POSITION PAPER

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EHPA position on the Electrification Action Plan

Introduction

Despite significant progress in making electricity cleaner and more efficient, its share of final energy consumption has grown by less than 3% over the past two decades[1]. This slow uptake is consistent across sectors and countries, underscoring the need for coordinated, strategic action to fully realise electrification as a cornerstone of a sustainable European energy system.

Heat pumps are a key technology to accelerate this transition, as they reduce energy demand, enable direct electrification, and make use of renewable and waste heat across residential, commercial, and industrial applications.

Moreover, heat pumps play a crucial role in enhancing Europe's energy security. If 7% of European homes (around 14 million altogether) changed their fossil fuel boiler for a heat pump it would cut 13 billion cubic metres of gas, which is equivalent to the amount the EU imports for home and water heating from Russia[2].

This paper sets out the **European Heat Pump Association's position for the Electrification Action Plan**, focusing on four critical pillars:

1. **Affordability**: addressing both capital and operational costs to make electrification through heat pumps economically viable for all.

2. **Flexibility**: unlocking the full potential of heat pumps to provide demand-side flexibility and enable the optimisation of significant grid investment costs.

3. **Long-term policy clarity**: establishing clear and predictable policies by setting targets and enforcing implementation to improve investments and planning.

4. **Streamlining product regulations:** ensuring coherent, transparent, and proportionate regulations to reduce costs, foster innovation, and safeguard the single market.

Addressing these areas will be crucial to unlock the full potential of heat pumps, strengthen Europe's energy security by cutting dependence on imported fossil fuels, and support the transition to a cleaner, more efficient, and sustainable energy system.

[1] Electrification Alliance (2024), *Recommendations for an Electrification Action Plan*, available at https://electrification-alliance.eu/wp-content/uploads/2024/09/EA_RECS-FOR-AN-EAP_2024.pdf

[2] EHPA (2025), *Ditch Russian gas for heating: add fourteen million EU heat pumps*, available at https://ehpa.org/news-and-resources/press-releases/ditch-russian-gas-for-heating-add-fourteen-million-eu-heat-pumps/

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1. Affordability

The affordability of heat pumps is determined by both the **initial capital expenditure** (CAPEX) and the **ongoing operational expenditure** (OPEX). Together, these elements form the total cost of ownership (TCO), which serves as a key tool for households and businesses in evaluating and selecting heating and cooling technologies for residential, commercial and industrial applications.

For the three applications, the components of the cost remain the same. CAPEX includes the price of the heat pump unit, installation expenses, and any additional costs associated with national regulatory requirements. OPEX, in turn, depends primarily on electricity prices and the efficiency of the heat pump.

I. OPEX

Although heat pumps are 3 to 5 times more efficient than fossil fuel-based alternatives[3], current energy prices, together with often favorable gas taxation, reduce their competitiveness. To see a rapid return on investment and incentivise adoption, **electricity prices should not be more than twice the price of gas**. This is currently not the case in many Member States, as shown in this publication.

A closer look of this issue shows two key contributing factors. First, electricity is subject to high taxation, which is reflected in the different components of the consumer bill. Second, fossil fuel prices do not fully reflect their true societal and environmental costs.

Policy recommendations

- Address the electricity to gas price ratio by implementing the measures announced under the **Energy Affordability Action Plan**, particularly the European Commission's recommendations on how to reduce electricity taxation and the review of the Energy Taxation Directive.
- Ensure **swift implementation of the EU Emissions Trading System (ETS) 2 and Social Climate Fund.**
- Ensure that **long-term contracting instruments such as two-way Contracts for Difference and PPAs** – i.e. through demand aggregation platforms - become standard in electricity markets to mitigate the impact of gas on prices.
- Conduct and disseminate **analyses on economic benefits and cost savings** to educate citizens, following examples such as Ireland.
- Promote **further penetration of decarbonised energy sources.**
- Enable and reward **flexible consumption of electricity.**
- **Make operating expenses for industrial processes eligible for EU funding**, at least in the initial phase, under the Clean Industrial Deal State Aid Framework (CISAF) and the Decarbonisation Bank. Since efficiency gains of 10-40% are insufficient to bridge the cost gap, OPEX support will be crucial in the medium term, until EU ETS 2 carbon pricing helps rebalance the electricity to gas price ratio.

II. CAPEX

The cost of heat pump equipment varies considerably depending on the technology type, system capacity, manufacturing quality, and functionality. Prices also differ across countries and regions, partly reflecting the maturity of the local market[4].

When looking specifically at the residential level, installation costs also differ greatly from country to country[5], based on several factors including the different technical requirements, subsidy structures, taxation, among others. In addition, installing a heat pump in an existing

[3] Ibid.
[4] IEA (2022), *The Future of Heat Pumps*, available at https://www.iea.org/reports/the-future-of-heat-pumps.
[5] J. Siemer - pv magazine (2025), Heat pumps in Germany nearly twice as expensive as in UK. Available at https://www.pv-magazine.com/2025/03/13/heat-pumps-in-germany-nearly-twice-as-expensive-as-in-uk/

home can involve additional expenses such as upgrades to the electrical system, replacement of existing radiators, among others[6].

In the industrial sector, heat pumps face limited market penetration and lack of standardization. These conditions help explain the substantial price gap compared with fossil fuel-based alternatives.

Given these challenges, **financial support to reduce the initial investment barrier is essential.** At the national level, many Member States have introduced incentives like grants, low- or zero-interest loans, and tax deductions. At EU level, complementary targeted measures are also required to overcome this barrier.

Policy recommendations

- Reduce the **Value Added Tax (VAT) rate on heat pumps to 0%** like done for PV.
- Ensure EU funds (Recovery and Resilience Facility, Social Climate Fund, etc.) are used to **accelerate heat pump investments for low-income households**.
- Establish the **Innovation Fund Heat Auction for Industrial Decarbonisation** as a permanent instrument to support industrial heat pump deployment.
- **Coordinate qualitative support schemes for heat pumps at EU level, similar to the auctions as a service system**. By evaluating best practices and lessons learned from the different types of existing national subsidy schemes, the principles of a successful, well-functioning subsidy scheme for heat pumps should be identified. These should be used to coordinate and co-design national subsidy schemes from a central EU level in partnership with the national level.
- **Promote and support innovative models** like renewable energy communities, social leasing or subsidised low-or-zero interest loans for heat pumps with public guarantees, among others[7].
- **The European Investment Bank (EIB) should develop targeted financial products**, **including reduced-rate loans and risk-sharing** mechanisms to further support industrial electrification.
- **Support innovation and R&D** to develop new electrification solutions for sectors where alternatives are not yet mature.

[6] Ibid.
[7] An overview of the different innovative business models for heat pumps can be found in this publication: https://www.ehpa.org/news-and-resources/publications/financing-heat-pumps-barriers-and-solutions/

2. Flexibility

Heat pumps can be turned on when electricity costs are lower and off at peak times, and they can heat faster or slower, helping the energy system by increasing or decreasing their power demand. This reduces grid congestion and reduces costs for both the EU's energy system and consumers. The European building stock is an enormous available thermal battery that can be activated easily. On top of that, also industrial and commercial heat pumps can contribute significantly.

However, this flexibility is not yet being used at a large scale. To make use of this potential, incentives are needed to reduce and/or shift electricity demand away from grid load peaks, for example through implicit flexibility such as dynamic tariffs or explicit flexibility. This is particularly important because, as highlighted by ACER, **73% of EU households are on fixed-price contracts and therefore do not experience price signals that encourage demand response**[8]. In most Member States, access to flexible contracts is not always available and many consumers are unaware of both their ability to participate in demand response and the financial benefits it can provide.

In turn, **flexibility is essential to plan cost-effective grid investments, which are recovered via the network tariffs included in electricity bills**. The Electricity Regulation, which sets the principles for the development of network tariffs, clearly states that these should be cost-reflective and encourage efficient use of the existing grid, and recognise the importance of promoting flexibility. Furthermore, the European Commission extensively addressed the link between flexibility and cost-effective grid expansion in the two guidance documents on anticipatory grid investments[9] and cost-reflective network charges[10] published in 2025. Lastly, ACER report highlights that Transmission System Operators and Distribution System Operators are often more likely to invest in physical assets while solutions to manage the existing infrastructure more flexibly remain underutilised. Therefore, grid operators need to recognise the flexibility that heat pumps can offer and incorporate this potential into their planning and grid management strategies.

The design of network and grid connection charges must incentivise an efficient use and planning of the grid infrastructure. At the same time public funding can play a key role to mitigate the impact of grid investments on network tariffs, which would drive up electricity costs in the short term and slow down electrification. For example, State loans that are repaid proportionately to utilization ensures that early movers are not discouraged and the investment is repaid over time, while the risk is borne by the State. Long-term signals for investment in the electricity grid to enable heat pumps, storage, flexibility, and connected renewable energy sources such as solar PV working in conjunction with storage and heat pumps are still at early stages. The potential of large heat pumps to close the energy cycle and use waste heat in industry and district heating is also largely untapped.

Addressing these challenges will require coordinated action on demand creation, grid access, and flexible electricity use to fully unlock the potential of heat pumps and electrified technologies. EHPA supports the Flexible Demand Accelerator Pledge, which urges the establishment of a **collaborative approach between Member States and national regulatory authorities, system operators, and market participants** in the form of 'National Tripartite Dialogues on Flexible Demand'.

Policy recommendations

- **Implement the existing EU framework** driving demand-side flexibility, especially at national level[11].

[8] ACER (2025), *Unlocking flexibility: ACER's 12 no-regret actions to remove barriers to demand response.* Available at https://www.acer.europa.eu/news/unlocking-flexibility-acers-12-no-regret-actions-remove-barriers-demand-response

[9] European Commission (2025), Guidance on anticipatory investments for developing forward-looking electricity networks, available at https://eur-lex.europa.eu/eli/C/2025/3179/oj/eng/pdf

[10] European Commission (2025), Communication on future proof network charges for reduced energy system costs. Available at https://energy.ec.europa.eu/publications/communication-future-proof-network-charges-reduced-energy-system-costs_en

[11] A comprehensive overview of the EU provisions on demand-side flexibility can be found in a publication by smartEn, available at https://smarten.eu/reports/implementing-eu-laws-a-guide-to-activate-demand-side-flexibility-in-the-eu-27-member-states-2/

- **Ensure grids are fit for domestic electrification and access to new large power supplies** to enable the electrification of industry, district heating, and households.
- Governments should put in place frameworks for **investing in grids without recouping costs from consumers until they electrify**, including the recognition of **anticipatory grid buildouts** to develop forward-looking networks and ensure sufficient and reliable national grid planning to comply with energy and climate objectives and policies.
- **Accelerate and optimise industrial grid connections** by reforming both the queuing process and technical access rules. Governments should **replace the "first-come, first-served" approach with a "first-ready, first-connected" principle** to prioritise viable projects and prevent speculative "zombie projects" from blocking capacity. In parallel, **companies should be allowed to use temporary non-firm grid connections** before full upgrades are completed, with backup energy sources available for short periods when the grid is unavailable.
- Promote the use of **contracts that rewards consumers who actively manage and shift their electricity consumption**, for example flexible connection agreements.
- **Make flexibility products, such as dynamic tariffs, easily accessible and well-known to consumers** by clearly communicating their financial and environmental benefits. Ensure these tariffs provide fair remuneration that reflects the real value for both the grid and consumers, creating financial incentives to unlock heat pump flexibility.
- **Network tariffs** should be designed to increase electrification and **make electricity usage more attractive**, in line with the recommendations set out in ACER's report on removing barriers to demand response.
- **Encourage the creation of National Tripartite Dialogues on Flexible Demand in all Member States,** as called for in the Flexible Demand Accelerator Pledge.

3. Long term policy clarity

Ensuring **consistent, ambitious, and long-term policies** on heat pumps is essential for stimulating consumer demand, securing investment, and supporting the EU's manufacturing sector and workforce.

Heat pump manufacturers have planned €7 billion in investments across European factories, production, R&D, and training for 2022–2025. However, between 2023 and 2024, most European countries saw a decline in sales. This downturn has already affected jobs, with at least 4,000 lost and over 6,000 workers impacted, and further declines could threaten the sector's 430,000 direct and indirect jobs.

To strengthen the heat pump market, lock in investments, and secure European leadership and jobs, it is crucial to maintain a stable policy environment, implement forward-looking measures, and create market conditions that make clean technologies the most economically attractive option. To drive market confidence and provide direction for growth, electrification must be clearly signalled as the future, with clear targets and a detailed plan for the phase-out of fossil-based heating.

Policy recommendations

- **Set a direct electrification target** of at **least 35% of final energy demand by 2030** at EU level and **at least 50% by 2040** and duly consider this in the update of the EU Reference Scenario, as asked by the Electrification Alliance[12]. Sectoral electrification targets should also be considered.
- **Add an electrification indicator to the National Energy and Climate Plans** to measure progress and mandate Member States to **indicate a heat pump and waste heat targets**, in addition to other electrification technologies.
- **Ensure the implementation of the Emissions Trading System 2** supports electrification and decarbonisation of heating and cooling.
- **Fully implement existing legislation**, including the Energy Markets Directive, Renewable Energy Directive, Energy Efficiency Directive, Energy Performance of Buildings Directive.
- **Take action against Member States lagging in implementation**, particularly where incumbent fossil fuel-based technologies are being protected from open energy services markets.
- Provide clearer guidance and practical tools to **prioritise electric systems over fossil-fuel-based alternatives in procurement processes.**
- **Recognise waste heat as an avoidable energy loss** and encourage Member States to adopt planning policies and local codes that facilitate its reuse[13].
- **Launch a tripartite agreement for heat pumps** between public authorities, industry, and clean energy developers, building on the tripartite contracts announced under the Affordable Energy Action Plan, to ensure predictability, reduce investment risks and expand manufacturing.
- **Establish Electrification Acceleration Areas (EAAs) for industry, modeled on the existing Renewable Acceleration Areas.** EAAs would designate industrial clusters and regions where permitting for electrification infrastructure is streamlined, grid upgrades are prioritized, and access to renewable electricity is secured. EAAs could be embedded in the forthcoming revisions of the EU governance and industrial policy frameworks and roadmaps, requiring Member States to identify suitable zones, ensure coordinated grid planning, and provide targeted financial support while respecting environmental safeguards.

[12] Electrification Alliance (2024), *Recommendations for an Electrification Action Plan*, available at https://electrification-alliance.eu/wp-content/uploads/2024/09/EA_RECS-FOR-AN-EAP_2024.pdf

[13] A comprehensive set of policy recommendations on waste heat recovery with heat pumps can be found here: https://www.ehpa.org/news-and-resources/position-papers/waste-into-wealth-how-heat-pumps-can-recycle-heat-to-save-energy/

4. Streamlining product regulations

The heat pump sector is already subject to an extensive framework of regulations at both European and national levels. Over time, the number and scope of these rules have expanded, often addressing similar or adjacent issues without sufficient attention to coherence, compatibility, or the additional administrative and technical burden created for manufacturers. This regulatory complexity does not add extra benefits for consumers or for Europe's decarbonisation objectives, while making it increasingly challenging for the industry to operate effectively.

A key challenge lies in the **fragmentation of requirements across multiple legislative instruments**, published at different moments and with different implementation timelines. Manufacturers are frequently required to adapt product designs in short iterations, which in turn leads to repeated recertification. This process generates unnecessary cost and administrative burden, particularly for small and medium-sized enterprises that lack the capacity to continuously track and adapt to fragmented requirements.

Another concern is the presence of **requirements outside the scope of product regulations**, which risks undermining the single market[14]. Furthermore, grid connection rules can differ from one member state to another, demanding that heat pumps respond to different frequency ranges depending on the installation site. Such divergence creates uncertainty for manufacturers who cannot always predict where their products will ultimately be deployed.

The cumulative effect of scattered rules, frequent redesigns, and repeated recertifications places a significant burden on an industry that is already navigating pressures such as fluctuating subsidies and the expectation of lowering costs to accelerate uptake. Regulatory stability, built on the principles of proportionality and transparent timelines, is therefore essential.

Policy recommendations

- **Streamline product-related requirements into a single set of regulations** so that redesign and certification timelines can be aligned, avoiding unnecessary burdens on manufacturers by:
    - stabilising and speeding up **Ecodesign** and **Energy Labelling** timelines with realistic transition periods as requested by the industry;
    - removing national barriers to **flammable refrigerants** by aligning to CEN/CENELEC standards;
    - harmonising **conformity** and **testing requirements**, replacing multiple national EPD/eco-passport regimes with a single EU approach;
    - having the **Code of Conduct for Energy Smart Appliances and Ecodesign as the single point of reference** for manufacturers in regard to the digitalisation of the energy sector.
- **Safeguard the single market by avoiding fragmented implementation** across Member States, particularly with regard to grid connection rules and flexibility requirements.
- **Reduce regulatory burden on manufacturers** to keep heat pumps affordable. For instance, current CBAM requirements disadvantage European producers by imposing costs not faced by manufacturers outside the EU.
- **Simplify the wording** addressing **heat pump solutions in the EU Taxonomy** and ensure that interpretation of chemical requirements does not go beyond what is required under the relevant legislations (RoHS Directive and REACH Regulation).

[14] In January 2025, EHPA contributed to a 'Have your say' consultation on the Single Market Strategy, highlighting key areas where potential single market disruptions could arise, which can be found here: https://www.ehpa.org/news-and-resources/position-papers/ensuring-a-cohesive-single-market-for-heat-pump-technology-in-europe-ehpas-response-to-single-market-strategy-have-your-say/

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The European Heat Pump Association (EHPA) represents the European heat pump sector. Our over 170 members include heat pump and component manufacturers, research institutes, universities, testing labs and energy agencies.

EHPA advocates, communicates and provides policy, technical and economic expertise to European, national and local authorities, and to our members.

We organise high level events and manage or partner in multiple projects.

We work to shape EU policy that allows the heat pump sector to flourish, and to become the number one heating and cooling choice by 2030. Heat pumps will be a central part of a renewable, sustainable and smart energy system in a future decarbonised Europe.