Position Paper

EPEE

26 May 2023

Contribution to the Call for evidence on the EU Action Plan for the acceleration of heat pumps

EXECUTIVE SUMMARY

In the light of the much-welcomed legislative packages from the European Commission, namely the European Green Deal, the REPowerEU plan and the Green Deal Industrial Plan, and the Net Zero Industry Act, **EPEE would like to stress its support for the EU Action Plan for the acceleration of heat pumps**.

This new initiative should deliver much needed political and regulatory clarity to manufacturers, installers and most of all for consumers, who need to be encouraged to invest in a key technology needed to reduce Europe's dependence on imported gas and its carbon footprint. It will help also to meet the targets set as European climate goals and the priorities of energy sufficiency and efficiency.

Heat pumps are a great solution to reach these goals: it is our belief that installing more heat pumps will result in a progress towards greener buildings and more efficient houses. On that note, the **EU Action plan for the acceleration of heat pumps needs to address all heat pump applications**, from residential to commercial and industrial uses, as well as the diversity of heat pump technologies: air/ground/water source and air/water sinks (see Annex 1). For example, while air-to-water and ground-to-water (hydronic) heat pumps are well-considered, air-to-air heat pumps need as well being included in the Commission's scope (and any combination thereof).

There is a wide variety of heat pumps that our membership produces and installs on European buildings. All of these have great benefits and show an opportunity to reach the objectives of the EU, including the REPowerEU initiative.

This must be carefully analysed: EPEE believes the F-gas ongoing legislation, for instance, must be considered carefully as some of the results and related conclusions of the Commission impact assessment study are not accurate. The F-gas and PFAS dossiers do not provide a realistic pathway to meet the REPowerEU targets and could hamper as well this new Action Plan

A comprehensive view is needed to ensure that the legislative framework is sufficiently supportive for the roll-out of heat pumps, as many ongoing policy files are interlinked.

Thus, we would like to raise the following points, based on the topics to be discussed in the stakeholders workshops starting from May 25:

1. **Supportive framework conditions and governance (European, national, regional, and local)**
   a) **Consider the impacts of interlinked legislation such as the F-gas Regulation (currently under review), the Reach -PFAS restriction 9 which has just kicked off and will run for several years before conclusion)**
   b) **Legal consistency and accordance with other pieces of European legislation, especially towards a fossil fuels phase-out: EPBD directive, EED, RED, Ecodesign/ESPR**
   c) **Implementation at national level, starting from a proper counting of heat pump contributions. Example: the implementation of the EU calculation methodology of renewable heating and cooling shares can demonstrate how heat pumps contribute to Member States' targets**

2. **Research, innovation, and market development**
   a) **The complexity of legislative requirements versus development resources**
   b) **The European single market can play a great supportive role**
   c) **The Interoperability and Demand-Side Flexibility topics**

3. **Financing the roll-out of heat pumps**
   a) **Energy pricing to steer the direction to electrification**

4. **Skills and communication**
   a) **The importance of assessing training and skills in terms of heat pumps expertise and installation**
   b) **The importance of heat pumps for renovation purposes**

Annex 1: the diversity of heat pumps
Annex 2: overview of legislative deadlines that impact heat pump R&D

Introduction

Heat pumps are an innovative renewable energy technology already on the available on the market enabling renewable heating and cooling. As the IEA states they are 'the central technology in the global transition to secure and sustainable heating'[1] Therefore, this action plan is a great opportunity to raise awareness among Member States to achieve their targets in terms of sustainable heating and cooling.
Moreover, heat pumps will become a major part of buildings' equipment[2]. Owners will turn more and more towards this solution, rather than sticking with existing gas-combustion equipment.
There needs to be a solid business case and incentive for buildings owners to install heat pumps, to ensure the massive roll-out of heat pumps needed, especially for renovation purposes. Homeowners and installers need to be made aware of the necessity of correctly sizing and installing the heat pumps to ensure optimum performance. However, it is important to note that renovation is not always necessary to install existing heat pump technologies.

In short, EPEE, representing most of the manufacturers of these heat pumps, cannot welcome more such an initiative from the EU Commission. It shows good prospects for the industry, the climate goals, and the energy efficiency first principle. The EU Commission President, Ursula von der Leyen, stated during the Beyond Growth 2023 Conference, that "[…] *a growth model centered on fossil fuels is simply obsolete* […]" (15.05.2023).

It also gives an opportunity for Europe to be more independent regarding its energy supplies, as per the aims of the REPowerEU I the current geopolitical context.

Nonetheless, we believe that certain aspects could be further optimised.

1. Supportive framework conditions and governance (European, national, regional, and local)

a) Consider the impacts of the F-gas Regulation (current and revision), the proposed Reach -PFAS restriction, Ecodesign and RoHS revisions

Due to the possible upcoming prohibitions concerning the use of F-gases and PFAS Restriction, EPEE would like to highlight that important restrictions are expected on certain types of refrigerants. The EU Action Plan for the acceleration of heat pumps need to be carefully considered in light of the potential upcoming prohibitions concerning the use of F-gases and PFAS Restriction. In fact, we are especially concerned that, due to potential restrictions in refrigerant choices, the production of heat pumps might not fulfil the European targets (such as the ones set by REPowerEU) because not all heat pump solutions can be provided without

[1] The Future of Heat Pumps – Analysis - IEA
[2] Please see the Joint Research Centre study, here: https://setis.ec.europa.eu/heat-pumps-european-union_en

F-gases. While this is already acknowledged in the draft legislative proposals related to product bans, a lack of HFC quota remains a concern. Considering the urgency of this plan, we call upon the EU Commission to consider further its proposals related to F-gases.

The diversity of EU buildings requires a diversity of heat pump solutions, with both non-fluorinated and fluorinated refrigerants. Limiting the diversity in gas revision and the future possible Reach-PFAS restriction could push the end-user to turn towards other products serving also the heating and cooling purposes, such as fossil fuel-based heating systems or wood burning solutions that conflict with the EU biodiversity goals, or direct electric heaters that would be much less energy efficient.

Moreover, the current Ecodesign requirements revisions need to be assessed as well. Heat pumps are directly covered by Ecodesign and Energy Labelling provisions in this revision, in addition to being impacted by the refrigerants limitations. All in all, we do not believe an acceleration of heat pumps plan will be feasible with the current legislative uncertainty about full choice of refrigerants in the F-gas and PFAS dossiers which also conflicts with the Ecodesign requirements.

We, therefore, urge the Commission to consider all these elements carefully**. The future of heat pumps depends on these interlinked legislative dossiers, and we currently observe an incoherence in the different initiatives from the EU Commission**. We believe there should be a legal consistency to ensure a long-term vision enabling the heat pump production and deployment to grow accordingly, as we detail below.

b) Legal consistency and accordance with other pieces of European legislation, especially towards a fossil fuels phase-out: EPBD directive, EED, RED, Ecodesign/ESPR

- The EPBD has a potential of phasing out fossil fuels

To that regard, EPEE would like to restate its position related to the Energy Performance of Buildings Directive (EPBD) revision, soon to be in trilogues. While the Energy Efficiency First principle and the phase out of fossil fuel boilers principle are stressed in the text, Article 7-4a and Article 8-3b are still contentious in terms of heat pump market development. It is key to ensure this framework enables the acceleration of the heat pump roll-out to avoid jeopardizing delivering on the EU's 2030 and 2050 Climate Targets. Heat pumps and renewable energies should take the lead in buildings – to ensure investments do not turn into stranded assets which would lock-in buildings in fossil fuel systems.
Placing on the market prohibitions and bans on government financial incentives for fossil fuel systems are a clear signal to the market in this respect.

- Ecodesign legislations should also be considered

Moreover, ensuring more ambitious energy efficiency for space heating appliances is also possible in the second tier of the Ecodesign and Energy Labelling requirements revision under ENER Lot 1: Space heaters (Commission Regulation (EU) No 813/2013 (OJ L 239, 6.9.2013). However, the current draft proposal of the Ecodesign requirements under ENER Lot 1 includes provision in Annex II.7 for requirements for self-monitoring which could obstruct the achievement of the EU's heat pump roll-out ambitions. Indeed, various consequences may occur, such as additional costs on heat pumps making them more expensive, thus jeopardizing this EU heat pump accelerator initiative. Indeed, various unintended consequences may occur, such as additional costs on heat pumps, thus risking the marketability of our units, but also the differences between real-time values and rated values could, instead, be wrongly interpreted as defects.

Ecodesign requirements are, in fact, very important because they will have an impact on heat pumps production, and eventually on the EU Commission action plan to accelerate heat pump roll-out across the EU. These pieces of legislation should be, therefore, considered together to ensure they are coherent. It is our belief that they could enhance quick gains, that would be beneficial for the heat pumps acceleration goal and the phase-out of the use fossil fuels in heating and cooling.

- Taxonomy delegated acts should not show any discrepancies

EPEE would like to point out the discrepancies between the draft Circular Economy Delegated Act and the existing Climate Mitigation Delegated Act when it comes to the GWP limits set in the Climate Mitigation Delegated and the below prohibition on the use of fluorinated refrigerants in the draft Circular Economy Delegated Act. The first delegated act[3] put a refrigerant GWP threshold of 675 to consider the installation of electric heat pumps as a sustainable economic activity.

However, the point 2.6.6 of the draft Technical Screening criteria for Circular Economy delegated Act, which states "*The products do not contain fluor[inated] gases*" as a requirement (Annex II), contradicts with the previously agreed upon Act and would be extremely prejudicial to investments in the manufacture of energy efficient RACHP equipment using F-Gases as refrigerants, especially for the heat pumps that are necessary for the decarbonisation of the building stock to meet the EU's 2030 and 2050 Climate Targets, and the target for heat pump deployment under REPowerEU in the name of the EU Action Plan for the acceleration of heat pumps in Europe. This measure will also impact the recovery infrastructure for waste refrigerants by making it unviable to recover refrigerants and as such will negatively impact the circular economy in fluorinated refrigerants.

[3] First delegated act on sustainable activities for climate change adaptation and mitigation objectives: EU taxonomy for sustainable activities (europa.eu)

Please see further details and elements on our position on this link, when EPEE submitted its feedback for the EU environmental taxonomy initiative.

c) Implementation at national level, starting from a proper counting of heat pump contributions. Example: the implementation of the EU calculation methodology of renewable heating and cooling shares can demonstrate how heat pumps contribute to Member States' targets

Another point EPEE would like to state under the framework governance, and now the national governance framework, is related to the calculation methodology of both heating and cooling shares. Indeed, heating renewable resources could have been calculated thanks to a methodology that now is extended to cooling renewable resources as well. This methodology needs further promotion and awareness, at an EU-wide level: we believe it could contribute for the Member States to meet their national targets.

2. Research, innovation, and market development

a) The complexity of legislative requirements versus development resources

The diversity and complexity of legislative dossiers is too much of a burden for the heat pump industry, that is already suffering from lack of R&D resources: F-gas revision, a possible PFAS restriction, Ecodesign, RoHS reviews, ESPR are all coming soon and impact a very wide range of products. Incoherence between these dossiers add to the complexity. Health & Safety, energy efficiency first, life cycle CO_2, GWP need to be addressed in an aligned and consistent way but are now dealt with in legislative silos: **the R&D cannot follow-up the track if the current legislations are moving forward as they are now.**
Please see our points below and the *Annex 2* for further explanation.

b) The European single market can play a great supportive role

The European Single Market is the central tool to avoiding national discrepancies. The safeguarding of the European Single Market while avoiding, as much as possible, national discrepancies in terms of requirements on buildings, national additional testing points for heat pumps, product declaration and information obligations will support the strong deployment of heat pumps at faster speed.

Building regulations and codes at national, regional, and local level across the Member States are a major barrier to the installation of heat pumps due to requirements that limit the

application of highly flammable (A3) and lightly flammable (A2L) refrigerants. EU measures to harmonize the building regulations and codes across member states will be necessary to achieve the necessary economy of scale for heat pump technologies that use lower GWP refrigerants.

Furthermore, the current ongoing Net Zero Industry Act (NZIA) from the EU Commission can better facilitate the European market in terms of heat pump R&D and manufacturing Ensuring European and global competitiveness of EU based manufacturers. Indeed, heat pumps are listed by the NZIA initiative as a key technology to achieve climate neutrality. Considering that some companies are investing outside of the EU, the NZIA, as well as this heat pumps acceleration plan, can strengthen European competitiveness within and outside the European single market if the right policy ambitions and the balanced legislative framework is in place, matching market realities.

c) The Interoperability and Demand-Side Flexibility topics

The recent proposal for the review of the Electricity Market Design, from 14 March 2023, illustrates the connection between different topics, among which the following are worth mentioning integration of renewable energies, attraction of investment in fossil-free flexible technologies, resilience of energy generation, demand side response and energy storage. Heat pumps can contribute to all of them, for instance by using ambient energy (renewable) or by recovering energy from waste energy streams; or as peak shaving products, meaning that heat pumps can level out peaks in electricity thus contributing to resilience; or by enhancing demand side response and demand side storage.

Considering that a heat pump is usually part of a wider ecosystem of technical building system (TBS), its capability of communicating directly with other connected 'smart' TBS, indirectly via monitoring systems or BEMSs (Building Energy Management Systems), and aggregators, possibly in a plug-and-play fashion, is a valuable plus. This is called Interoperability, a concept currently being developed in a Code of Conduct (CoC) by DG ENER and the Joint Research Centre (the CoC will initially be a voluntary scheme).

There seems to be a risk of inconsistencies between various initiatives with the Commission, namely the CoC at product level *vs* the ACER draft Network Code. The Commission needs to ensure that these work together[4].

Moreover, to well implement the plan at the EU level, EPEE asks the Commission to thoroughly take into account the different effects of the state-of-the-art heat pump technology on the Smart Readiness Indicator (SRI) with regards to factors such as comfort, flexibility, or even the information made available to users through self-monitoring.

[4] More details can be found here: https://circabc.europa.eu/ui/group/f5b849d3-26ae-4cba-b9f9-6bc6688c5f58/library/dbe55e69-25e7-43df-9bc3-0132d80118d7?p=1&n=10&sort=modified_DESCThe

3. Financing the roll-out of heat pumps

a) Energy pricing to steer the direction to electrification

That said, EPEE believes, in accordance with a coherent legislative process regarding the F-gas and the PFAS dossiers, other pieces of legislation should be linked to this acceleration plan. This would enhance the attractiveness of renewable based technologies such as heat pumps, by rebalancing the total ownership costs and running costs compared to fossil fuel boilers.

First of all, the roll-out of heat pumps will be slowed down if fossil fuels units can still be installed. The REPowerEU plan is supposed to enhance energy sufficiency and embrace renewables energies for greener buildings. Therefore, a few questions can be raised. If cheaper fossil fuels units are still available, how can we expect the consumer to move towards efficient heat pumps? If fossil fuels boilers can still be installed, how can we deliver on the European climate goals and the energy efficiency first principle?

Moreover, there is a large gap between electricity and gas prices in the EU. The end-users should be able to see faster return on investments, thanks to rebalanced electricity and gas prices. This task should be further taken up at EU level to ensure the external factors impacting the total cost of ownership of such systems is increasingly made more attractive for all EU households. Efficiency should come first, and this cannot be done with fossil fuels still in play. **The right signal needs to be sent to buildings owners, consumers and all end-users.** This can also be accomplished by ending subsidies for fossil fuel system and diverting those funds to heat pumps and other renewable technologies.

4. Skills and communication

a) The importance of assessing training and skills in terms of heat pumps expertise and installation

If heat pumps are to become the norm in our buildings**, it is important to strengthen training and installers' skills to meet the deadlines of such a transition**. As 2023 is the EU Year of Skills, it is a great opportunity to raise awareness on all types of heat pumps and related installation and maintenance training.

The skills set regarding heat pumps should also be extended to building designers, to ensure that they are capable of exploiting the best of heat pumps at the design stage, directly helping the installers. Thus, heat pump expertise should then be strengthened because this would lead to a smooth implementation of the EU Action Plan for the acceleration of heat pumps.

It is key to develop further the heat pump skills set throughout the whole value chain, from professional installer to technical schools.

b) The importance of heat pumps for renovation purposes

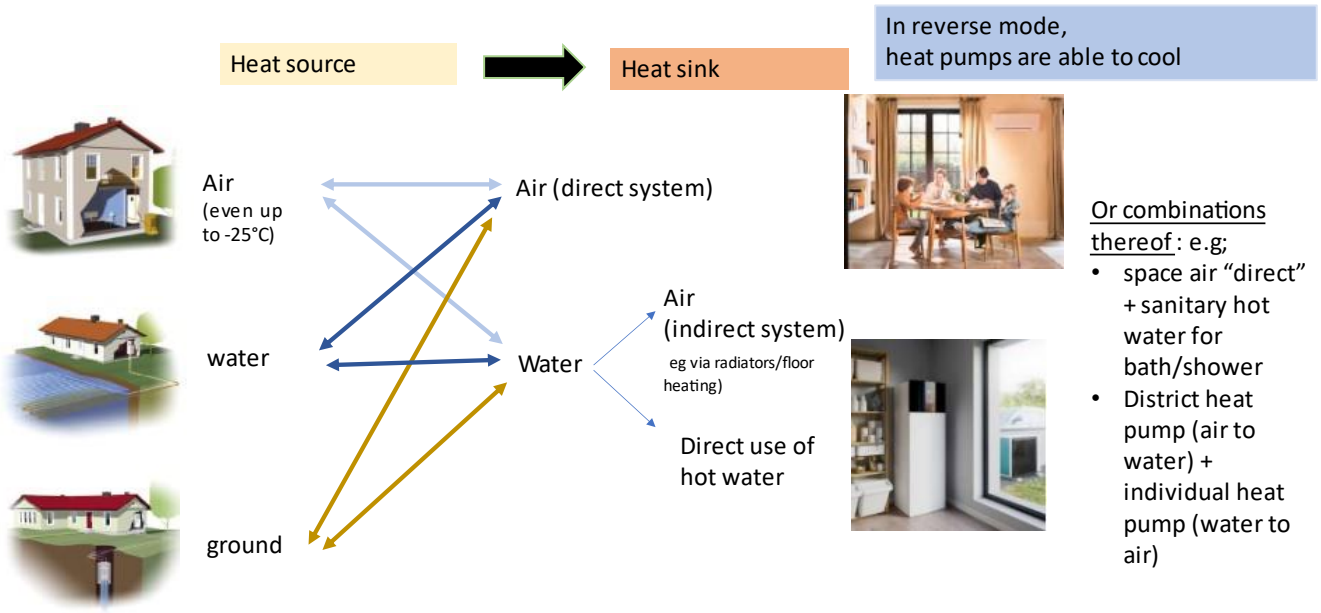
There are ongoing debates whether heat pumps can and should be used to replace fossil fuel boilers in existing buildings. Opponents claim for example that buildings need to be first fully renovated to ensure that heat pumps are performing according to expectations. However, there is ample evidence that this is not the case.[5] Heat pump technology and its performance has evolved significantly over the past decades, amongst others due to European legislation such as Ecodesign requirements.

Nevertheless, it is important to mention that heat pumps need to be correctly sized and installed, in new built and especially for renovation purposes, to ensure optimum performance. For example, when hydronic heat pumps are connected to the existing hydronic circuit and heat emitters of a building, thermostat settings and balancing of the hydronic circuit are necessary to ensure optimum operating conditions for the heat pump. More awareness and information campaigns are needed to inform about the suitability of heat pumps for renovation purposes.

[5] See the Electrification of Heat demonstration project in the UK, tps://es.catapult.org.uk/report/electrification-of-heat-interim-heat-pump-performance-data-analysis-report/

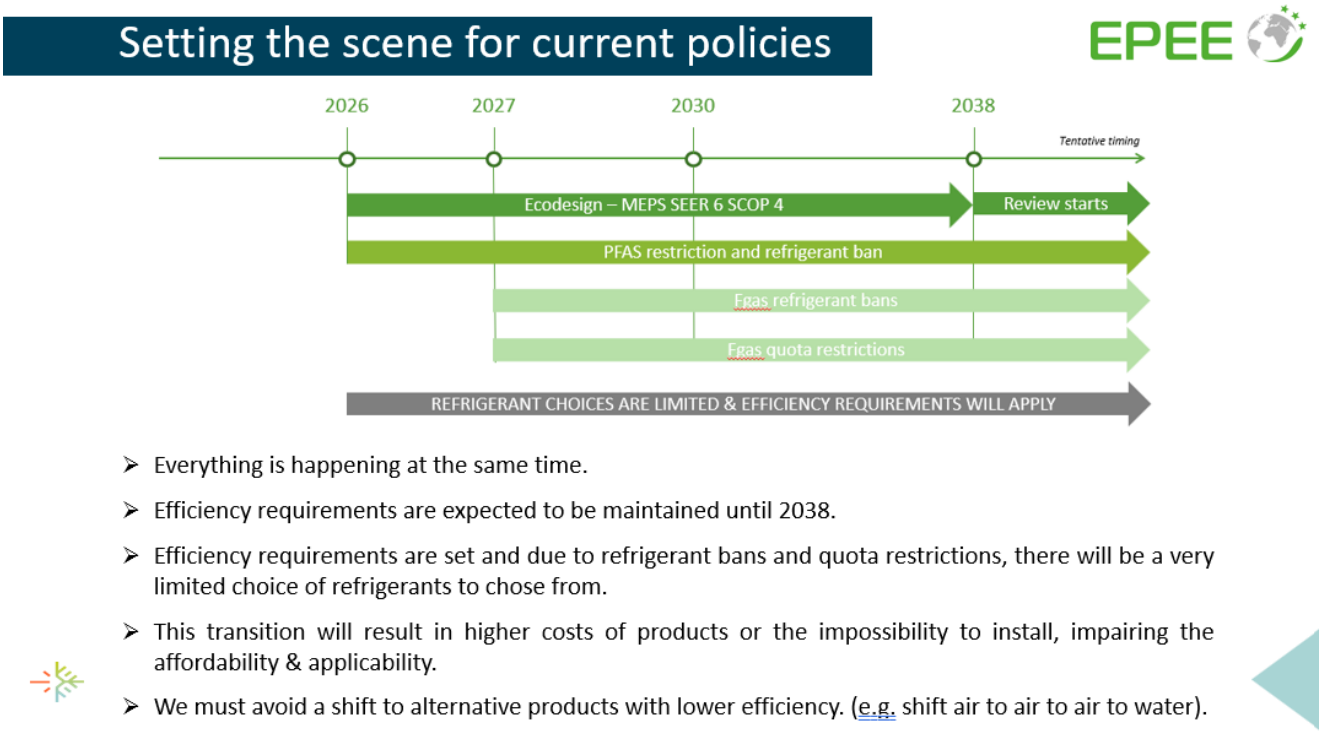
Annex 1: The diversity of heat pumps

Heat pump types



Heat pumps have various applications: residential, commercial, etc.

Annex 2: Overview of legislative deadlines that impact heat pump R&D



ABOUT EPEE

EPEE represents the Refrigeration, Air-Conditioning, and Heat Pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of over 50 member companies as well as national and international associations from three continents (Europe, North America, Asia). With manufacturing sites and research and development facilities across the EU, which innovate for the global market, EPEE member companies realize a turnover of over 30 billion Euros, employ more than 200,000 people in Europe and also create indirect employment through a vast network of small and medium-sized enterprises such as contractors who install, service and maintain equipment. Please see our website (https://www.epeeglobal.org/) for further information.