Fit for 55 Package
Challenges & Opportunities for Renewable Heat

Position paper

Introduction

On 14 July 2021, the European Commission presented the Fit for 55 (FF55) Package proposing the revision of several key pieces of legislation promoting higher ambitions for the EU's energy and climate targets. **Bioenergy Europe strongly supports the 2050 objectives, and to achieve them, it will be essential to decarbonise and modernise the heating sector.**

According to the European Commission, buildings represent 40% of the EU's energy consumption, and unsurprisingly are responsible for 36% of GHG emissions given that most of their energy is still produced from fossil fuels. **Thus, particular attention must be given to on-site and nearby renewable heat sources.** To improve the chances of achieving carbon neutrality by 2050, a set of actionable measures are required:

The retrofitting of inefficient appliances (energy label class E and below) and a progressive ban of systems installed before 1992.

A comprehensive EU legislation maximising synergies between different policies, aligning key files such as the Renewable Energy (REDIII), the Energy Efficiency (EED), the Energy Taxation (ETD) directives, and the EU ETS extension.

Higher targets for renewable heat obligations to set an ambitious regulatory framework and further support heat decarbonisation.

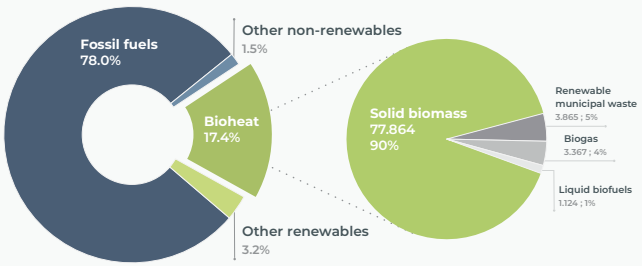
The Fit for 55 package is a crucial opportunity to address heat decarbonisation with strong actions in the residential, industry and district heating sectors, and the EU must establish a clear timeline for the gradual phase-out of fossil fuels, in particular for heating systems. On top of this, renewable heat sources such as sustainable bioenergy must be prioritised at the European and local level to be on track for our 2050 goals.

This paper presents a set of practical suggestions focusing on renewable heat to improve the proposal from the Commission on the revision of the REDIII and the EED.

THE ROLE OF SUSTAINABLE BIOENERGY IN THE EU ENERGY MIX

Bioenergy already plays a key role in the EU energy mix representing 60% of all renewables and almost 18% of heating alone. The largest market for bioheat remains the residential sector and the entire biomass industry has experienced steady growth through the years. On top of this, the bioenergy sector is a net exporter with a positive trade balance of roughly 5 billion euros. Import volumes have been stable over the years, showing the success of bioenergy and its leading role in supporting Europe's industrial competitiveness[1].

Contribution of the different energy sources in heating and cooling in EU27 in 2019 (in %)



Source: Eurostat, SHARES 2019, Bioenergy Europe's calculation

In addition to the trade surplus, bioheat technologies are mostly manufactured in Europe and have a strong local component, with more than 50.000 businesses (mostly family-owned companies and small and medium enterprises) contributing directly to the EU's industrial competitiveness. Investing in these technologies not only creates clear gains for climate change mitigation but also generates significant added value and benefits for local development.

A COMPREHENSIVE EU LEGISLATION TO MAXIMISE SYNERGIES

In October 2020, the European Commission published its Renovation Wave Strategy, with the goal of at least doubling Europe's renovation rates in the next decade through increasing energy and resource efficiency. Nowadays, more than 75% of heating in Europe still comes from fossil energy[2].

A report from the European Commission[3] highlights that almost 1 out of 4 heating systems in Europe was installed before 1992. The map shows the percentage of systems older than 30 years. Countries with a large share of old installations are shown in yellow and countries with a more modernised stock are green. The current annual replacement rate of old heating systems is not ambitious enough to achieve Europe's renewed targets[4]. This means that, **without taking active measures at EU and national level, several old and inefficient appliances will still be operational (and polluting) in 2050.**

Therefore, Bioenergy Europe suggests **setting a minimum replacement target of at least 3 percentage points per year, combined with an obligation to replace or thoroughly retrofit installations older than 30 years.** This measure would allow the replacement of one third of the heating systems over the next ten years and remove any equipment installed before 1992 from the market. The modernisation of old heating systems and the replacement of fossil fuels with renewable energy is pivotal to achieve Europe's decarbonisation goals as it will improve air quality and increase resource and energy efficiency.

Share of heating systems installed before 1992 (%)

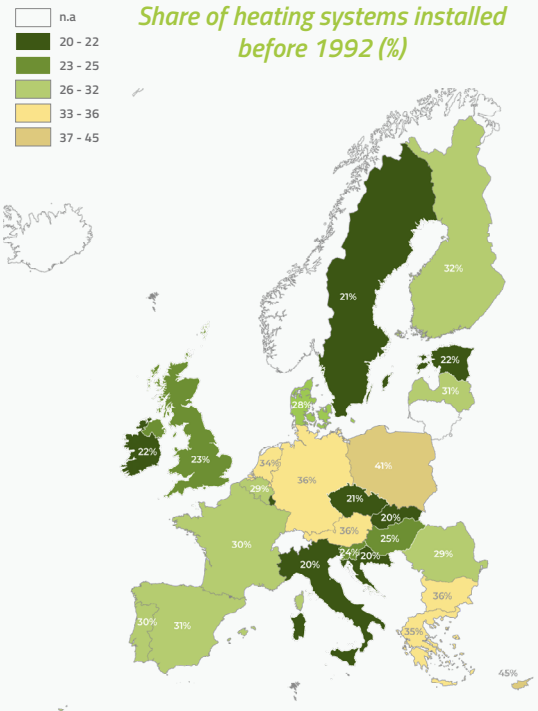


Figure 90: Proportion [%] of heating technologies (related to installed units) installed before 1992.
Source: European Commission, report N°ENER/C2/2014-641-2016

1. Source: based on Comext (2018), Lako, P (2008), Eurostat (2018), Wind, I (2009), and Jha, V (2009).
2. EUROSTAT 2019 "Heating and Cooling".
3. EC report N°ENER/C2/2014-641-2016.
4. Ecofys (2016) Final report "EU pathways to a decarbonised building sector" How replacing inefficient heating systems can help reach the EU climate ambitions.

However, this change should not come at the expenses of Europe's citizens and businesses. Energy poverty risks should be considered to avoid making the energy transition a burden for EU consumers: the obligation to replace old systems should be backed by adequate funding. Potential subsidies must include investments for thermal storage and promote on-site and nearby renewable solutions.

In the case of biomass, the retrofit of old bioheat systems with modern ones will deliver substantial air emissions reduction of more than 90%, according to recent data[5], and consequently improve citizens' health while also achieving higher efficiency and lower energy bills. In this context, a carbon price signal must be implemented to compensate for the negative externalities from fossil fuels which are not reflected in their market prices. To make this measure socially just and increase acceptance, a portion of the revenues from the taxation should be spent to shield the most vulnerable households from price increases and to enable financing of new and renewable heating systems (both collective and individual).

The energy transition will need a holistic approach and should guarantee that synergies between key policies are maximised. The Directives on Renewable Energy and Energy Efficiency are closely linked and mutually reinforcing, and their requirements should be further harmonised. The combination of energy efficiency with renewables should be optimised to lower overall heating costs bringing benefits to society and consumers. To achieve this, **we call for an obligation to reach even more ambitious levels of on-site and nearby renewable heat sources in buildings, industries and districts.**

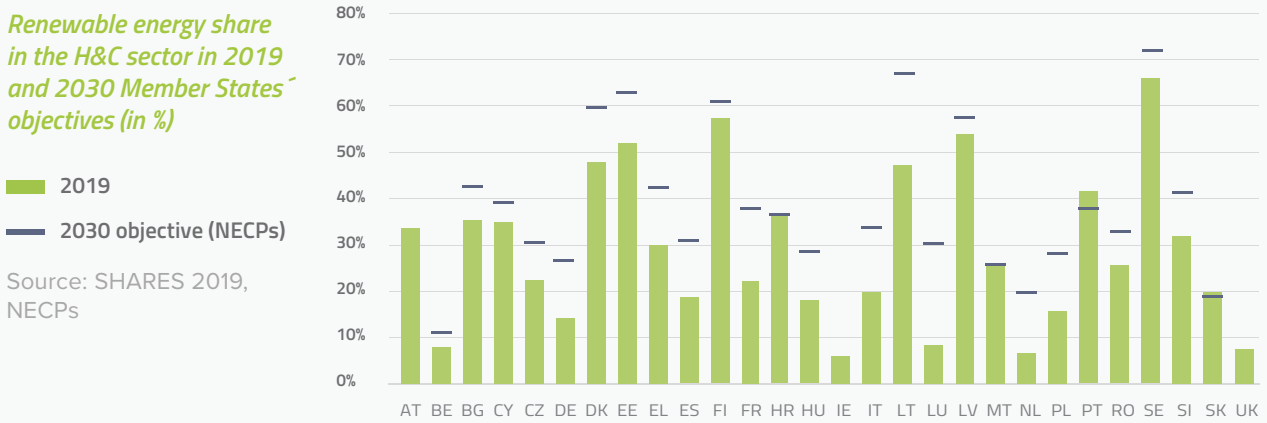
REVISION OF THE RENEWABLE ENERGY DIRECTIVE (REDIII)

The revision of REDIII demonstrates a clear willingness to address building decarbonisation with concrete measures. Both the proposal for a European RES target of 40% and a new benchmark to achieve 49% of renewables in buildings highlight this commitment. On top of this, the draft recognises the fact that the heating sector has some specificities that need to be considered to ensure an effective transition and suggests actions to increase demand including stronger language and a specific focus on renewable heat installers. Overall, this is a positive step forward, however, a deeper focus on renewable heat solutions like bioheat should be further implemented.

- **Mandatory renewable heat targets (Art. 23)**

  Bioenergy Europe also strongly supports the new binding target for renewable heat obligations referred to in Article 23. Nonetheless, the indicative annual increase of renewables in heating and cooling (H&C) is lowered from the previous 1.3 percentage points (pp) annually to 1.1pp. This number corresponds to the average annual increase of renewables in H&C as forecasted in the EU Member States' integrated National Energy and Climate Plans (NECPs)[5].

Renewable energy share in the H&C sector in 2019 and 2030 Member States´ objectives (in %)



Source: SHARES 2019, NECPs

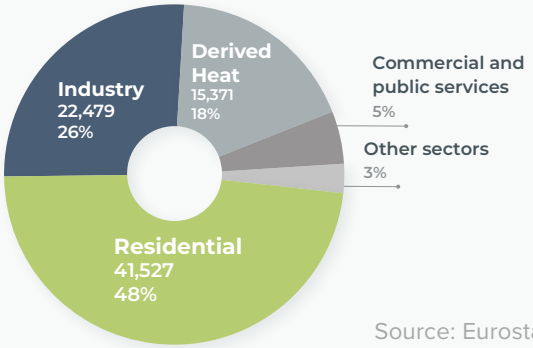
5. CERIC 2017.
6. NECPs are 10-year National Energy and Climate Plans detailing national decarbonisation trajectories and describing the foreseen energy and climate measures and policies to be implemented over this period to reach the proposed target.

Despite this low ambition the attempt to address the heating sector is a positive step. Overall, this target will allow the EU to reach 40% RES in H&C as presented in the Climate Target Plan, but this may not be ambitious enough to achieve climate neutrality by 2050. Even though heating is a national competence and therefore subject to subsidiarity, a stronger signal from the European level will be needed to push Member States to act promptly at national level.

- **More renewables in industry and district heating (Art. 22 & 24)**

Even though the largest market for bioheat is the residential one, the industrial and district heating applications have experienced the strongest growth. Industry accounts for more than one fourth of the European final energy consumption but renewables represent only 14% of the energy use in this sector. Bioenergy covers 99,9% of renewable industrial process heat and can cover a wide range of temperatures for medium and high heat demand. Another key segment is district heating, which despite the diversification of fuels and the growth of bioenergy is still heavily reliant on fossil fuels. In 2019, renewables in district heating networks represented 27,6%, with bioenergy tripling its share since 2000. These trends can continue if the FF55 sets an adequate policy framework and provides adequate support. Biomass-based district heating networks and bioheat for industrial processes must be further promoted, as they are an effective tool to trigger fuel switching and are one of the best examples of sector integration.

Total bioheat consumption in different sectors in EU27 in 2019



Source: Eurostat

- **Unlock renewable heat investments (Art. 29)**

More investments in renewable heat solutions should be unlocked. Yet, to do so, investors and businesses need a minimum level of trust in the legal system. If the regulatory environment is constantly changing, it will discourage investments and long-term future planning due to the elevated levels of uncertainty and risks. Retroactive measures, such as the one proposed in the revision draft, should always be avoided since they will hinder the development of a flourishing sector like sustainable bioenergy. Therefore, the 80% GHG emissions savings threshold should not be retroactively applied but implemented only for plants entering in operation in 2026.

RECAST OF THE ENERGY EFFICIENCY DIRECTIVE (EED)

Bioenergy Europe welcomes the Commission's proposal for the EED recast given its strong attention to energy poverty issues and a renewed focus on heating decarbonisation. The new energy efficiency target is an important step towards the 2050 goal, and this must be mutually reinforced with further RES penetration. The new target will only be achieved with the active contribution of renewable heat sources, and their importance should be acknowledged to prioritise the decarbonisation of the heat sector. Therefore, a new definition of "renewable heat" in Art. 2 of the EED must be included to promote sustainable heat options like bioenergy.

- **Higher attention towards renewable heat solutions (Art. 21)**

The EED proposal shows a higher attention for the heat sector and stresses the need to modernise Europe's heating stock by listing a set of measures to support renewables uptakes and raise awareness on renewable heat. Despite this initiative being a positive step in the right direction, more concrete actions on this subject are still needed. To ensure not only more transparency and additional information to consumers, but also that Member States play an active role in the transition, Bioenergy Europe asks for stronger wording on the need to have new measures to actively promote the deployment of renewables.

- **Key role of local authorities (Art. 23)**

  Stronger requirements to promote heat planning for all municipalities will be needed to ensure the right level of ambition is fulfilled. This should be mandatory for bigger local authorities with an exception for those Member States (for example market-driven Nordic countries) which have equivalent measures or measures with an equivalent effect in place to achieve the renewable heat objectives. For smaller entities, adequate support measures should be provided for a voluntary implementation of such planning.

- **A new definition of efficient district heating (Art. 24)**

  The new definition of efficient district heating should be further clarified to ensure its alignment with the circular economy and resource efficiency principles. Renewable heat sources, such as bioenergy must be the first preferred option to avoid locking-in fossil infrastructures and hindering the development of local solutions especially in the context of rural areas.

- **New emissions limit requirements for high-efficiency cogeneration (Annex III)**

  Finally, the new requirements in the definition of 'high-efficiency cogeneration' aimed at limiting emissions should be further clarified to ensure its alignment with the circular economy and resource efficiency principles. Especially in those industrial sectors relying on biomass for the processes and where co-generation is the preferred choice, multifuel boilers provide the necessary flexibility to ensure that a wide array of feedstocks can be efficiently used depending on local availability.

Our Recommendations

The energy transition must consider environmental, societal, and economic benefits and clearly support sustainable solutions that can further promote Europe's industrial competitiveness. The 2050 goals will not become a reality without the phase-out of fossil fuels from Europe's energy system, starting from the heating sector. This can lead to a substantial decrease in pollutant emissions, better air quality and the achievement of our energy and climate goals. A set of concrete measures can already be implemented:

1. The renovation of the EU building stock must be an enabler for the uptake of on-site and nearby renewable heat sources, which are fundamental to achieve our climate and energy goals.

2. The retrofitting of old systems with renewable ones can avoid locking-in fossil energy, reduce GHG emissions and improve air quality. For example, substituting old appliances with modern bioheat installations can reduce air pollution whilst addressing one of the pillars of the Green Deal.

3. Individual and district heating systems that cannot switch to renewable solutions in a swift and cost-effective way should be supported in their transition to more sustainable sources. Support should include economic incentives, trainings and information campaigns.

4. Finally, ESCOs should be incentivised to invest in renewable heating systems whilst ensuring an economic and socially just transition.

This is the moment to take strong and decisive action and maximise the opportunities for several EU policies to decarbonise our heating sector. The Fit for 55 package should create financial incentives that cover the costs of connecting to district heating with renewable sources, modernising heating appliances, upgrading existing renewable appliances, and switching from fossil fuels to renewables like bioenergy.