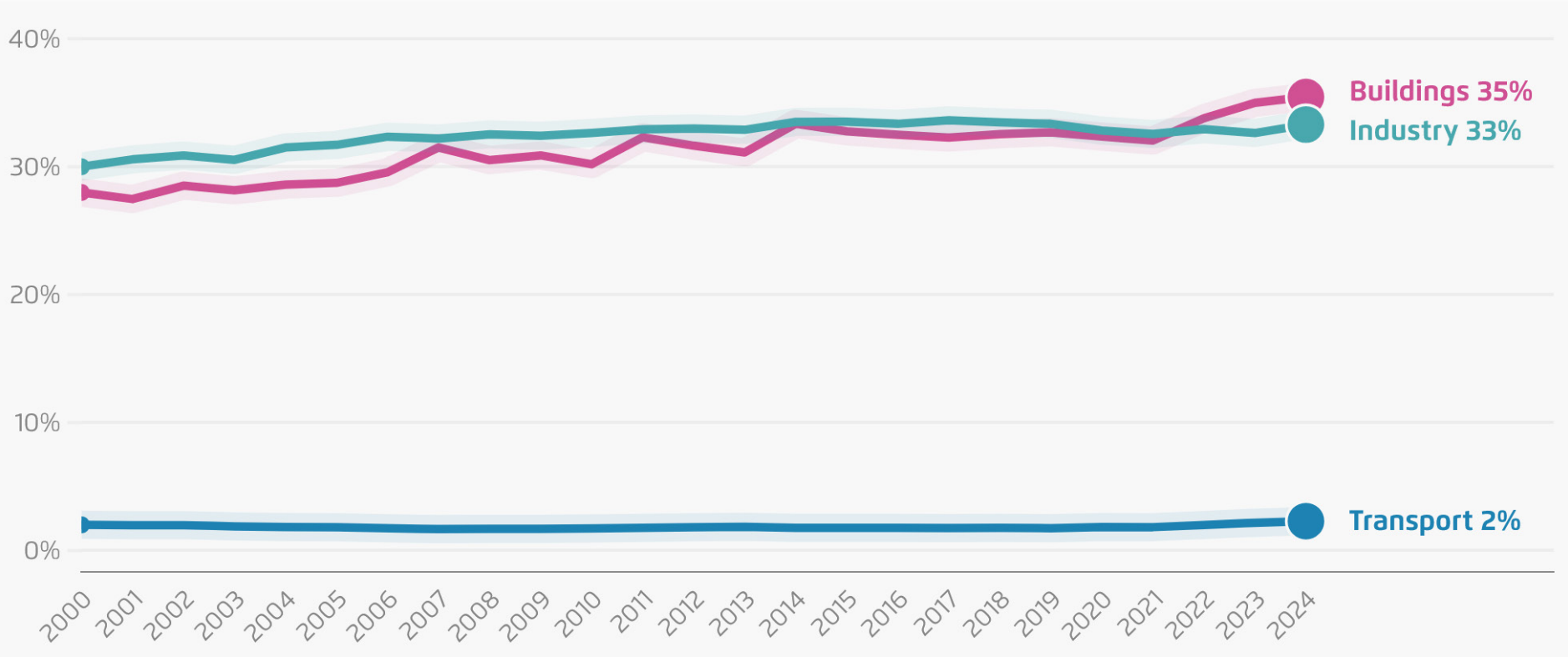
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Acceleration measures – with or without data, electrification must pick up speed

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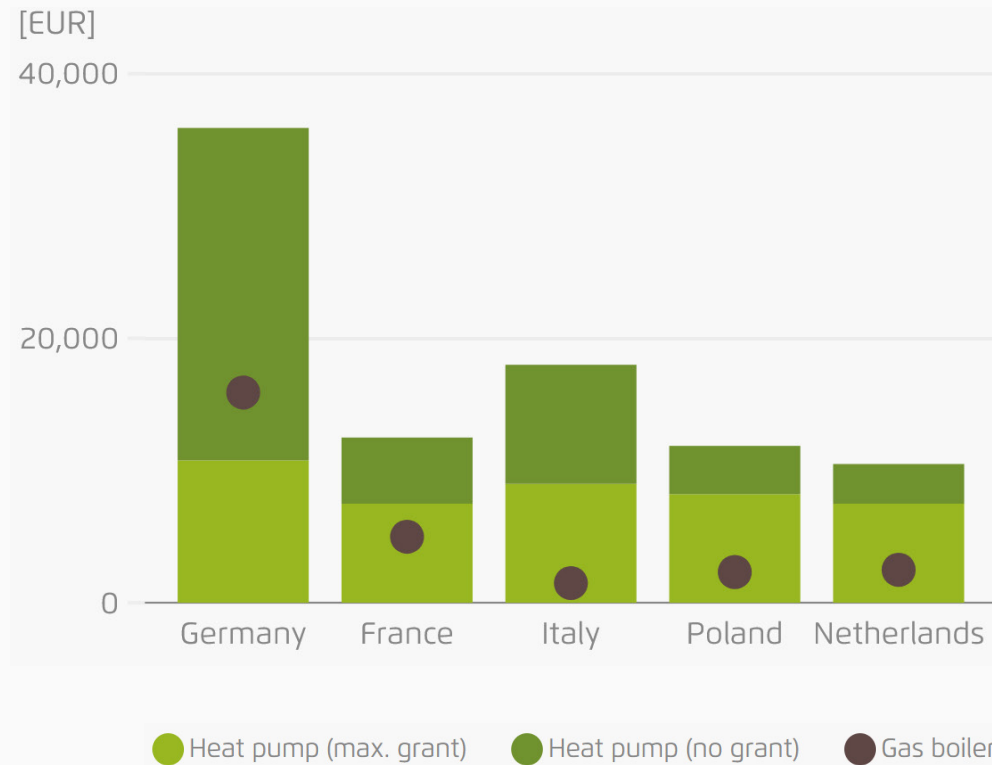
# The share of electricity in final energy consumption has remained largely unchanged across buildings, industry and transport.

Share of electricity in final energy consumption by sector in the EU in 2024

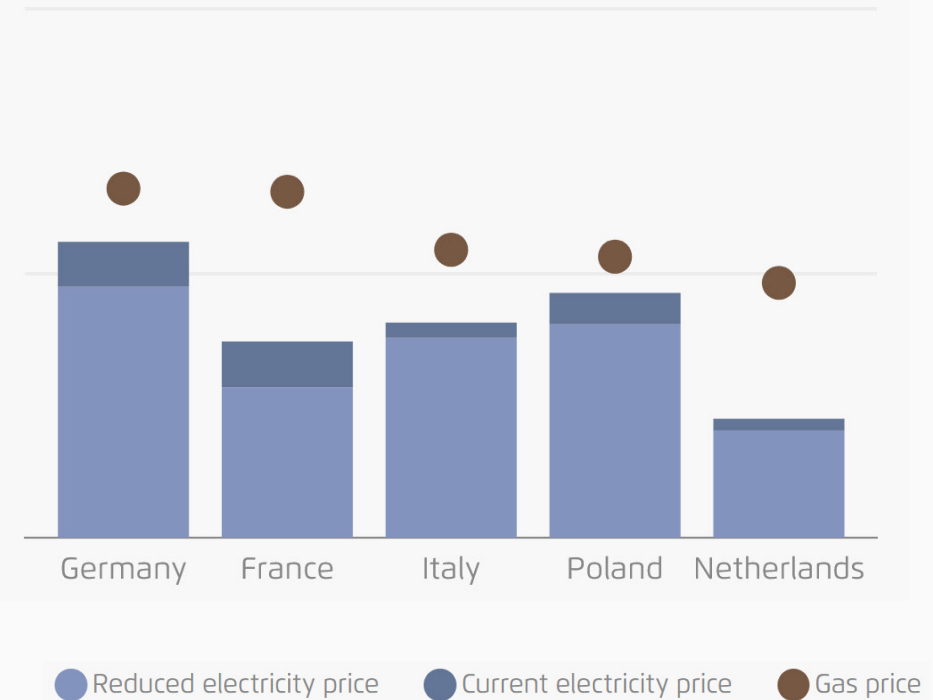


# Buildings: lower power prices reduce operation costs of heat pumps, but high upfront costs remain a barrier; even where grants are available

Upfront costs for heat pumps  
(compared to gas boilers)

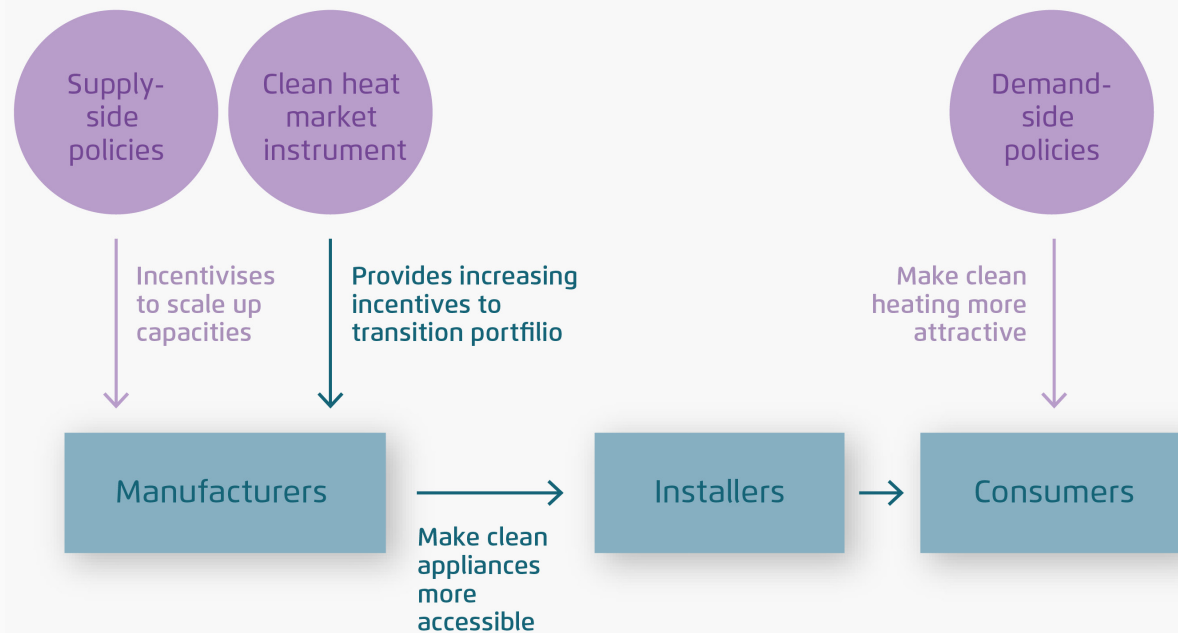


Heating costs over 15 years  
(December 2025 power and gas prices)



# Buildings: incentives for heating manufacturers would improve accessibility; social financing could address barriers faced by vulnerable households

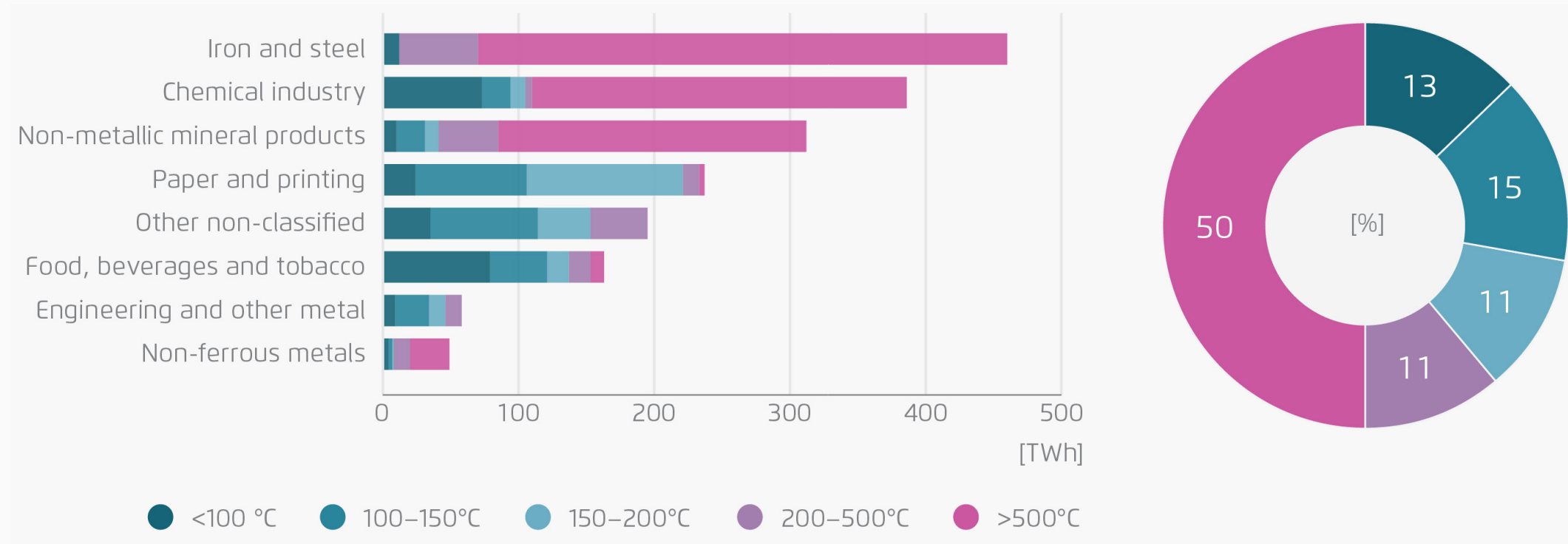
## Clean Heat Market Instrument and traditional policy measures



- 1. Clean Heat Market Instrument:** A Clean Heat Market Instrument would incentivize manufacturers to make clean appliances more accessible.
- 2. Social financing for heat pumps:** By addressing vulnerable households in a targeted manner, social financing would
  - **Reaching vulnerable households:** Schemes would address shortcomings of existing programmes with regards to targeting vulnerable households
  - **Financial support:** Combination of grants and low-interest loans would make heat pumps more affordable.
  - **Technical support:** Targeted advice through local one-stop shops would make heat pumps more accessiblemake heat pump grants more efficient.

# Industry: low-temperature = low-hanging fruit: around half of industry's process heating is required at low and medium temperatures.

Estimated total final energy demand for process heating\* in 2019 by temperature and energy carrier in the EU-27 countries



# Industry: designing an action plan for industrial electrification

## Economic levers

- **Establish a predictable and declining electricity-to-gas price ratio:** through taxation and levies' recalibration, network tariff design, carbon pricing, and continued deployment of renewables and storage.
- **Close short-term cost gap for temperatures > 80°C with temporary support:** such as CCfD, EU-level auctions with dedicated baskets under the IF/IDB.
- **Mobilise public-private de-risking partnerships:** guarantees for PPA counterparty risk, demand aggregation.

## Governance levers

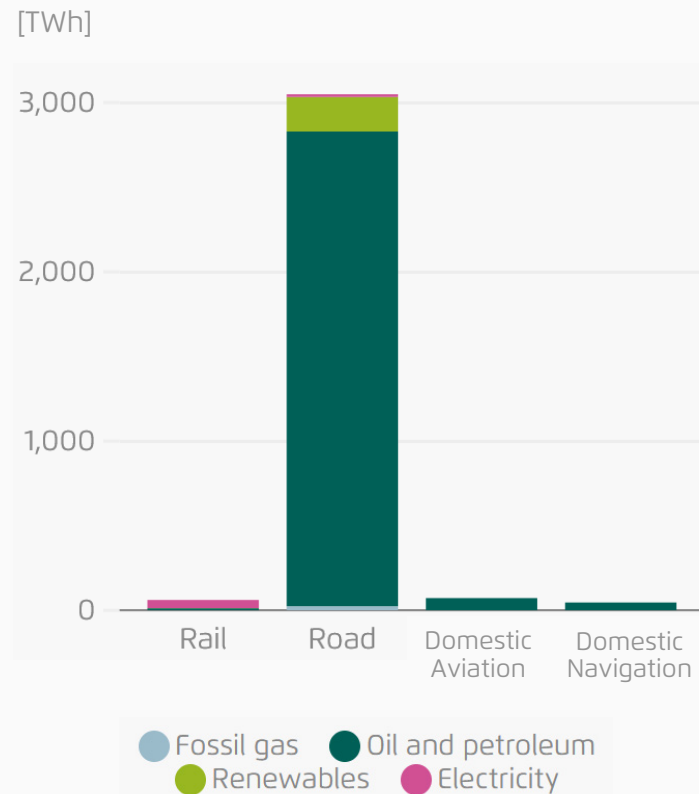
- **Strengthen the EU manufacturing base:** Industrial alliances, mainstreaming of clean heat tech support in EU cleantech funding instruments.
- **Embed industrial electrification in the Energy Union framework:** Require national strategies for industrial heat transition, mainstream industrial heat electrification in EU crisis response and energy security framework.

## Regulatory levers

- **Streamline permitting for industrial electrification:** Standardised fast-track permits; one-stop-shop portals, clear timelines, “permit-by rule” pathways. Pre-approve common technologies, strengthen permitting authorities, ensure coordination utilities-regulators. Adapt pre-qualification criteria for system-service provision to include flexible industrial actors
- **Consider the introduction of gradually phased-in zero-carbon standards for new heat equipment below 500 °C:** To be gradually applied for new installation and for specific temperature ranges, open to a range of technological options.
- **Set indicative deployment and fossil gas phase-out targets:** targets for 2030, 2035 and 2040 by heat class, e.g. 20–30% by 2030 and around 50% by 2040 is achievable under enabling conditions.
- **Integrate electrification into grid planning and adequacy assessment:** define maximum connection timelines, support partial cost coverage under defined conditions and prioritise parallel processing of studies and permits.

# Transport: the shift to electric vehicles is underway. Making it work for the grid requires good data, timely reinforcement, and smart integration.

Energy use by subsector and energy carrier in the EU in 2024



## → Support investment decisions

- Maintain CO<sub>2</sub> standards ambition for investment security.
- Support strong used car market, encourage smaller, electric cars and social leasing.

## → Expand charging infrastructure

- Provide standardized, transparent, and digital grid hosting capacity maps.
- Accelerate and streamline charging infrastructure deployment processes and grid permitting.
- Empower grid operators to make proactive, anticipatory investments.
- Build on the Alternative Fuels Infrastructure Regulation (AFIR) to establish public “backbone” charging infrastructure network across Europe.

## → Improve system integration

- Make smart charging for private homes, workplaces, and depots the default.
- Introduce local cost-reflective pricing of grids, e.g. through time-varying, dynamic, network pricing broadly.
- Accelerate smart meters deployment.

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# Conclusion

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## Conclusion: target, monitor, act

- When the EU sets an **electrification target**, it should be **accompanied by national and sectoral indicators** to clarify ambition and support progress tracking.
- A **systematic monitoring framework** based on a limited set of **timely updated, publicly accessible KPIs** is essential. At minimum, this should include:
  - Share of electricity in final energy consumption by sector (and subsector in case of industry)
  - Share of heat pumps in buildings stock and heat pump sales
  - Share of electricity in energy consumption for process heat production
  - Share of electric vehicles in stock and registrations in individual, public & commercial transport
- The good news is: **in all three demand sectors technically feasible and economically viable solutions exist, and targeted policy measures can now accelerate their deployment:**
  - In industry, faster grid connection, CCfDs and more competitive electricity prices can accelerate electrification.
  - In heating, a clean heat market instrument can drive heat pump deployment at scale.
  - In both, buildings and transport, targeted support, e.g. socially balanced support schemes for low-income households can ensure the transition is fast and fair.

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# Imprint

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