Policy priorities for the fit for 55 package

The fit for 55 package is an important opportunity to further expand the energy efficiency benefits and renewable energy contribution of heat pump technologies, as well as to support their large-scale deployment following the *EU Strategy for Energy System Integration*. Revising a large range of directives simultaneously should ease an aligned and more ambitious approach for decarbonising the heating and cooling sector as recommended in the *Renovation Wave Communication*.

The European Heat Pump Association (EHPA) proposes the following priorities in this position paper:

EHPA's POLICY PRIORITIES FOR FIT FOR 55

01

Align Policies on efficient AND renewable heating and cooling

- A comprehensive and ambitious heating decarbonisation roadmap
- Incentivize technologies that are simultaneously efficient and renewable
- Incentivize fuel switching in the EED

02

Unlock the full potential of heat pump technologies

- Ambitious and binding target for renewables in heating and cooling
- Enlarge the concept of waste heat to circular energy
- Address energy savings from industrial heat pumps, thermal storage and flexibility

03

Guide citizens to efficient and renewable heating and cooling solutions for their buildings

- One stop-shops for heating and cooling renovations
- Increased requirements on renewable and efficient heating in buildings
- More attractive training and certification for heat pump installers

04

Review energy pricing to guide end-users towards the most energy-efficient solutions

- Re-balance taxation of different energy carriers
- Internalise external effects of fossil energy use through carbon pricing
- Implement legislation to valorise flexibility

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1. Align policies on efficient AND renewable heating and cooling

Since renewable energy, energy efficiency and energy system integration are all essential to achieve the climate target, these should not be separated. Aligning the Energy Efficiency Directive (EED), Renewable Energy Directive (RED II) and the Energy Performance of Buildings Directive (EPBD) is key. All three Directives should give priority to measures that simultaneously promote heating and cooling technologies that integrate energy efficiency, renewable energy and energy system integration, such as heat pump technologies.

- *A comprehensive and ambitious heating decarbonisation roadmap*

Today, despite its importance, assessing and planning heating and cooling is covered by EU legislation in a scattered way (EED/EPBD/REDII). Sometimes only the efficiency aspect of heating and cooling is covered, and sometimes only the renewable aspect. Similarly, technical requirements are stretched across documents.[1]
To raise the effectiveness of assessing and planning the decarbonisation of the heating and cooling sector, the requirements in these different legislative initiatives should be more ambitious and concrete, interlinked and always refer to both the energy savings and renewable contribution of heating and cooling.

A stronger synergy between the Comprehensive Assessments (EED, art. 14), the renewables assessments in heating and cooling (RED II, art 15 (7)) and the long-term renovation strategies (EPBD art. 2a) should be implemented in the following way:

- **Create a comprehensive and ambitious heating decarbonisation roadmap in Europe that gives a complete overview of the targets, planning and assessment requirements for efficient and decarbonised heating and cooling;**
- **Include a requirement for a long-term strategy for decarbonising heating and cooling including binding milestones and measures;**
- **Move the provisions related to the Comprehensive Assessments (EED, art. 14) and the renewable heating and cooling assessments (RED II, 15 (7)) into the Governance Regulation's provisions applying to the NECPs. Just as the long-term renovation strategies (EPBD, art. 2a) became a mandatory part of the NECPs. This will allow for the necessary synergy with energy infrastructure and urban planning;**
- **Introduce a definition repository to be used across all legislation and easing a joint understanding. For the case of heat pumps: the understanding of the technology as renewable and energy efficient from RED II and EED should be applied also to files such as the taxonomy regulation.**

- *Incentivize technologies that are simultaneously efficient and renewable*

As shown by the EC in its *EU Strategy for Energy System Integration*, one of the most important barriers for the role out of heat pump technologies, which are key to increase the share of renewable energy in heating and cooling, is the aspect of costs.

- **The EC should urge Member States to only adopt fiscal measures and financial incentives that support the EU's renewable energy and energy efficiency goals. To be eligible for subsidies, the heating and cooling equipment receiving those public subsidies should help Member States simultaneously reach energy efficiency and renewable energy targets.**
- **The policy measures in EED art. 7 (9) should be linked to the renewable energy target instead of only to improving energy efficiency.**
- **RED II art. 23, 4 (d) states that** *Member States may implement the average annual increase of renewables in heating and cooling by – inter alia - one or more of the following options.* **These options should be made binding and stricter by leaving out the possibility of "other policy options" in (d) but stressing instead the fiscal measures or financial incentives.**
- **The financial incentives in EPBD art. 10 should specifically target both energy efficiency improvements and contributions to the renewable energy share.**

[1] Currently assessments and planning of heating and cooling are required by the following EU legislative initiatives: EED art. 14, annex VIII: comprehensive assessments for the application of high-efficiency cogeneration and efficient heating and cooling;
EPBD art. 2a: Long-term renovation strategy to support the renovation of the national stock of residential and non-residential buildings; RED II art 15 (7): Member States shall carry out an assessment of their potential of energy from renewable sources and of the use of waste heat and cold in the heating and cooling sector; Governance Regulation art. 4b: NECPs, should already include the long-term renovation strategy.

- *Incentivize fuel switching in the EED*

The current EED incentivizes changing to a more efficient heating device without considering whether this heating device uses fossil fuels or renewable energy. This is not in line with the RED II and with the *Renovation Wave Communication* which highlights the decarbonisation of heating and cooling as a key priority.

- **In the energy savings calculations in EED art. 7, more value should be attributed to energy savings resulting from a switch to a system that simultaneously contributes to the energy efficiency and renewable energy targets such as heat pump technologies.**
- **The EED should require Member States to consider the carbon emissions of heating and cooling in the comprehensive assessments by among others adapting EED art. 14 (2):** *Member states shall adopt policies which encourage the due taking into account at local and regional levels of the potential of using efficient heating and cooling systems with low carbon emissions~~, in particular those using high-efficiency cogeneration.~~*

2. Unlock the full potential of heat pump technologies

- *Ambitious and binding target for renewables in heating and cooling*

In the *EU Strategy for Energy System Integration*, the EC foresees that 40% of residential buildings and 65% of all buildings in the service sector are to be heated by electricity by 2030.[4] As EU policy is guided by the "energy efficiency first" principle, this should result in the most efficient electric heating technology to be deployed: heat pumps.[2] An average annual growth rate of 15% pa over the next 10 years is necessary to achieve the quadrupling of the heat pump stock. The industry is ready to deliver this.
Recognizing the full potential of heat pump technologies enables the fit for 55% package and the underlying legislation to be ambitious and to increase ambition levels in the future, as heat pump technology is at once available and will become more impactful with the decarbonisation of the electricity mix.

To reflect the electrification of heating targets from the *EU Strategy for Energy System Integration*, the target for renewables in heating and cooling should increase to 50% by 2030. To increase its impact, the annual target derived from this, should be made binding in RED II art. 23.[3]

- *Enlarge the concept of waste heat to circular energy*

Currently, waste heat and cold can only be accounted for under article 23 and 24 of the RED II when it is recovered by district heating and cooling (industrial waste heat and cold). The energy efficiency potential of using waste heat and cold is much larger, for example heat recovery from sewage water in residential applications or the use of waste heat and cold from supermarkets. The use of waste heat from cooling on the building level would allow for significant efficiency increase. The recovery of waste heat from all heating and cooling systems should be fully unlocked.

- **The concepts of waste heat and cold recovery should be expanded to residential and commercial applications by including these in the definition of waste heat and cold in RED II art. 2 (9).**
- **The status of waste heat should increase by adapting the name. Since this heat or cold is recovered and not wasted and contributes to the circular economy concept, a more proper name for such an expanded concept would be circular energy. In RED II art. 23 (4) and art. 24 and EED art. 14** *waste heat* **should be replaced by** *circular energy***.**
- **For heating and cooling systems above a certain size (kW) the use of circular energy should be stimulated by ensuring through an analysis that this energy can be used on site or nearby. If found not possible by this analysis, then the circular energy can be discharged as thermal waste.**

[2] With an estimated building stock of 120 million buildings, the number of needed appliances will be around 48 million units, higher, if the deployment of more than one unit in multi-family and commercial buildings is considered. The installed base in heating heat pumps reached about 14,6 million units at the end of 2020.
[3] Manifesto of the heating and cooling alliance https://www.renewableheatingandcoolingalliance.org/publications

- *Address energy savings from industrial heat pumps, thermal storage and flexibility*

As stated in the *EU Strategy for Energy System Integration*: "*In industry, heat represents more than 60% of energy use. Industrial heat pumps can help decarbonise the low temperature heat supply within industries and can be coupled with waste heat recovery."* The potential of industrial heat pumps, thermal storage and the efficiency benefits that demand side flexibility supplies, need to be fully recognised and assessed by the *Energy Efficiency Directive* to achieve the EU energy and climate goals.

- **The EED should point to the energy savings and potential renewable energy contribution arising from the installation of industrial heat pumps and should require member states to assess this under the comprehensive assessments in EED art. 14.**
- **Policy guidance on the calculation of energy savings by industrial heat pumps should be given by the EC under EED art. 7. This should happen likewise for the inclusion of thermal storage in EED art. 14 and EED art. 7 and the inclusion of energy efficiency from demand side flexibility by heat pump technologies. The contribution from heat pump technologies to the energy saving targets should not artificially be reduced by the calculation method (see also Annex I – EED and Commission recommendation 2019/6621 page 113ff)**
- **The scope of the comprehensive assessments EED art. 14 should also be extended to include circular energy (currently called waste heat).** [4]

3. Guide citizens to efficient and renewable heating and cooling solutions for their buildings

- *One-stop shops for heating and cooling renovations*

The *Renovation Wave Communication* points out the importance of standardised one-stop shops.[5] The Superhomes project,[6] in which EHPA is involved, proves that one-stop shops help overcome barriers for renovations with heat pump technologies by covering all renovation steps including the use of package solutions.

One-stop shops for heating and cooling renovations should be put in place, these should cover all steps: information, advice, planning, finalisation of the works, quality checks, administrative processes and financing. These should guide citizens and improve both the energy efficiency and the renewables share of the building with heat pump technologies. The reference to one-stop shops should be included in EED art. 17 and 18, RED II art. 18 and EPBD art. 20.

- *Increased requirements on renewable and efficient heating in buildings*

The current EPBD only requires that "the feasibility of high efficiency alternative systems is taken into account" both for new buildings (art. 6) and existing buildings (art. 7). This should be made more ambitious, more binding and should allow for the integration of renewables. Also, owners and tenants of the existing building stock should be incentivised on the need to upgrade the energy and carbon performance of their building to achieve a decarbonised building stock by 2050.

[4] As explained in the previous point of this paper (enlarge the concept of waste heat to circular energy)
[5] Renovation Wave Communication, p. 14
[6] https://superhomes.ie/

EHPA recommends that for new buildings and major renovations:

- **The required share of renewable energy should at least include a mandatory minimum share of renewable heat and domestic hot water.[7] This requirement should in part be fulfilled by on-site generation of said energy. This share should be introduced in a staged approach in order to reach 100% RES consumption by 2050. This should be introduced in RED II art. 15 (4) and referred to in EPBD.**
- **In the EPBD, mandatory minimum energy performance standards should be set at such an ambitious level that it cannot be achieved without an efficient and renewable heating system[8] in place. Therefore, new buildings and major renovations should by default include an efficient and renewable heating[9] system. This should be included in the definition of a major renovation EPBD art. 2 (10) and in the requirements for new buildings EPBD art. 6 (2) and for major renovations in EPBD art. 7.**

EHPA recommends that for the existing building stock:

- **In the RED II art. 15 (6) Member States should be encouraged to implement numeric targets such as scrapping schemes to replace inefficient systems with significantly more efficient and renewable heating systems such as heat pump technologies. This should also be referred to in the EPBD and the long-term renovation strategies.**
- **In the EED art. 5 and 6 on the renovation and purchasing of government buildings, the requirement of an efficient heating and cooling system that uses renewable energy should be included.**
- **In the EPBD, building renovation passports are being developed for the existing building stock. This should include targeted advice on the specific steps towards decarbonising each individual building especially its heating and cooling system.**
- **In the EPBD, the carbon performance of the energy system in the use phase of the building should be added as a metric to the building passport. This should guide citizens towards the decarbonisation of the building by prioritising the decarbonisation of the heating and cooling systems by 2050. This data should be developed under Ecodesign. At a later stage, maximum carbon emission thresholds can also be developed and included in the building passports.**
- **The current requirement to inspect heating systems with an effective rated output of >70 kW in EPBD art. 14 should be extended to all heating systems. This regular inspection will help setting up the building renovation passports for every building in the most targeted way, since the energy performance of each building including the current heating and cooling system in place should be mapped.**

- *More attractive training and certification for heat pump installers*

In EED art. 16, certification and/or accreditation schemes for energy-related building elements (including heat pump technologies) are not compulsory. In the RED art. 18 however it is compulsory for Member States to ensure the availability of certification or qualification schemes for installers of heat pump technologies.

In practice, several certification schemes for installers of heat pump technologies have failed due to a lack of interest from installers for the certification and training. Getting training and certification should be an opportunity for installers whilst not increasing costs and thus further increasing the price gap between renewables and fossil energy.

- **The training and certification requirements in EED art. 16, RED II art. 18 should be made consistent.**
- **The EC should investigate effective measures to increase interest amongst installers for undergoing training and certification measures. Certified or trained installers could, for example, get access to business opportunities such as public procurements or subsidy schemes for the technologies they install.**
- **An overview of best practices on training and certification of installers in the different Member States should be set up.**

[7] Including systems that use circular energy (see p. 3 of this paper)
[8] Including systems that use circular energy (see p. 3 of this paper)
[9] Including systems that use circular energy (see p. 3 of this paper)

4. Review energy pricing to guide end-users towards the most energy-efficient solutions

Unlocking the highest possible level of decarbonisation requires activating end-users. As end-user decision making is governed by the underlying economics, it is relevant to correct the taxes and levies applied to different energy carriers. This correction should happen in a way that makes the most beneficial solution also the most economically attractive one. This is in line with the *EU Strategy for Energy System Integration: "trustworthy and efficient markets should guide customers towards the most energy-efficient and cheapest decarbonisation option on the basis of prices that properly reflect all the costs of the energy carrier used*".[10]
Consequently, the price of energy needs to be corrected on three dimensions:

- *Re-balance taxation of different energy carriers*

The revision of the Energy Taxation Directive should aim at balancing the taxation and other levies applied to different energy carriers, including by connecting taxation levels to the CO_2 content of the energy carrier.

- *Internalise external effects of fossil energy use through carbon pricing*

The level of internalisation of carbon costs varies widely for different sectors (e.g. buildings and transport) and Member States. Internalising the external effects of fossil energy use is essential to create a level playing field and to encourage price-based decisions by all citizens. To avoid economic hardship in low-income housing, "fee and dividend" approaches should be used. By internalising carbon costs, the most energy-efficient and sustainable heating and cooling options will become most attractive, making it natural to switch to these solutions.

- *Implement legislation to valorise flexibility*

Heat pump technologies can contribute to a more stable electricity system and higher shares of renewable electricity by supplying load shifting to the grid. Consumers will benefit and new business models will be enabled, if such flexibility is given an economic value.

The EC should urge Member States to fully implement the provisions from the Clean Energy Package, in particular the third electricity market framework Directive.

[10] EU Strategy for Energy System Integration, p. 14

Annex: Additional technical policy asks for the specific Directives

EPBD

- **Align the Ecodesign data on the efficiency of the technical building system with the data used for the energy performance calculation of buildings**

Currently the data that Member States use for the energy performance calculation of buildings is not aligned with the data in Ecodesign. This creates discrepancies and suboptimal results in the energy performance calculations.

EHPA recommends the use of EU harmonised data for all energy performance calculations. Ideally this is done by using the European Product Database for Energy Labelling (EPREL)[11] or via standard based test results of technical building systems.

- **Revise and simplify the Smart Readiness Indicator**

Rating the smart readiness of buildings certainly has its value as a principle, however a lot of its effectiveness depends on the implementation and method. Currently the method that is being developed is too complex to unlock its potential.

EHPA recommends revising and simplifying the SRI methodology, while still ensuring its value and relevance. We call for a nuanced approach on the SRI to gain better understanding about its actual effects in different building types. An in-depth assessment is necessary including more insights on the actual effects and benefits on 'real' buildings, to determine whether and how to move forward with making such indicator mandatory or not.

EED

- **Putting an end to the Ecodesign malus in art. 7**

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 or cooling system by another 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 pump technologies are subject to very high efficiency standards arising from the Ecodesign framework, this delta is always very small. Because of the small energy efficiency delta that can be accounted for, Member States will be less likely to incentivize switching from a fossil fuel-based heating system to an efficient heat pump. Ironically, the EED puts heat pump technologies – because they are so efficient – in a situation where they are less likely to get more support from Member States than other efficiency improvements that are not subject to Ecodesign rules such as replacing windows.

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

- **The primary energy factor should mirror the constant greening of the energy system, stepwise, and encouraging similar evolution at national level.**

As proposed in the *EU Strategy on Energy System Integration*, a regular 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 EED does not make the default coefficient compulsory neither does it encourage Member States to review their calculation method of the primary energy factor to reflect the increasing share of renewable energy in their mix. Therefore, in practice, Member States can keep using the same primary energy factor and not review the calculation. This creates an important barrier to the needed deployment of certain technologies, such as heat pump technologies.

[11] As of 1 January 2019, suppliers (manufacturers, importers or authorised representatives) need to register their appliances, which require an energy label in the (EPREL), before selling them to the European market.

EHPA recommends that the primary energy factor is reviewed on an annual basis to reflect the increasing share of renewable energy in electricity generation. This annual update can be facilitated by digitalisation. If this monitoring displays a discrepancy with the PEF that is in place, the default PEF should be adapted. The application of the PEF in EU product regulation should happen at a pace compatible with technical and commercial processes of the EU industry. EHPA recommends that the EC more strongly encourages Members States to review national PEFs to better reflect the greening of the energy system.

RED

- **Update RES accounting from heat pumps and create overview on reporting methods**

To fulfil their obligations under the Energy Union Regulation on NECPs, Member States are using the calculation methodology in Commission Decision 2013/114/EU (In application of RED II art.7 and ANNEX VII) to determine the share of renewable energy that can be reported from heat pump technologies. This decision is both outdated regarding the current market, legal and technical realities (seasonal performance values, nothing on industrial and hybrid heat pumps, etc.). This situation generates confusion at national level and consequently some Member States do not report the whole renewable energy contribution from heat pump technologies. Given the importance to strengthen the deployment of heat pump technologies, this obsolescence needs to be tackled.

Therefore, EHPA recommends that the EC urgently proposes an updated version of Commission Decision 2013/114/EU that better reflects the current market and the legal and technical realities of the heat pump market. In addition, an overview of reporting methods of the different Member States should be created.

- **Renewable energy use in industry**

Currently there are no specific requirements for the use of renewable energy in industry in the RED II.

Therefore, EHPA recommends that all industrial sectors should have clear decarbonisation plans by 2050 including the decarbonisation of their heating and cooling needs including by renewables. They should have to send these plans and update them on a regular basis. To support this the EC should provide the different industrial sectors with enough information on improving the cost efficiency of their sector for example with large heat pump solutions.