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EPEE EED position paper

The Heating and Cooling sectors' contribution to energy efficiency and the EU's climate neutrality goals

Executive summary

- In view of the 2030 Climate Target Plan and the goal of climate neutrality to be reached by 2050, the 2030 energy efficiency target of 32.5% is obsolete. EPEE calls for **binding 2030 EU Energy Efficiency target of at least 40%** to reach the cost-effective energy efficiency potential and maximise the environmental, social and economic benefits of the energy transition.
- Given the importance of decarbonising the H&C sector to achieve the objectives of the EU Green Deal, EPEE believes that a **sectoral target should be established**, in order to shift from a siloed approach on heating only towards an integrated, system-based and more holistic approach, and increase the political attention devoted to H&C.
- More specifically, in relation to the exemplary role of public buildings and as disciplined under Articles 5-7, EPEE calls for **more consistency and better alignment between the EED and the EPBD**, in light of the Energy System Integration Strategy and the Renovation Wave. Indeed, a revised scope to cover all public buildings should aim at incentivising the uptake of highly efficient H&C solutions in public buildings, while promoting indoor air quality solutions for the health and productivity of occupants. With respect to **IEQ standards**, EPEE believes that harmonised European standards should be established and promoted in the context of the EPBD revision.
- The **energy savings obligation** is not calibrated to a higher 2030 energy efficiency target and the current annual energy savings requirement for the period up to 2030 should be at least doubled to align with higher 2030 and 2050 climate targets. Further, improvements in fossil fuel technology efficiency should be made ineligible to count towards the target.
- The **scope of Article 14 of the EED on waste heat should be extended** to include the “recovery of non-residential waste heat and cold” and “commercial waste heat and cold” as opposed to the current, more limited “industrial waste heat”. This would allow the EED to promote waste heat in tertiary sector facilities with a great deal of potential in this regard (e.g. data centres and chains of supermarkets).
- EPEE furthermore calls for an **extension of the scope of the Comprehensive Assessments (CAs)**, by considering a reduction of the 20 MW thermal input requirement to 5 MW, to also capture single spot facilities and smaller installations (e.g. supermarket chains).
- Lastly, EPEE promotes the synergies between the EED and the existing legislation, such as between the Comprehensive Assessments (CAs) under Article 14 of the EED and renewables assessments under Article 15 of the Renewable Energy Directive (RED). In this respect, the methodology to define ‘**renewable cooling**’ should prioritize decarbonization as ultimate end and the **revision of the Primary Energy Factor (PEF)** should aim to incentivize technologies that contribute to both energy efficiency and renewable energy targets.

Introduction

EPEE fully backs the higher climate ambition of the **2030 Climate Target Plan** and believes that supporting targets on renewable energy and energy efficiency should be binding and increased in a coherent manner.

As part of the European Green Deal, the European Union aims to cut its greenhouse gas (GHG) emissions by 55% by 2030 compared to 1990 and reach carbon neutrality by 2050. Reducing overall energy consumption across Europe is key for achieving these climate targets and in this context the Energy Efficiency Directive's (EED or the Directive) objectives are more relevant than ever. Moreover, putting energy savings at the forefront of climate efforts provides the needed synergies with increased efforts to electrify end-use sectors and decarbonize Europe's electricity supply.

The European Commission's 2019 Long-term Strategy¹ considers that by mid-century, 53% of Europe's energy needs will be accommodated by electricity generated from renewables and nuclear. As demonstrated in all of the mapped scenarios, this can only be achieved if coupled with equally ambitious measures driving energy efficiency improvements in buildings and the energy systems more broadly. The unprecedented availability of funding through EU and national recovery programmes means that such measure could finally receive the political and financial backing that is required.

However, the lack of overall ambition and supportive delivery framework, as shown by the existing gaps towards the [2020](#) and [2030](#) energy efficiency targets, indicate clearly that an ambitious revision of the EED is needed if Europe is to reach its climate goals.

The H&C sector contribution

The **Heating and Cooling (H&C) sector** accounts for roughly half of the energy consumption in Europe. Currently, 75% of the energy used for H&C is still generated from fossil fuel. Therefore, H&C offers a large cost-effective potential to reduce emissions through energy efficient electrification and integration of renewables.

In order to realize this potential, fossil fuels should be gradually phased out in heating systems, and in particular in buildings and district heating, with a primary focus on the most polluting ones. Consequently, fossil fuel heating systems should be banned for new buildings whenever technically feasible. The phase-out of fossil fuels should be promoted through the reduction of the energy demand for H&C in the first place.

¹ European Commission (2019): [A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy](#)

To this end, EPEE believes that the Energy Efficiency First Principle (EE1) can facilitate the decarbonisation of H&C by strengthening the implementation of key pieces of legislation such as the Energy Efficiency Directive (EED), as well as the Renewable Energy Directive (RED) and the Energy Performance of Buildings Directive (EPBD). The EE1 Principle has the potential to better estimate future H&C needs, to better guide public investment towards demand side solutions and to facilitate flexibility and increased private investment in renovation.

In summary, energy efficiency is a key enabler to achieve the EU's ambitious decarbonization objectives. To enable the RACHP sector to perform its key enabling role in this transition, EPEE therefore recommends the EED is revised along the lines highlighted in this paper.

Articles 1 – 3: Stronger and binding targets

- a) **A binding 2030 EU Energy Efficiency target of at least 40%**
- b) **Binding national contributions underpinned by intermediary milestones and a clear trajectory**
- c) **Explore the benefits of a sectoral target for H&C in order to ensure that Member States dedicate the required attention to an integrated approach to H&C and the uptake of high efficiency solutions**

a) **A binding 2030 EU Energy Efficiency target of at least 40%**

As outlined in the Commission's assessment² of Member States' National Energy and Climate Plans (NECPs)³, current policies lack the necessary ambition to reach the EU's 2030 energy efficiency target. This would prevent the EU and its Member States from meeting their commitments under the Paris Agreement.

In particular, the European Commission in its Impact Assessment for the 2030 Climate Target Plan, clearly indicates that the 2030 energy efficiency target of 32.5% is obsolete considering the goal of climate neutrality by 2050. It should be raised to at least the level of 36-37% indicated in the assessment. Consequently, EPEE recommends increasing the target to 40% to reach the cost-effective energy efficiency potential and maximise the environmental, social and economic benefits of the energy transition. Member States should be encouraged to achieve these savings in sectors where it is most beneficial and cost-effective, such as H&C and buildings, to avoid too prescriptive constraints (on e.g. manufacturing capacity) that might lead to detrimental political deadlocks.

b) **Binding national contributions**

There is clear need to strengthen the EED with a binding energy efficiency target consistently applied at both the EU and national level, ensuring coherence with the revised EU 2030 GHG

² European Commission (2020): [An EU-wide assessment of National Energy and Climate Plans Driving forward the green transition and promoting economic recovery through integrated energy and climate planning](#)

³ European Commission (2020): [National Energy and Climate Plans: Member State contributions to the EU's 2030 climate ambition](#)

reduction target. It should be recognised that this target can only be achieved with ambitious action to increase the rate of deep or staged-deep renovation across the EU, and that public buildings can lead this transition.

The binding EU target should be supported by binding national contributions at Member State level to give a clear long-term perspective and certainty to stakeholders and investors. In this respect several studies⁴ have identified certain shortcomings concerning the eligibility and additionality of measures reported by Member States and their sufficiency to reach the minimum amount of savings as required by the Directive. The current indicative nature of national targets, the lack of clear national benchmarks and the little transparency in how national contributions are set and delivered by certain Member States, make national enforcement extremely challenging. A more effective enforcement of the EED's provisions requires, instead, verification of Member States' policies and measures at the planning stage, during their implementation and ex-post. This would allow Member States and the European Commission to take early corrective actions. Indeed, late and low-quality reporting by Member States also remains a major obstacle.

c) A sectoral target for H&C to close the ambition gap

As outlined above, it is clear that the non-binding nature of the energy efficiency target has partially resulted in less political pressure exerted towards meeting this objective.

This implies a risk that the H&C sector could suffer a similar fate if no dedicated sectoral target is applied. Given the importance of decarbonising the H&C sector to achieve the objectives of the European Green Deal, it may be appropriate to establish a sectoral target in order to increase the political attention devoted to this sector and its regulatory visibility.

Under the umbrella of the new Strategy for Energy System Integration, the review of the EED also represents a major opportunity to help shifting the focus from a siloed approach on heating only towards an integrated approach, tapping into the synergies between H&C, for example with regards to waste energy recovery. A sectoral target would therefore contribute reinforcing this effort and put greater emphasis on the importance of waste heat recovery and demand-side flexibility for energy efficiency.

Similarly, a sectoral target on H&C would facilitate the functionality of the Comprehensive Assessments (CA) carried out under Article 14 and which provide vital information that goes beyond the EED, covering renewable energy, GHG reduction, public spending implications and more. As such, the sectoral target on H&C would help putting a stronger focus on the outcome of the CAs, encourage Member States to dedicate the resources needed for these assessments and to reflect these findings in their NECPs.

⁴ E.g. RAP and Stefan Scheurer Consulting (2019): [Closing the loopholes: Assessment of the potential impact of tax measures on energy savings claimed under Article 7 of the EED](#); Coalition for Energy Savings (2020): [Energy efficiency: Mind the 2030 gap](#)

Articles 5-7: Exemplary role of public buildings

- **More consistency and a better alignment between the EED and the EPBD, in line with the objectives of the Energy System Integration Strategy and the Renovation Wave**
- **A revised scope to cover all public buildings and strengthening the implementation of the regulatory framework**
- **Create new options under Article 5 and 6 of the EED to further incentivise the uptake of highly efficient H&C solutions in public buildings**
- **Acknowledge the importance of indoor air quality for the health and productivity of occupants**

The H&C sector has an important role to play in the revision of Articles 5 and 6 of the EED, not only from the important angle of energy savings in public buildings, but also in order to ensure that public buildings contribute to broader EU energy policy objectives and to the health and productivity of European citizens via adequate Indoor Air Quality (IAQ).

Public buildings are the low-hanging fruit: these are the buildings where action can be taken quickest and the rewards to be reaped are greatest. Not only can public renovation projects be aggregated and scaled at a rapid pace, but these are also often the buildings where adequate Indoor Air Quality (IAQ) and thermal comfort are most important for increasing productivity, as well as health and well-being, for example in the case of schools and hospitals. To ensure that public buildings lead the energy transition, and Articles 5 and 6 should be aligned with broader EU energy policy objectives, outlined in the Energy System Integration Strategy and the Renovation Wave.

Whilst many governments across Europe have responded to EED Article 5 requirements to a satisfactory degree, it should be noted that most countries have failed to reach the 3% floor area renovation requirement. Furthermore, if public buildings are “to lead” the energy transition as envisaged by the Renovation Wave, the 3% target should be raised as it merely represents the objective for the EU building stock as a whole and does not go beyond the standard rate of renovation. Furthermore, alternative measures, such as selling buildings or rolling-out information campaigns, do not lead to energy efficient renovations and energy savings, failing to deliver on the associated benefits for occupants and society. Therefore, the alternative approach in Article 5 should be deleted.

- **A revised scope to cover all public buildings and strengthening the implementation framework**

Article 5 currently applies only to a small portion of the building stock. In order to ensure greater effectiveness, it should cover all public buildings, including regional and local authorities and also those which are only occupied by them. Therefore, the definition of “central government” provided in Article 2, paragraph 9 that is linking the current meaning only to the administrative

departments whose competence extends over the whole territory of a member state and to the list of central government bodies provided in the Public Procurement Directive⁵ should be further extended. Moreover, the priority should lie on the worst-performing buildings and those serving the public's interest such as schools, hospitals and social housing. **EPEE therefore supports the extension of Article 5 obligations to all public buildings and suggests that this measure should be supported through the strengthening of the existing regulatory framework**, as also part of the ongoing revision of the Energy Performance of Buildings Directive (EPBD), and the Renewable Energy Directive (RED).

More specifically, in a view to ensuring that public buildings lead the energy transition, Article 5 of the EED should promote the highest standards of overall building efficiency based on the Energy Performance Certificates (EPCs) introduced in the EPBD. In addition, the EED recast should also take into account the Minimum Energy Performance Standards (MEPS), which are being developed as part of the EPBD revision, as well as the most efficient technical building systems, based on the Ecodesign framework, and buildings' advanced connectivity and health features, where a Smart Readiness Indicator (SRI) scheme and/or indoor environment quality (IEQ) standards are established.

As explained above, the measures set out in the EED and EPBD are mutually reinforcing: Member States cannot achieve the objectives of the EED without swiftly implementing the EPBD and increasing their domestic renovation rate; and conversely, Member States cannot boost the rate of deep or staged-deep renovation without implementing supporting policies as part of their obligations also under Article 7 of the EED.

Lastly, as the EPBD and RED set the standards needed to ensure that buildings can provide demand side flexibility to the grid, the EED should ensure that the distribution infrastructure (smart grids or DHC networks) is equipped to benefit from these efficiencies. EPEE supports the Commission's ambition to revise the EED in order to strengthen the capacities of public authorities to prepare, finance and implement comprehensive H&C planning in coordination with renovation projects.

- **Create options under Article 5 and 6 to further incentivise the uptake of highly efficient H&C solutions in public buildings**

Since the last revision of the EED, the EU has sought to significantly raise its climate ambition, and launched the Strategy for Energy System Integration to support additional energy savings and promote the integration of renewables, whilst incentivising technologies and practices that facilitate waste heat recovery, energy storage and demand side flexibility.

Incidentally, not all H&C appliances covered by Ecodesign are equal in contributing to these objectives. Ecodesign requirements merely set minimum efficiency standards. However, the range of efficiency levels differs significantly within product groups. For example, heat pumps

⁵ [DIRECTIVE 2014/24/EU on public procurement](#)

have a significantly higher efficiency than gas condensing boilers and will be essential for the ambitious electrification targets, as also outlined in the European Commission's Impact Assessment, while contributing to thermal storage and demand side flexibility.

At present, the EED treats all Ecodesign-compliant H&C systems equally, irrespective of their level of energy efficiency and Member States are unable to claim any additional energy savings under Article 7 on the count of replacing H&C systems with highly efficient ones.

In the same vein, criteria for green public procurement (GPP) need to ensure that they do not negatively affect the operation and marketing of highly efficient solutions and that they do not overlap with the requirements established in existing legislation. For example, heat pumps require refrigerants for their operation and in most cases, these are fluorinated greenhouse gases (F-Gases). F-Gases are successfully regulated under the F-Gas Regulation, which sets the scene for the international Kigali amendment to the Montreal Protocol. Introducing refrigerants-based criteria in GPP would therefore create confusing overlaps and could even be detrimental by putting the focus on a criterion which is minor, as compared to the environmental impact of energy related emissions.

As such, the EED should be revised also in order to empower Member States to climb up the 'energy labelling ladder', consistently, with respect to both public buildings and public procurement. The revised EED should, therefore, accommodate options to incentivise this under Articles 5 and 6 and to allow Member States to reflect the energy savings of such measures under the new obligations for energy savings under Article 7.

- **Acknowledge the importance of indoor air quality for the health and productivity of occupants**

Renovation has been identified as a key pillar of Europe's post-COVID-19 recovery efforts. With 97% of EU buildings in need of renovation, this represents a unique opportunity to boost both energy efficiency and indoor environmental quality (IEQ). Energy-efficient and healthy buildings also generate savings by reducing public health costs. The WHO estimates that each Euro spent on building renovation saves €0.42 in public health expenditure. For these reasons, EPEE and seven other industry associations [have called](#) for harmonised mandatory minimum IEQ requirements to be introduced in the EPBD to meet the objectives of the Renovation Wave.

Articles 5 and 6 of the EED should be revised also with a view to encouraging public authorities to consider these IEQ factors when appropriate. Some Member States have already developed IEQ guidelines for certain types of buildings (e.g. schools or hospitals), others will introduce such criteria as part of their national Smart Readiness Indicator scheme (SRI). Harmonised EU IEQ standards still have a long way to go but including such provisions in the EED now will ensure that public buildings across Europe can lead in this area as more Member States adopt such guidelines. Measures in the EED should be complemented in the revised EPBD by requiring Member States to collect IEQ data, establish calculation methodologies for IEQ performance, and include IEQ as a factor in Energy Performance Certificates (EPCs).

Article 7: Energy savings obligation

- **Increase the level of the annual energy savings obligation to align with higher 2030 and 2050 climate targets**
- **Ensure the price competitiveness of renewable electricity**
 - **Reinforce real energy savings through a stronger energy savings obligation**

The EED has, thus, far exerted limited direct impact on increasing the energy efficiency of H&C systems. Only the provisions in Article 7 result in a direct contribution to this goal via Energy Efficiency Obligations (EEOs), tax rebates and other measures. National efforts to comply with the obligations under EED Article 7 have resulted in the introduction or expansion of tax rebates and technical support for enterprises investing in energy efficiency improvements, upfront subsidies to support investment in efficient H&C systems, tailored schemes for district H&C network operators seeking to decarbonise their energy supply, as well as information campaigns targeting households. All of this has contributed to greater energy savings in the H&C sector when compared to the baseline scenario. However, the overall impact of these measures has proven insufficient for accelerating the move to efficient H&C technologies at the pace needed to meet the existing – let alone the revised – EU 2030 energy savings target.

The energy savings obligation, as it stands, is not calibrated to a higher 2030 energy efficiency target. The current annual energy savings requirement of 0.8 % for the period up to 2030 should be at least doubled. An increase in that range will just bring the level of the annual energy savings in line with what the provision was meant to deliver when it was originally adopted back in 2012. Moreover, the definition of final energy consumption for the purposes of calculating energy savings, as referred to in Commission Recommendation 2019/1658⁶, includes small scale renewables, such as solar thermal, solid biomass and others, but excludes ambient heat (as used in heat pumps) as a renewable energy source. This discourages the promotion of heat pump deployment as a means to achieve the energy savings obligation under Article 7, even though such measures offer exceedingly large energy savings potentials. In order not to hamper the most effective solutions to decarbonize heating and cooling on the Commission Recommendation on transposing the energy savings obligation should be amended.

- **Cost competitiveness of electricity supports the transition to renewable energies**

Lacking cost competitiveness of electricity consumption has remained a major hurdle for the adoption of more efficient H&C systems such as heat pumps. For this to change, an increase in the competitiveness of electricity cost is required to raise market uptake. Fixed electricity charges need to be minimised, whilst a greater financial burden should be placed on peak-demand consumption.

⁶ See [European Commission Recommendation \(EU\) 2019/1658 of 25 September 2019 on transposing the energy savings obligations under the Energy Efficiency Directive](#)

H&C technologies can significantly contribute by providing flexibility in the form of thermal energy use and storage, enabling consumers to adapt the operation of their cooling equipment according to the load of the grid. However, as there are no incentives for end-users to provide such flexibility, there is no demand for solutions that allow for demand side management. Changes in electricity use can be motivated by establishing flexible electricity tariffs that reward end-users for lowering their consumption during peak hours or when they sell the electricity they generate. To that end, a better implementation of the Electricity Regulation⁷ should also be ensured, in order to facilitate the Demand Side Flexibility (DSF) mechanisms. Accordingly, the greater initial investment of energy efficient solutions such as heat pumps and thermal storage tanks could be partially offset by future income from grid providers that appropriately remunerate end-users for purchasing or selling electricity in this manner.

- **The role of Article 7:** The use of taxation measures has limited the potential effect of the EED's Article 7 on H&C: Member States have placed a lower level of scrutiny on taxation measures when compared to other policy instruments (as concluded by a 2019 review of Member State energy taxation policies under Article 7 of the EED). Therefore, unless there is evidence suggesting consumers change their investment decisions and adopt more energy efficient technologies due to taxation measures within the 2021-2030 timeframe, Member States should use short-run elasticities to demonstrate the impact of taxation measures.
- **Fulfilling the objectives of Articles 8 and 18:** Such a departure from fixed electricity charges and taxation-heavy implementation of Article 7 of the EED (which tends to raise levies placed on electricity) would also help to make the business case for energy efficiency services. The growth in sustainable cooling solutions is linked to the expansion of the energy services market, and both are currently impeded by the lacking cost competitiveness of electricity supplies.

Article 14: Strengthening H&C assessments

- **Include the potential of waste heat recovery from cooling installations in the scope of Article 14 and measure the effects of introducing waste heat provisions in Article 5**
- **Expand the scope of the Comprehensive Assessments (CAs) as established in Article 14, and further specified within Annex VIII of EED and Commission Delegated Regulation 2019/826⁸, by considering a reduction of the 20 MW requirement to threshold to 5 MW**

Even if the 2% share of cooling is comparatively small, it has a major role to play in reducing and decarbonising the demand for heating and phasing-out fossil fuels. However, the huge potential of cooling has not been appropriately recognised yet, partially due to the lack of quality data on the subject matter. In this respect the review of the EED represents a major opportunity, as it

⁷ [REGULATION \(EU\) 2019/943 on the internal market for electricity](#)

⁸ [Commission Delegated Regulation \(EU\) 2019/826](#)

could contribute to shifting the focus from a siloed approach on heating only towards an integrated approach, tapping into the synergies between cooling and heating.

- **Waste heat recovery from cooling is important to reduce energy demand for heating**

The current EED defines “waste heat” as heat generated by industrial processes to be used for cogeneration purposes and/or fed into a district heating network. However, it omits the potential of waste heat generated by cooling installations which can be either used directly on-site or fed into a district heating network. This would help to achieve higher system effectiveness in facilities housing supermarkets, data centres etc. Concretely, EED’s Article 14 offers several opportunities to better tap into the potential of waste heat recovery from cooling processes:

- **The scope of Article 14 provisions on waste heat:** The list of installations⁹ that generate waste heat and cold should be extended to include the “recovery of non-residential waste heat and cold” and “commercial waste heat and cold” as opposed to the current, more limited “industrial waste heat”. This would allow the EED to promote waste heat in tertiary sector facilities with a great deal of potential in this regard (e.g. data centres and supermarkets). In the long run, the European Commission should consider how the recovery of waste heat and cold can be incentivised in residential dwellings as well.

Further, the minimum thermal input threshold should be lowered from the current 20 MW to also capture single spot facilities and smaller installations (e.g. multiple supermarkets organized in chains). Small DHC networks (5 MW) can be served partly by facilities in the tertiary sector like data centres. This will reduce investment needs and make a resilient network as decentralised and as low temperature (efficient) as possible. It would also support the uptake of renewables by increasing thermal storage capacity.

Beyond the considerations about Article 14 of the EED, the impact assessment should measure the effects of introducing waste heat provisions in Article 5 to ensure that public buildings lead in waste heat utilisation in cases where this is feasible.

In addition, the definition of waste heat should also take into account that ‘efficient district heating and cooling’ should be possible only if it can be achieved without the use of fossil fuels (as referenced in Article 24(4(a)) of RED.

- **The scope of the Cost Benefit Analysis (CBA):** provisions should be strengthened to further promote the role of cross-sector energy system effects, in particular demand-side solutions. This is particularly important in order to encourage smaller, decentralised solutions: new residential neighbourhoods, public buildings or geothermal storage of excess heat or cold.

⁹ As set in [Commission Recommendation \(EU\) 2019/1659](#) of 25 September 2019 on the content of the comprehensive assessment of the potential for efficient heating and cooling under Article 14 of Directive 2012/27/EU

- **The Comprehensive Assessments (CA):** A more detailed methodology and assumptions would be required if CA results are to be comparable across the EU. The JRC assessment of the first round of CAs concludes that Member States did not perform all required tasks and omitted certain topics, meaning that the type of content covered in CAs differs across the EU.

Opportunities to promote synergies between the EED and existing legislation

- **Strengthen the synergies between EED Comprehensive Assessments (CAs) under Article 14 and renewables assessments under Article 15 of the Renewable Energy Directive (RED)**
- **Revise the Primary Energy Factor (PEF) to incentivize technologies that contribute to both energy efficiency and renewable energy targets**
 - **Energy efficiency and the transition towards renewable energies are complementary**

The parallel revisions of the EED and RED present an opportunity to strengthen synergies between the framework for Comprehensive Assessments (CA) under Article 14 of the EED and Renewables Assessments in H&C under Article 15 of RED. Both provisions could be further incorporated into Member States' National Energy and Climate Plans (NECPs) by including a requirement in the Governance Regulation for long-term strategies for decarbonising H&C.

RED provisions on waste heat and DHC, as well the work to define 'renewable cooling', will play a major role in determining the success of Article 14 of the EED. Equally, the revision of Article 14 of EED in order to tap into the potential demand side flexibility is crucial for the adoption of more RES. It is therefore imperative that both pieces of legislation are revised in the light of these priority areas, as also outlined in the Commission's Strategy for Energy System Integration. Indeed, the Strategy rightly stresses the importance of expanding the use of heat pumps, as the technology can allow Member States to fulfil their commitments on both energy efficiency and renewables in a cost-effective manner.

Up until now, the EED has exerted limited direct impact on increasing the energy efficiency of H&C systems, via energy efficiency obligations (EEOs), tax rebates and other measures. However, since RED and the Ecodesign Directive, have contributed significantly to higher efficiency in H&C the review of the EED and RED, as well as the Ecodesign implementing measures represent an opportunity to boost energy efficiency and the transition towards renewables.

In particular, we would seize the opportunity to provide the following examples:

- **Example 1 – Renewable Cooling:** The RED requires the elaboration of a methodology to define the term 'renewable cooling'. EPEE considers that any such methodology should prioritize decarbonization as ultimate end goal by promoting technologies that facilitate the use/are based on renewable energy. All renewable energy supplies should therefore be considered as eligible, and flexibility should be recognised as a key criterion. Such a technology-neutral definition would be fully aligned with one of the priorities of the EED, i.e.

consisting in boosting waste heat recovery and, by doing so, at the same time, reducing the energy demand for heating.

- **Example 2 – Primary Energy Factor:** The Primary Energy Factor (PEF) converts final energy use into primary energy use, allowing to compare the energy efficiency of technologies using different energy carriers. It is therefore crucial that the PEF is as close to reality as possible, reflecting the true composition of the electricity mix which is increasingly based on renewable energies. This is for example relevant when comparing the energy efficiency of heat pumps with that of gas condensing boilers in the framework of Ecodesign and Energy Labelling, thereby linking the transition to renewables with energy efficiency.

About EPEE:

The European Partnership for Energy and the Environment (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.