

European Heat Pump Association AISBL

EHPA policy requests for the revision of the EED

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On the 8th of July, the European Commission published its *EU Energy System Integration Strategy* as part of the European Green Deal to reach climate neutrality by 2050. The Commission stresses that heat pumps play a central role in an integrated energy system and offer an opportunity to accelerate the energy transition. **For the first time, the EC sets an ambitious target of quadrupling of the current amount of residential heat pumps by 2030.** In 2030, 40% of residential buildings should be heated by heat pumps and up to 70% in 2050. Moreover, latest [IEA](#) report also suggests that heat pumps could even satisfy 90% of all heating needs at the global level.

The contribution of heat pumps to energy efficiency are considerable:

- heat pumps cover a variety of most efficient technologies for heating and cooling. They also embed the “efficiency first” principle;
- heat pumps expand the benefits of growing shares of renewables in the European energy mix;
- in addition, heat pumps can sometimes provide heating and cooling, allowing for “dual thermal generation” with the same system.

Find more quick facts about heat pump technologies below of this reply.

The revision of the [EED](#) is an important opportunity to further expand the energy efficiency benefits of heat pumps, as well as to support their large-scale deployment in accordance with the *EU Energy System Integration Strategy*.

For this reason, EHPA voices the following requests:

1) Raising the importance of heating and cooling beyond the EED

In application of EED art.14 and ANNEX VIII, Member States are required to submit “Comprehensive Assessments on efficient heating and cooling”. The contents of the provisions reach far beyond efficiency-related aspects of heating and cooling towards other policy areas (renewable energy, CO2 emissions reduction, financing, etc.).

Heating and cooling represent 50% of the overall energy consumption in the EU. So, the sector deserves more legal visibility.

Therefore, EHPA recommends that the provisions related to the “Comprehensive Assessments” are moved out of the EED, into the Energy Union Regulation’s provisions applying to the NECPS and/or into a dedicated EU initiative on heating and cooling. Given its importance for a successful energy transition, the heating and cooling sector deserves its own ambitious EU policy framework.

2) Explicitly recognising the energy efficiency potential from heat pumps and specifically promoting their deployment at national, regional and local level

Currently the EED does not explicitly point to the energy efficiency potential from heat pumps, under the pretext of technology neutrality. This approach hinders the deployment of an ambitious and focused industrial strategy for Europe. It also creates confusion to Member States, the industry and citizens that are willing to contribute effectively to the energy transition.

This approach is outdated within regard to the recent *EU Energy System Integration Strategy* that clearly recognises that “replacing a fossil-fuel based boiler with a heat pump using renewable electricity saves two thirds of primary energy”¹. Given that the recent *EU Energy System Integration Strategy* calls for the quadrupling of the heat pump deployment in the EU, it is also not justifiable anymore that the current EED only highlights alternative technologies in their recommendations to Member States. EED art.14 2. states that “Member States shall adopt policies which encourage the due taking into account at local and regional

¹ EU Energy System Integration Strategy, p. 5 (referring to Kavvadias, K., Jiminez Navarro, J. and Thomasse, G., Decarbonising the EU heating sector: Integration of the power and heating sector, 2019.

levels of the potential of using efficient heating and cooling systems, in particular those using high-efficiency cogeneration. Account shall be taken of the potential for developing local and regional heat markets.”

So, in order for the EED to correctly implement the energy efficiency first principle and be in accordance with the *EU Energy System Integration Strategy*, it is crucial that heat pumps are given more visibility and frank political backing.

In accordance with the *EU Energy System Integration Strategy*, EHPA recommends that art.14 EED fully recognises the various heat pump technologies and advises Member States to better promote them at national, regional and local level, allowing them thus to better account for the energy savings arising from the deployment of heat pumps.

3) Putting in place a concerted action to gather data on heating and cooling

Member States lack data on the heating systems and buildings on their territory. In application of EED art.14 and ANNEX VIII, Member States are required to submit “Comprehensive Assessments on efficient heating and cooling”. One of the requirements is a map of the national territory identifying heating and cooling demand points. In order to make heating and cooling regulation and measures more effective and fact-based, Member States should be supported in gathering data on the state of heating and cooling systems currently in place on their territory. This will not only facilitate targeted advice and guidance on efficient heating and cooling, but also accelerate the needed greening of this sector.

EHPA recommends supporting Member States in gathering data on the state of heating and cooling systems through the “Comprehensive Assessments on efficient heating and cooling”. This can be supported by the Concerted Action on the EED which enables Member States to exchange experience and collaborate with fellow experts to learn from one another’s energy efficiency initiatives.

4) Putting an end to the “Ecodesign malus”

In application of EED art.7 and ANNEX V, Member States are not allowed to account for the full actual energy savings arising from the replacement of a heating system by another heating system falling in the remit of the Ecodesign product regulations, but only for the levels of energy savings above the minimum requirements set by product regulations under Ecodesign.

Consequently, if an old fossil fuel system is being replaced by the most efficient heat pump on the market (in the absence of building renovation), Member States can only account for the delta in energy consumption between this very efficient heat pump and the lowest efficient heat pump currently available on the market that could have been theoretically installed. Since all heat pumps are subject to very high efficiency standards arising from the Ecodesign framework, this delta is always very small. Ironically, the EED puts heat pumps – because they are so efficient – in a situation where they are less likely to get additional support from Member States than other efficiency improvements that are not subject to Ecodesign rules.

Therefore, EHPA recommends that the EED no longer prevents Member States from acknowledging the actual energy savings potential arising from the deployment of very efficient products subject to Ecodesign rules, such as heat pumps. So, boiler replacement would receive an extra push.

5) Acknowledging the energy savings from industrial heat pumps and supporting their calculation

As stated in the *EU Energy System Integration Strategy*: “In industry, heat represents more than 60% of energy use. Industrial heat pumps can help decarbonize the low temperature heat supply within industries and can be coupled with waste heat recovery”. The potential of Industrial heat pumps needs to be fully recognised by the *Energy Efficiency Directive* in order to achieve the EU energy and climate goals. Currently it is however not clear how Member States should calculate the energy savings from industrial and commercial heat pumps under art. 7 EED. This should be made easier.

EHPA recommends that the EED points to the potential energy savings arising from the installation of industrial heat pumps. In addition, policy guidance on the calculation of energy savings by industrial heat pumps should be given by the Commission.

6) Primary energy factor: allowing it to mirror the constant greening of the energy system, stepwise, and encouraging similar evolution at national level

As proposed in the *Energy System Integration Strategy*, a review of the primary energy factor for electricity (ANNEX IV EED – footnote 3) should lead to a better recognition of these energy efficiency savings. The current factor of 2.1 should be revised to reflect the increasing share of renewable energy in electricity generation. Its application in EU product regulation should happen at a pace compatible with technical and commercial processes of the EU industry.

The current EED does not make the default coefficient compulsory neither does it encourages Member States to review their calculation method of the primary energy factor in order to reflect the increasing share of renewable energy in their mix. Therefore, in practice, Member States can keep using the primary energy factors as used before the revision of the EED. This creates an important barrier to the needed deployment of certain technologies, such as heat pumps.

Therefore, **EHPA recommends that the EC sets up a long-term step-by-step revision process of the primary energy factor that best reflects the increasing share of renewable energy in electricity generation and ensures a planned, predictable and smooth application in Ecodesign policies. EHPA also recommends that the EC more strongly encourages Members States to review national PEFs in order to better reflect the evolution of the EU default factor.**

7) Recognising the energy efficiency gains from efficient cooling by heat pumps and supporting calculation

Due to increased energy performance requirements for buildings (e.g NZEB,...) the heating load is reducing but cooling is gaining more importance in view of sustainability and IAQ. Heat pumps have the special feature to provide efficient and sustainable cooling. But this efficient cooling is not particularly addressed in the current EED. The potential of efficient cooling by heat pumps needs to be fully recognised by the *Energy Efficiency Directive* in order to achieve the EU energy and climate goals. Currently it is however not clear how Member States should calculate the energy savings from efficient cooling by heat pumps under art. 7 EED. This should be made easier.

EHPA recommends that the EED points to the potential energy savings arising from efficient cooling by heat pumps. In addition, policy guidance on the calculation of energy savings from efficient cooling by heat pumps should be given by the Commission.

8) Recognising energy efficiency gains from demand side flexibility

Heat pumps largely contribute to the flexibility of the energy system. Load shifting from peak to off-peak hours enables to make better use of the available renewable electricity, increasing energy efficiency and reducing emissions. Heat pumps today are smart grid ready, meaning they can unlock this load shifting through smart and automated controls. The efficiency benefits that demand side flexibility provides are currently not acknowledged in the EED and cannot be taken into account in the energy savings calculations by Member States.

EHPA recommends that the EED acknowledges the energy efficiency from demand side flexibility by heat pumps and that Member States can take this into account in their energy savings calculations.

9) Taking into account commercial and residential waste heat and cold

When focusing on waste heat and cold, the current EED only focuses on industrial waste heat and cold. Although the energy efficiency potential of using commercial and residential waste heat and cold is significant, for example heat recovery from sanitary hot water in residential applications or the use of waste heat and cold from supermarkets.

EHPA recommends that the EED puts a larger focus on waste heat from residential and commercial applications so that Member States become aware of this potential. Waste heat from residential and commercial applications should be better taken into account in art. 14 EED.

Finally, EHPA draws attention to the fact that the deployment of heat pumps will also be ensured by measures that are not part of the EED. With this regard, taxation of electricity and heat needs to be balanced. As the *EU Energy System Integration Strategy* points out, the consistency of non-energy price components across energy carriers should be ensured by addressing the high charges and levies borne by electricity. External costs of heating and cooling should be internalized as well as the cost of “no(sufficient) action”, for instance through CO2 price signals.

Quick facts about heat-pump technologies:

- Heat pumps offer already today a variety of solutions for **heating, cooling, and domestic hot water production**, which are ready-to-use for the large majority of the residential and commercial building stock in Europe, as well as for industrial processes. Heat pumps use **renewable thermal energy from air, water, ground or sewage water**. They apply circular economy principles when recovering energy and waste heat. They create “**circular energy**”.
- Heat pumps are **mature technologies**, among the most efficient ways to provide heating and cooling while **reducing total CO₂ emissions**. They also contribute to **indoor and outdoor air quality**.
- When using electricity, heat pumps can provide heating and cooling, even in parallel. So, heat pumps are not only among the **most efficient solutions**, but they also embed the “**efficiency first**” principle by allowing for “**dual thermal generation**”. They expand the benefits of growing shares of decarbonised electricity in the European energy mix.
- Heat pumps also make **very efficient use of gas** through thermally driven systems (gas heat pumps). Hybrid systems using renewable and low-carbon gases during peak demand of electricity contribute to **system efficiency**.
- Industrial and commercial heat pumps improve the energy efficiency and contribute to the **decarbonisation of district heating, and cooling systems and industrial processes**.
- Heat pumps are part of **new business models and digital systems** that boost the use of **electric vehicles, renewable electricity and smart home appliances**. They facilitate **sector integration** and **thermal storage**.
- Heat pumps contribute to the **stabilisation of electrical grids** increasingly powered by energy from fluctuating renewable sources.
- The **heat-pump industry is growing every year** (by more than 10%) across Europe and is creating dozens of thousands of jobs.
- To ensure perfect competition, policy makers should provide **perfect information to investors on the multiple benefits of heat pumps and their potential to fulfilling several EU climate and energy targets**. They should **assess technologies based on all their merits**.