

Brussels, 22 March 2021

“Inception impact assessment – Revision of the Energy Performance of Buildings Directive 2010/31/EU”

This is the reply of the European Heating Industry to the roadmap consultation launched by the European Commission on the review of the Energy Performance of Buildings Directive 2010/31/EU.

The building sector accounts for 40% of the energy consumption and 36 % of the greenhouse gas emissions in the EU, with heating representing the largest share of energy consumed. Indeed, in residential buildings, space and water heating alone account for roughly 80% of the final energy consumed. More than 66 million heating systems installed in Europe’s buildings – that is 64% of the total – are old and inefficient. They are on average 25 years old and, if they were labelled today, they would end up in class D or below. Replacing them with new, efficient and renewable-based technologies will be key to attain significant CO₂ cuts in the building sector, which has so far proven to be one of the hardest to decarbonise. This has also been acknowledged by the European Commission’s Communication on a Renovation Wave Strategy and the European Parliament’s own-initiative-report on maximising the energy efficiency potential of buildings. But today’s replacement rate of old and inefficient heating equipment is too low and will not be enough to attain the EU 2030 targets. Why? At the current replacement rate – 4% /year – it would take over 20 years to substitute the old stock. Even if the pace were accelerated to 5%, CO₂ emissions would be cut by almost 40% by 2030 and an even faster pace is needed to achieve 55% in 2030.

The good news is that replacing heating systems faster is an affordable measure in the framework of the Renovation Wave and subsequently a revision of the current Energy Performance of Buildings Directive (EPBD); it is easy for end-users and provides work to a European value chain, with EU-based manufacturing and local jobs in all Member States.

This contribution is structured into three sections:

- 1) Comments to the Inception Impact Assessment (IIA);
- 2) The role of heating systems towards achieving -60% CO₂ from buildings by 2030;
- 3) Further considerations on selected elements of the EPBD.

1) Comments to the IIA/Roadmap

Part A. Problem description

- The inception impact assessment does only consider renovation depth as a problem; slow replacement rate of heating systems is not addressed. This is not in line with the priorities defined in the Renovation Wave. The problem consists not only of slow rate of deep renovations but also slow replacement of old and inefficient heating stock.
- The problem may not be the depth of each single renovation intervention, but a lack of forward looking staged deep renovation activities.

Part B. Objectives

- It is key to accelerate the replacement rate of old and inefficient heating equipment from today’s 4%, to achieve the goal of cutting CO₂ emissions from buildings by 60%, by 2030.

- Measures under the renovation activities and EPBD must be seen in an overall energy system perspective, e.g.: the role of electrification, efficiency and demand-side flexibility when it comes to resource adequacy, as well as the uptake of renewable and decarbonised gaseous, liquid and solid fuels, with their potential for decarbonisation and supplying energy for heating's seasonal demand.
- Resource efficiency and circularity principles should not fragment the market and should build on Ecodesign.
- Mandatory renovations for certain building types should be carefully balanced with considerations of affordability, feasibility, and social impacts for all affected households.

It should be assessed to which extent the 2018 EPBD is appropriate to contribute to the energy system transition:

- Prosumers, the roll-out of distributed resources including decentral electricity generation capacities and network integration via hot water storage and self-consumption, and e-mobility charging infrastructure.
- Optimisation of 'real life' energy performance of technical building systems and overall building energy performance.

2) The role of heating systems for achieving -60% CO2 by 2030 (compared to 2015 levels)

A review of the EPBD should focus on how to accelerate the replacement rate of inefficient heaters as a key measure to achieve the ambitious 2030 climate targets and carbon neutrality by 2050 – here is how this can be done:

- ✓ **Introduce systematic checks and efficiency labelling for space and water heating equipment to raise consumer awareness**

To reach a faster replacement, people awareness is key. Therefore, it is important to reintroduce in the EPBD a provision to have heating equipment checked periodically by professionals. Hence, the current provision under Article 14 should be extended to cover residential heating appliances with an effective rated output below 70 kW. In fact, several EU countries have launched programmes to label their installed stock of heaters, for example linked to periodic checks on installed appliances.

These labels are directly comparable with the current EU energy label for new products, so end-users immediately understand the efficiency gains they can get. Recently, the EU-funded [HARP project](#) has started collecting experiences from these national approaches and developed a tool to provide consumers with information on the new and efficient heating systems they can use for replacement.

But more public awareness is needed across Europe, with periodic checks on heating equipment and advice to households, like an energy label showing how inefficient old heating appliances are. Implementing these policies will have little impact on end-users: even down to about 10 minutes for a system check.

The results of these checks should be combined with the 'comprehensive assessment of national heating and cooling potentials' (EED art 14 annex VIII), which should be updated to include the efficiency of the appliance. This would provide each Member State with a clear overview of the efficiency (or not) of the heating equipment already installed in the building stock.

In addition to these measures, Member States shall (continue to) communicate to end-users how several cost-effective improvements on the whole heating system can greatly improve their efficiency.¹ Considering the interaction of all parts of a heating system, including heat emitters and

¹ For example, end users can regularly maintain their heater, have the hydronic balance checked, install thermostats and thermostatic valves, regulate flow temperatures, use hot water storage, switch to a high-efficiency circulator, insulate pipes and correctly dimension the radiators.

components, allows to achieve a heating system's highest efficiency potential. Therefore, heat emitters should be evaluated in the broader context of the energy performance of a building, hence under EPBD, rather than as separate category in ecodesign and energy label.

✓ **Introduce a replacement obligation and scrappage schemes to modernise the installed stock of heating equipment while supporting end-users in the process**

Today's heating technologies bring energy savings, thereby reducing bills for the consumer and directly contributing to an alleviation of energy poverty. Thanks to bringing significant energy savings immediately, the replacement of inefficient heating systems can be considered as an example of deep renovation. Moreover, it leaves the choice to building owners when and how to invest, according to their financial capabilities can also adapt heat production, according to a building's heat demand and take further renovation steps in a staged way. Also, replacement has an extremely short payback time compared with other renovation measures (very cost-effective) and a low impact on comfort (on average one day to change heating equipment).

In line with the goals of the Renovation Wave, a replacement obligation should thus be introduced. Such obligation should be based on age and efficiency class of the installed appliance, while giving end-users sufficient time for the replacement.

Why do we need to act at European level, to accelerate heating equipment replacement rate:

- ✓ The Renovation Wave acknowledges that modernising heating equipment is essential to decarbonise the EU building stock;
- ✓ Inefficient appliances are widespread across Europe, not just in some Member States (shown by recent installed stock data);
- ✓ Existing policies are not leading to a fast enough replacement rate.

Any scheme should grant Member States enough flexibility to account for national/regional circumstances, such as climate and building conditions, financing possibilities etc.

The resulting replacement should follow a multi-technology approach, supporting the installation of all energy-efficient and renewable-based heating systems. Europe's buildings are different, so are their heating needs and people's preferences. Hence the technologies most suitable to make them carbon neutral are different, too. Scrappage schemes can be coupled with hybridisation programmes, which would target buildings already equipped with highly efficient heating systems and install additional renewable energy technologies alongside such systems.

How to finance the replacement? Scrappage schemes for old and inefficient equipment are a simple and effective instrument to support end-users to modernise old heating systems. While the payback time of a modern heating systems is very short, compared with other renovation measures, the initial investment by the household often represents a barrier. This barrier can be overcome with the introduction of programmes to stimulate citizens to replace the old and inefficient equipment used for heating. These are simple and effective instruments to support end-users to modernise old heating systems. Testifying of the low payback time and high impact on local value creation, subsidy schemes in this sector have proven to bring revenues and savings for public budgets; they can be designed to minimise and even bring down to zero the net costs.²

✓ **Train enough installers to handle the Renovation Wave and reach carbon neutrality**

A key enabler of a faster replacement rate is the availability of enough installers, with the right skills to bring efficient and renewable-based heating systems in the homes of Europeans. Therefore, policies should be geared towards training enough installers to handle the Renovation Wave. More and better skilled installers will also be beneficial to increase the penetration of smart heating systems

² *Il recupero e la riqualificazione energetica del patrimonio edilizio: una stima dell'impatto delle misure di incentivazione*, Servizi studi dipartimento ambientale e dipartimento finanze, Camera dei Deputati, Italy, December 2019.

and digital solutions to properly manage thermal comfort – another benefit of a higher replacement rate: they optimise energy consumption, increase comfort and allow for predictive maintenance.

All legislative files contributing to achieving the goals of the European Green Deal should be aligned to promote the uptake of efficient and renewable-based heating systems with the help of an accelerated replacement rate of old and inefficient equipment:

- Ecodesign and Energy Labelling legislation should continue to promote the uptake of highly efficient heating systems, while supporting the roll-out of appliances working with renewable energies (both green/decarbonised gases and renewable electricity);
- The revision of the Renewable Energy Directive should strengthen the role of renewable and decarbonised gases in the heating sector, continue to support the uptake of heat pumps and promote hybrid heating (i.e. condensing technology + heat pump) as well as decentralised and building-based heating systems (e.g. self-production & consumption through cogeneration) [see EHI reply to the Public Consultation on the RED];
- The revision of the Energy Efficiency Directive should reap the benefits of high energy savings potential from heating systems, thanks to a higher energy efficiency target, the extension of renovation requirements to all public buildings, and by reflecting the increasing share of decarbonised and renewable gases in the Primary Energy Factor (PEF), as well as basing any revision of the PEF for electricity on accurate data on the efficiency of electricity production in Europe today [see EHI reply to the Public Consultation on the EED].

3) Further considerations on modifications to the current EPBD:

1. Subject matter & scope Art 1

Art 1 should introduce building sector specific headline targets:

- A binding EU-level target: 60% reduction of GHG emissions by 2030, compared to 2015;
- A binding EU-level target: climate neutral building stock by 2050.

Art 1 should set out that these targets should be achieved in an energy system perspective, taking into account electricity resource adequacy, gas infrastructure that is 'fit for 2050', and decarbonised electricity and gas (and more broadly energy) supply. Moreover, appropriate measurements of the CO₂ performance of the building in use phase should be applied.

2. Definitions Art 2

Definitions, calculation methods, and further related measures of the EPBD should consider combinations of heat pumps and combustion heat generation ("hybrids").

3. Long Term Renovation Strategies (LTRS) Art 2a

- The governance of the binding EU-level targets should be similar to the RES and EE targets, incl. mechanisms if the Member States' LTRS fall short of the 2030 target;
- MS should provide new LTRS for the 2030 milestone, including expenditure from the Covid-recovery funding.

4. Assess the creation of an indication of CO₂ performance

Given the importance of CO₂ emissions reductions, we ask to assess the creation of appropriate indication of the CO₂ performance of a building in use phase, which could be linked with the Energy Performance Certificates.

About EHI, the Association of the European Heating Industry

EHI represents 90% of the European market for heat and hot water generation, heating controls and heat emitters, 75% of the hydronic heat pump market, 80% of the biomass central heating market (pellets, wood) and 70% of the solar thermal market. EHI Members produce advanced technologies for heating in buildings, including: heating systems, burners, boilers, heat pumps, components and system integrators, radiators, surface heating & cooling and renewable energy systems. In doing so, they employ about 120,000 people in Europe and invest over a billion Euros per year in energy efficiency. www.ehi.eu