WindEurope recommendations

Electrification Action Plan

November 2025

Wind energy is at the heart of Europe's decarbonisation strategy. It already provides 20% of the EU's electricity and is expected to grow from 236 GW today to 344 GW by 2030[1]. The EU's 2030 target stands at 425 GW, meaning annual deployment must roughly double between now and the end of the decade.

A key constraint is the slow pace of electrification. Weak demand for renewable electricity is holding back investment in new wind farms. By contrast, electrification in China is expanding rapidly - growing by around 4% annually, compared to just 1% in the EU[2]. The contrast with China's pace highlights the urgency to translate ambition into accelerated deployment and to create a strong business case for electrified industrial processes, heating, and transport in the EU.

The Electrification Action Plan (EAP) should therefore send clear, practical recommendations to Member States to build stronger demand signals for renewables-based electricity, reduce taxes and levies on electricity, and ensure coherent policy sequencing. A robust and predictable EU ETS — including ETS2 — must be seen as a cornerstone of this effort: as a volume-based instrument with a clear reduction trajectory, it provides the primary decarbonisation signal that makes electrification economically attractive. The EAP should reaffirm political commitment to maintaining this long-term credibility.

WindEurope's key recommendations for the EAP focus on:

1. **Reform taxes and levies**: make electrification competitive for households and industries.
2. **Prioritise high-impact, readily electrifiable sectors**.
3. **Scale finance and de-risking tools** to unlock private investment.
4. **Build efficient grids and flexibility**: reinforce grids while integrating non-fossil flexibility resources.
5. **Create predictable market conditions and strong demand signals** for renewables-based electrification.
6. **Plan skills, R&I and manufacturing visibility**: support a skilled workforce and resilient electrification supply chains.
7. **Ensure effective delivery**: strengthen governance, establish coordination bodies, and monitor progress transparently.

1. Taxes and levies reform

Recommendations: Reduce electricity taxes and remove non-energy related levies from bills for consumers and industries; create a level playing field with fossil fuel-based taxes.

- Cut regulated charges on electricity to a minimum.
- Narrow the gap between electricity and gas prices through fairer, climate-based taxation and charges. Remove non-energy-related charges.
- Fund renewables and security of supply through general taxation.
- Reduce charges for industries ready to electrify now – not just for energy-intensives.
- Keep only grid-related charges on bills to promote efficient system use.

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[1] WindEurope, Latest wind energy data for Europe: Autumn 2025.
[2] Eurelectric, Power Barometer, 2025

- Energy poverty measures should be funded via general taxation not electricity bills, they belong to social policy.
- Avoid double taxation of electricity for storage (i.e. taxed on both charge and discharge), as this creates a barrier to deploying storage and does not recognise its major role in system integration and electrification.
- Enable behind-the-meter charging for wind sector service fleets.

Suggested actions for the EAP:

- Ensure consistency between the Commission's recommendations on electricity levies and the Electrification Action Plan by explicitly prioritising electrification in **low- and medium-temperature industrial sectors** as key beneficiaries. Member States should also have clear guidance to reduce or exempt non-energy-related charges for these uses. Targeted tax incentives and financial support should actively promote electrification across these sectors, not only in heavy industry.
- **Ensure that reforms to electricity taxes and levies are aligned with a robust EU ETS.** The ETS and ETS2 provide the core decarbonisation signal by establishing a clear linear reduction trajectory for emissions. Member States should reinforce political commitment to the ETS framework and ensure that tax and levy reforms complement — rather than dilute — the price signals emerging from carbon markets.
- **Invite Member States to publish a "fiscal electrification roadmap"** — setting timelines and measures for rebalancing taxes and levies between electricity and fossil fuels, with annual progress reporting under the Energy and Climate progress reports.
- **Ensure that any new national support schemes for industries or households** (e.g. energy price relief, tax reductions) must be *designed to steer consumption toward clean electrification in the long term*, not to lock in fossil fuel demand and just lower electricity prices in the short term.
- **Allow behind-the-meter charging of service vehicles and vessels** at renewable generation sites to qualify as self-consumption, including for authorised service providers under RED III Article 21. This would avoid disproportionate Energy Taxation Directive and retail-level metering obligations for negligible operational electricity volumes and accelerate fleet electrification at no cost to the wider system.

Impact:

Current high and unevenly distributed charges weaken the business case for electrification and distort investment decisions: household electricity charges in Europe are nearly 15 times higher, and industrial charges four times higher than in China[3]. In Spain, regulated charges on electricity are 19 times higher than for gas. A fairer tax structure is needed to make clean electricity the most attractive energy choice.

Finland's fiscal model — high, rising fossil fuel taxes paired with lower electricity taxes for electric heating — made clean heating economically viable, phasing out oil boilers and cutting fossil fuels in district heating from nearly 60% in 2010 to about 22% 2023[4].

2. Policy sequencing to focus on "low-hanging fruit" electrification

Outline: Prioritise electrification options with the fastest payback — in particular low- and medium-temperature heat applications in sectors such as food and beverages, textiles, paper and pulp, and segments of chemicals — while maintaining dedicated support for heavy industry decarbonisation.

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[3] WindEurope, Revamping Electricity Bills for a Competitive and Secure Europe, 2025. WindEurope can share the full dataset upon request.

[4] OECD, Economic Survey of Finland 2025 – Stepping up the transition to net zero, 2025.

EAP measures:

- Issue a prioritised shortlist for Member States highlighting immediate electrification opportunities in low- and medium-temperature industrial heat (e.g. via e-boilers and heat pumps), alongside district heating electrification, building heating, EV charging infrastructure and public fleets.
- Provide ready-to-apply policy templates and financing packages to scale these interventions within three years. Electrification Entities (see Section 4) should be mandated to treat these sectors as first-wave deployment targets.

Impact: Quick wins preserve political support, deliver immediate emissions reductions and create demand signals for renewable generation and supply chains.

3. Finance and de-risking instruments for electrification investments

Outline: Rebalance current subsidy models by complementing grants with scalable de-risking mechanisms —including public guarantees, concessional loans, and demand aggregation — to drive mass-market electrification in both households and industry.

EAP measures:

- Mandate **EIB and national promotional banks** to open dedicated "**Electrification Guarantee Windows**" — covering risk-sharing for intermediaries offering consumer-facing electrification finance (e.g social leasing for heat pumps, EVs) and for industrial electrification CAPEX.
- **Bridge the cost gap with public schemes**: Implement Carbon Contracts-for-Difference (CCfDs) or other schemes to support CAPEX and temporarily OPEX, and to offset decarbonisation costs. These schemes should be linked to a clear mandate to electrify.
- **Create a direct EU-level credit guarantee scheme** for PPAs, operating without intermediating national banks, to enable SMEs, mid-caps, and scale-ups to secure long-term renewable electricity contracts. The facility should provide higher guarantee volumes than existing EIB instruments (e.g. above €25m) to reflect the greater capital requirements of industrial decarbonisation and net-zero investments.
- **Allow Member States to use limited public funds to back bank-originated loans**, with capped liability — *maximising leverage while minimising fiscal exposure.*
- **Support bulk procurement models** (e.g. for heat pumps or aggregated EV charging contracts) to provide demand visibility and accelerate manufacturing scale-up.

Impact: Guarantee-based financing can reduce borrowing costs by several percentage points — often more effective than grants — unlocking large-scale private investment with limited public spending. This will be key support for early movers and to create market momentum.

4. Efficient grids and non-fossil flexibility

Outline: Treat **grid reinforcement** and **non-fossil flexibility** as twin enablers of electrification. Demand-side flexibility, thermal and electricity storage, and aggregated behind-the-meter assets should be recognised as integral components of a well-functioning electricity system, working alongside modern, expanded, and digitalised grids. Grid connection queues should use **dynamic queue management**, including filtering (e.g. permitting or financial milestones) and prioritisation criteria (e.g. system impact, project readiness and contribution to national strategies) to unlock capacity and crucially ensure a balanced mix of technologies connected to the grid in the long term. Ensure stable and predictable remuneration mechanisms for storage and flexibility assets to provide bankability and investor confidence, enabling long-term investment, while empowering consumers and prosumers to actively participate in the electricity and flexibility services.

EAP measures:

- **Unlock funding** from EU and national sources (e.g. Modernisation Fund, Innovation Fund, RRF) for both grids and flexibility assets, including risk-mitigation tools for DSOs and TSOs to accelerate investment.
- **Prioritise transmission and distribution grid modernisation and expansion** through adequate financing and forward-looking network planning that anticipates electrification and renewable deployment needs.
- **Strengthen cross-border interconnections** and efficient electricity trading arrangements — including between the **EU and the UK** — ensuring **grid development and flexibility** evolve hand-in-hand to deliver a truly integrated electricity system.
- Require TSOs, DSOs, and regulators to systematically evaluate the **potential of demand-side flexibility and storage** (e.g. thermal storage, vehicle-to-grid) before committing to new grid reinforcements, ensuring that investment choices maximise overall system efficiency and resilience.
- **Improve transparency** of **network tariffs and methodologies**, ensuring predictability and fairness in how they are applied – for instance, by being reflective of grid costs.
- The current General Block Exemption Regulation (GBER, Article 41(1a)) limits eligibility of thermal energy storage projects for **notification exemptions and access to EU funding instruments** to those where at least 75% of the electricity used comes from on-site renewable generation. Thermal energy storage projects should also qualify where the electricity used to charge the storage originates from renewable sources supplied off-site, including through Power Purchase Agreements (PPAs).

Impact: A combined strategy of targeted grid reinforcement and deployment of non-fossil flexibility will reduce total system costs, avoid unnecessary infrastructure bottlenecks, and accelerate electrification across all regions. Together, these measures can stabilise prices, enhance energy resilience, enable faster renewable integration, and strengthen Europe's industrial competitiveness.

5. Market instruments and policy stability

Outline: Use market signals, regulatory stability, and targeted demand measures to make electrification the most competitive and predictable choice for consumers and industry. Strengthen the effectiveness and visibility of the EU's emissions trading systems (ETS1 and ETS2) to ensure that revenues are channelled toward renewables-based industrial transformation.

EAP measures:

- **Create demand for sustainable products made with renewable electricity:** by stimulating demand for products made with renewable electricity, the EU can create strong lead markets that reward industrial electrification without significantly increasing the cost of electrified production. Define and certify "green industrial production" in line with renewable energy and electrification targets to ensure consistency and transparency across markets.
- **Public and private procurement should apply these aligned definitions and criteria.** The Electrification Action Plan, the Industrial Accelerator Act and EU procurement rules should ensure that both **public buyers** (e.g. infrastructure, construction, public services) and **private buyers** (large industrial customers, corporate supply chains) use consistent standards for recognising sustainable, renewables-based production.

Lead markets must be designed so that they do not undermine the cost-competitiveness of electrification relative to other decarbonisation options. Where needed, measures such as targeted fiscal incentives or direct support for EU manufacturers can help mitigate competitiveness impacts and ensure a level playing field.

- **Enhance the visibility and predictability of ETS1 and ETS2** by (i) maintaining policy consistency, (ii) setting clear long-term trajectories for allowance issuance, and (iii) avoiding short-term interventions in the Market Stability Reserve that could distort market expectations. This will provide households and industry with confidence to shift from fossil fuels to clean electricity.
- **Dedicate a significant part of ETS1/ETS2 revenues to electrification delivery** rather than dispersing funds broadly.
- **Scale up PPAs and CfDs as revenue-stabilisation tools** — designing them so that they continue to protect consumers as well as investors, without undermining market-based price signals.
- **Lower the Primary Energy Factor (PEF)** in the 2026 revision, to recognise electricity's falling carbon footprint and expected evolution under the 2050 carbon neutrality objective and to send a clear efficiency signal across buildings, products, and planning rules.

Impact: Stable and transparent market signals reduce investment uncertainty, accelerate electrification, and strengthen Europe's industrial leadership in clean technologies.

6. Skills, R&I and manufacturing visibility

Outline: Prepare Europe's workforce and industrial base for rapid electrification by tackling installer bottlenecks, aligning R&I with electrification needs, and giving manufacturers clear demand visibility so they invest in EU production.

EAP measures:

- Add electrification workforce needs to the Skills Agenda; fund installer training and accreditation programmes (prequalification to be handled by EEs).
- Fund R&I into high-temperature electrification, industrial heat pumps, and flexible process electrification.
- Support EU-level bulk procurement signals to manufacturers to accelerate scale-up of European heat pump, electrolyser and electric boiler manufacturing.
- Provide long-term visibility on electrification targets and trajectories so European manufacturers can plan investments and capacity expansion.

Impact: Speedy electrification requires a workforce and an industrial base ready to scale — and procurement visibility reduces near-term price inflation risk.

7. Governance, delivery bodies and monitoring

Outline: Effective delivery of the Electrification Action Plan requires clear governance structures, capable delivery bodies, and transparent monitoring of progress. Member States should integrate electrification into institutional responsibilities and ensure that implementation is coordinated, well-financed and accountable.

EAP measures:

- **Electrification Entities (EE):** enable and guide Member States to establish new EE bodies or assign EE functions to appropriate existing bodies, giving them a clear mandate to coordinate financing, procurement, prequalification, advisory services and consumer-support actions for electrification.

EEs should not be understood as new standalone agencies. Instead, they represent a functional mandate that Member States may assign to existing institutions — such as national promotional banks, energy agencies, one-stop shops or consumer-facing delivery bodies. Their purpose is to streamline and consolidate currently fragmented responsibilities.

Role of electrification entities:

- Build on and expand **One-Stop Shops**[5] under the Energy Performance of Buildings Directive.
- Act as an information and advisory hub, providing trusted guidance on available technologies, market offers, legal requirements, and subsidies, rather than running "awareness campaigns".
- Negotiate aggregated loan facilities with **banks** backed by state guarantees, securing **low interest rates** through bundling financing requests from many consumers and businesses into a single instrument. Combine **financing** with existing subsidies to deliver seamless support packages.
- Coordinate voluntary **bulk procurement and demand aggregation initiatives** (e.g. for heat pumps, EV chargers, or industrial equipment) to reduce costs, provide predictable demand for manufacturers, and accelerate electrification uptake, in line with EU competition and State aid rules.
- Offer on-bill financing or social leasing-style repayment schemes to remove upfront cost barriers.
- Prequalify **installers** to ensure quality and counter misinformation.
- Promote **flex-ready appliances** and guide consumers towards **flexible tariffs**.
- Electrify public assets and procurement, setting minimum electrification criteria in public buildings, fleets, and infrastructure projects.
- Monitor and support the **national transposition and implementation** of EU electrification-related legislation (e.g. under the Fit-for-55 package), ensuring that new legal provisions are effectively applied and deliver tangible on-the-ground results.

How to enable them in the EAP:

- Recognise EEs as a Service of General Economic Interest (SGEI) model and provide Commission guidance on state aid compatibility and best practice.
- Clarify that ETS2 revenues, Social Climate Fund resources, and national Recovery & Resilience mechanisms may be used to capitalise or de-risk EE instruments — such as guarantees, leasing schemes, retrofit pre-financing or heat pump rolling funds.
- Provide a template mandate that Member States can implement **within existing institutions**.

At the **EU level**, the European Commission should:

- Create an annual **Electrification scoreboard** coordinated by the European Commission, reporting progress on electrification, flexibility, and cost competitiveness.
- **Draw on existing data sources** — including Eurostat, ENTSO-E, and Member States' National Energy and Climate Plans (NECPs) — to ensure consistent and comparable reporting.
- Include independent verification of system impact and flexibility benefits.

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[5] One-Stop Shops (OSS) for building renovation are integrated service hubs that navigate the renovation journey — offering technical advice, legal, financial, grant application, contractor coordination, and project management support. The revised EPBD (2024/1275, recast) includes a specific article on one-stop shops, mandating Member States to set up OSS as part of their transposition of the directive.

- **Provide independent verification** of system impacts, flexibility performance, and cost benefits to maintain credibility and objectivity.
- **Establish a strong governance framework** for electrification in the post 2030 framework: Member States should integrate dedicated electrification chapters within their NECPs, setting clear milestones, sector-specific demand projections, electrification indicators, and policy measures to guide targeted implementation.

Suggested KPIs:

- Electricity use:
  - **Share of electricity** of final energy consumption in main sectors such as buildings, transport, industry and service-sectors.
  - **Annual % growth in electricity final consumption attributable to fuel switching** (not to new electricity-only loads such as data centres).
- Readiness to electrify in terms of production assets:
  - **Indicator:** Share of **final industrial and building heating demand** that is met by electrified heat technologies (e.g. industrial heat pumps, electric boilers, thermal storage).
  - **Background:** This KPI measures the transition from fossil-based heat to electrified solutions in readily electrifiable segments, especially low- and medium-temperature heat. A demand-based metric is used because it more accurately reflects fossil-fuel substitution than capacity-based indicators, which do not capture real operating profiles.
- Flexibility in the energy system:

  Flexibility capacity and responsiveness: volume (GW) of flexibility services procured by DSOs and TSOs, along with the share of price-responsive or flexible demand that adjusts consumption during high/low price or scarcity periods, while tracking trends in growth, activation frequency, and cost efficiency over time.

Impact: By tackling low consumer awareness and high upfront investment costs, Electrification Entities help accelerate mass electrification while providing predictable, long-term market signals for European manufacturers. This strengthens supply-chain resilience, supports industrial competitiveness, and mobilises investment. Combined with transparent monitoring and regular progress tracking, these governance tools will help identify laggards, replicate best practices, maintain political accountability, and ensure the Electrification Action Plan delivers measurable progress toward Europe’s 2040 climate targets.

Conclusion

The Electrification Action Plan is a pivotal opportunity to turn Europe’s renewable potential into tangible economic and climate progress. By accelerating electrification across industry, buildings, and transport, aligning taxation and market rules, and investing in flexibility and grids, the EU can unlock large-scale private investment, strengthen its industrial base, and make renewable electricity the most affordable energy choice.

Delivering this vision will require **coordinated implementation**, **scaling up finance and de-risking tools**, and **investment in skills, R&I, and manufacturing capacity**. Robust **governance and monitoring** will be key to keeping progress on track. Together, these measures will not only drive demand for renewables such as wind energy, but also enhance energy security, reduce fossil fuel dependence, and secure a competitive, resilient, and sustainable future for Europe’s citizens and industries.