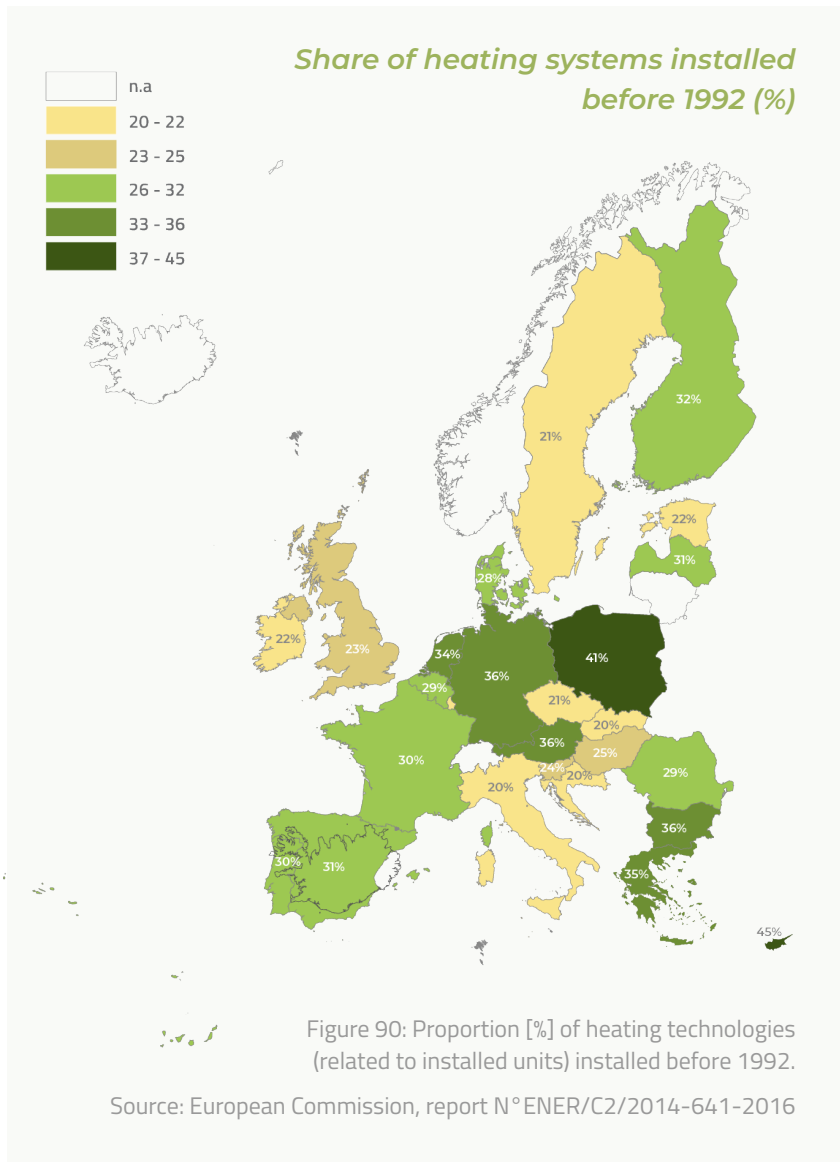


Fit for 55: Biomass Contribution for Sustainable Heat

Heating and cooling (H&C) represents almost half of the EU final energy consumption and its decarbonisation has been recognised as a priority at EU level. The Fit for 55 (FF55) is an opportunity to roll out an efficient plan and take actions for the retrofit of old heating installations with modern renewable ones, like bioheat installations. These modern and sustainable solutions increase energy efficiency, reduce emissions, and address air pollution.

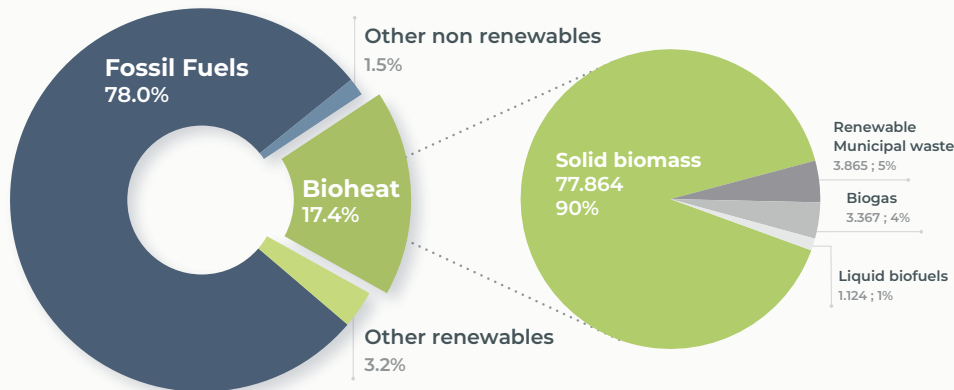


Renewables in H&C have been growing at a slower pace than in electricity generation, reaching an annual average increase of almost 0,7 percentage points (pp) in 2019, compared to almost 2pp for electricity. Yet, in absolute terms, the share of renewable heat (RES-H) sources is significantly higher (101.760ktoe) than RES electricity (84.633ktoe). The heating sector faces several issues like decentralised decision making, oppressive dependence on fossil fuels but also obsolescence of appliances. Today, almost 25% of heating installations are older than 30 years and the slow rate of substitution needs to be tackled to reach net zero by 2050 as well as higher air quality objectives by 2030. An old open fire emits the same quantity of fine particles than almost 300 modern bioheat appliances. Hence replacing old and fossil systems with modern bioheat installations will increase efficiency and GHG emission savings, whilst reducing pollution and improving air quality.

In 2019, bioenergy accounted for 85% of RES-H in the total consumption and saved approximately 160MtCO_{2eq}. This represents more than the annual GHG emissions of Belgium and Slovakia together and shows how bioheat can contribute to the Green Deal’s objectives. Bioheat deployment strongly varies among countries, and the market for the consumption has been growing by 3% every year since 2000, with the stronger increase in derived heat (mainly district heating, +247% from 2000) and in industrial sectors (+315%).

Supported by:

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



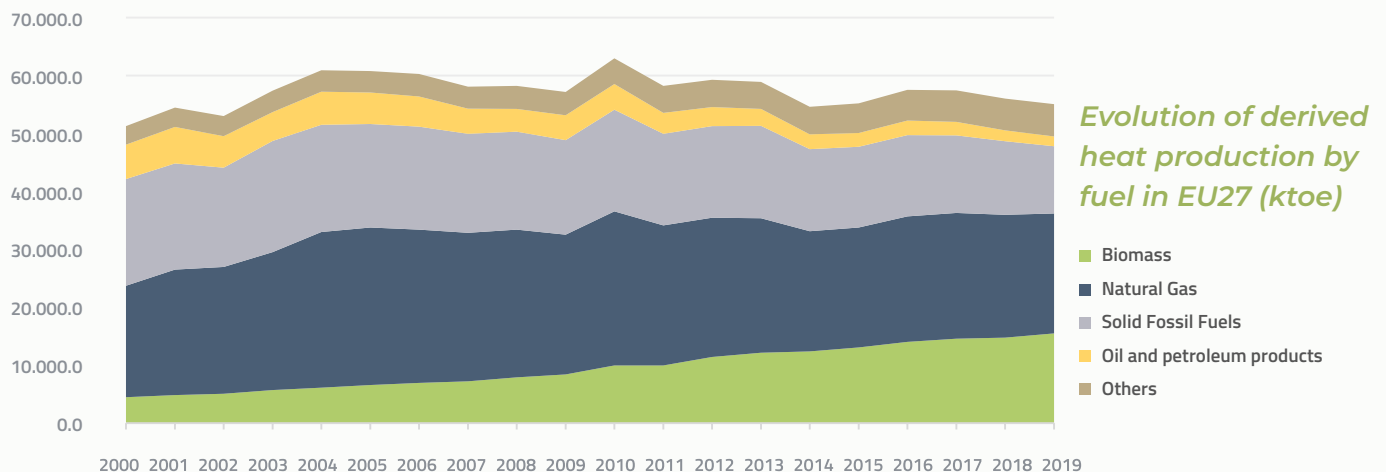
Note: Other non-renewables are mainly non-renewable waste.

*Article 5 of Directive 2009/28/EC establishes the guidelines for Member States on calculating renewable energy from heat pumps from different heat pump technologies. Only renewable energy from heat pumps with a Seasonal Performance Factor (SPF) greater than 2.5 should be considered towards the target.

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

Yet, the most relevant market in Europe is residential heat, showing that biomass is a diverse and reliable source. In 2019, renewables in the residential sector accounted for 24%, with bioheat covering 84,3% (99,2% derived from solid biomass and the rest from biogas). This sector is still dominated by fossil energy (136.000 ktoe coming from non-RES, mainly gas) and therefore offers huge potential for further decarbonisation through bioheat. Despite the diversification of fuels

and the growth of bioenergy, district heating is still heavily reliant on fossil fuels, whilst natural gas remained stable. In 2019, renewables in districts represented 27,6%, with bioenergy (96,5%) tripling since 2000. This trend can potentially continue if the FF55 will set an adequate policy framework and provide support.



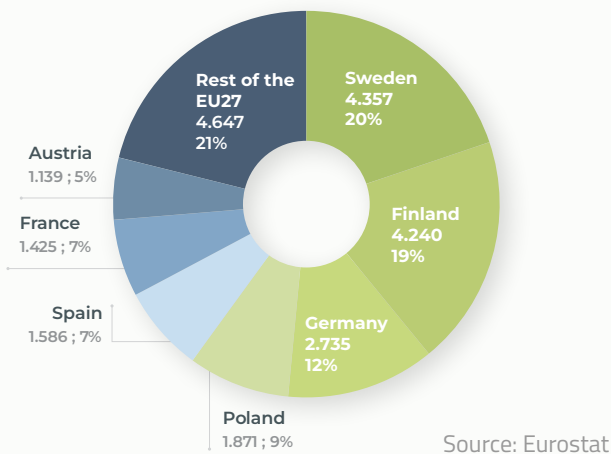
Note: Fuels mean the final derived heat produced from those fuels and not the fuel input for heat production.

Source: Eurostat

The industrial sector is responsible for more than 25% of the final energy consumption in Europe. RES represent 14,2% and are almost entirely covered by bioenergy (99,9%). In 2019, biomass contributed more than 41% of the total energy consumption in wood-related industries showing how these sectors work well together.

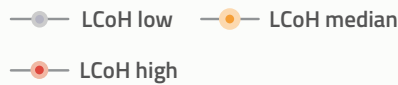
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Country repartition of the biomass used in industries within EU27 in 2019 (in ktoe and %)



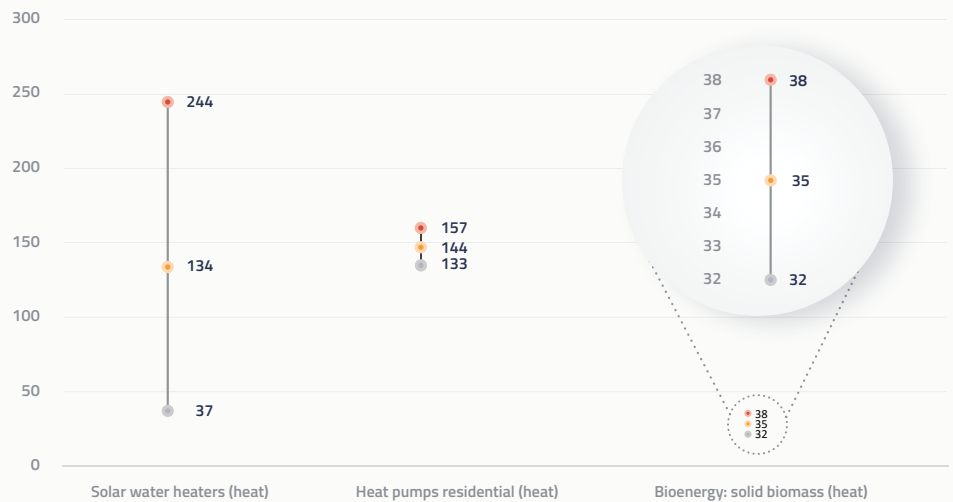
Nevertheless, bioenergy has been chosen by other sectors to decarbonise their production. In the same year, Sweden, Finland and Germany combined used 51% of the entire biomass in industries. In 2018, the levelised cost of bioheat had the lowest average value (35 €/MWh) and the narrowest widespan ($\pm 3\text{€/MWh}$) when compared to solutions like heat pumps and solar water heaters. Installation and purchase costs are spread along the lifetime of the equipment, together with the cost of fuel input, making bioheat a sustainable, reliable and affordable solution. And coming with an economically affordable solution for the energy transition is a must, in such critical period of pressure on households' income!

Levelised cost of heat in residential sector for three different technologies for EU27 Member States and UK in 2018 (in €/MWh)



Note: Levelized Cost of Heat (LCoH) is calculated as a full price of heat including the cost of fuel input and the lifetime of the equipment.

Source: Euroobserver



Recommendations

1. Most of the heat consumption in Europe stays below the EU ETS threshold of 20MW with no credible measure to counterbalance fossil fuels externalities in the heating sector. **The EU must establish a clear strategy to phase out fossil heating.** Local sources such as bioheat can play a key role in this context.
2. **The Fit for 55 can boost the replacement of old heating systems** with modern bioheat ones. The Social Climate Fund can be used effectively to promote higher efficiency whilst reducing air pollution and emissions, significantly contributing to the EU's 2030 and 2050 goals.
3. **Biomass-based district heating networks must be further promoted,** as they are an effective tool to boost fuel switch and one of the best examples of sector integration.
4. Now is the moment to seize the **opportunity and promote the EU industrial competitiveness with a strong bioheat sector.**

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