

# The heat pump industry in Europe



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- In Bremen, Germany, ice skaters may not realise that just under their feet is part of a district heating system – a cold water storage reservoir keeping local homes cosy.
- In eastern Belgium, an apartment block keeps all its residents warm through heat pumps.
- In Bath, England, the ancient abbey is cosy thanks to the heat transferred from the naturally warm waters.

All of the above [1] is thanks to heat pump technology. Using different natural heat sources – air, rivers, ground water – and in various different sizes, heat pumps can be used in houses, flats, businesses, museums, factories to reach required or desired temperatures – whether that is a snug 23°C in a bathroom or 123°C to blast process heat in a factory.

Unlike stand-alone boilers, heat pumps do not burn fossil fuels. Instead, they use a small amount of electricity to transform that natural heat – or waste heat from industrial processes – into higher temperatures, to warm buildings or power industrial processes. Large heat pumps can even use heat from sewage, or exhaust air from hospitals or swimming pools.

This use of natural thermal energy makes heat pumps extremely efficient – up to five times more so than a fossil fuel boiler. This means not only do they save on energy consumption, they avoid polluting fossil fuels and reduce Europe's energy dependence on gas and oil exporting countries and the volatile prices that implies. Heat pump deployment and energy efficiency measures could avoid €60 billion in fossil fuel imports by 2030.

Indeed, electrifying the economy – including the heating, cooling and process heat sectors - is recognised by the EU and most European governments as the key to an energy efficient, secure, sustainable and competitive future. Electrification of heating and cooling through heat pumps should be at the heart of the energy security strategy the European Commission is due to publish soon.

Such measures are all the more important because the EU is off track for its estimated needs in terms of heat pumps. 60 million residential heat pumps should be installed by 2030 to be in line with EU climate and energy targets, but as of today there are around 28 million. While sales went up by 11% across 16 European countries in 2025, this needs to rise to around 30% annual sales growth to hit the target and maximise the benefits.

The numbers of industrial heat pumps being deployed are also rising, used in everything from pasta to furniture factories. The technology can now reach temperatures of up to 200°C, which could cover 39% of process heat needs in Europe. When you consider that 60% of industrial energy needs go on heat, that is a huge amount of potential savings both in terms of carbon dioxide and greenhouse gases, and on companies' energy bills.

There are other advantages to investing in heat pumps: the heat pump sector in Europe is very strong globally. There are 300 manufacturing sites [2] – mainly for domestic heat pumps – in Europe, and the industry provides around 433,000 direct and indirect jobs. Recent data from EHPA shows that around 80% of air to water heat pumps are assembled in Europe, and only around 10% in China. As the EU tries to boost [3] domestic manufacturing of clean tech, it makes even more sense to strengthen the heat pump sector, which is already delivering and has capacity to do far more.

For enormous industrial size heat pumps, it makes even more sense to produce them near where they will be installed. So, the stronger the demand for heat pumps, the greater the impact on Europe's clean tech leadership and sustainable jobs.

How to stimulate that demand? Long-term policy certainty is crucial to reassure manufacturers, investors and consumers that heat pumps are a future-proof sector. The EU's climate and energy targets and rules must be implemented by governments, and at national level.

Another important element is the reduction of red tape, for example by ensuring realistic timelines and aligned requirements for product-related rules. These include rules on energy efficient product design (known as 'Ecodesign') - where heat pumps already meet and, in many cases, exceed EU performance requirements, as well as those impacting refrigerant use and digitisation.

There are many types of rules impacting heat pumps and often they are not fully coordinated. In addition to those mentioned above, there are network codes – meaning the rules relating to the electricity grid - and national building regulations. Each of these has its own timeline, compliance logic, and certification process. This means manufacturers have to redesign their products and go multiple times through the certification process. This inevitably pushes up costs, reduces predictability, and makes the heat pump rollout slower.

The revised EU law on the energy use of buildings – the Energy Performance of Buildings Directive - sets ambitious trajectories for decarbonising buildings. But without clear product rules, it will not work properly. EHPA calls on the European Commission and Member States to treat regulatory coordination as a prerequisite for scaling up heat pump deployment.

Another issue making it harder for households and businesses to switch from gas to heat pumps are high electricity prices. We see through this series of maps [4] we produced how many countries tax gas many times less than electricity, and the correlation with slower or higher heat pump uptake.

EHPA is calling for energy taxation to be rebalanced to electricity is no longer penalised compared to fossil fuels, and for fossil fuel subsidies to be phased out.

In 2025 there was some movement, notably through the EU Clean Industrial Deal [5] and Affordable Energy Action Plan, which emphasised the need for industrial decarbonisation, lower electricity bills, clean tech manufacturing and remunerating energy grid flexibility.

In 2026, the upcoming Heating and Cooling Strategy and Electrification Action Plan are new opportunities for the European Commission to put actions on energy tax and price signals front and centre.

Another way of making heat pumps competitive is by putting a price on carbon pollution. This is already the case for energy intensive industries and electricity under the EU Emissions Trading System (ETS). The ETS will be expanded to buildings and road transport from 2028, making clean heat solutions like heat pumps the attractive choice. ETS revenues will help poorer households to switch to heat pumps and save energy.

In terms of industrial heat pumps, the EU is also providing financing via a new 'Innovation Fund' auction for projects that decarbonise industrial process heat. This will be key to helping industry move from fossil fuel-based technologies to clean alternatives.

Another advantage of heat pumps concerns the power system. They can be turned on when electricity demand is lower, and off at peak times. This balances out electricity demand and reduces costs for the EU's energy system and for consumers.

But to ensure this happens, consumers need to have some sort of incentive, such as electricity tariffs that change according to overall demand.

What's more, grid operators need to be aware of the flexibility potential offered by heat pumps and take this into account in their grid planning.

It is also important that heat pumps can be switched off and on to enable grid stability and help the power system run smoothly.

In December 2025, the European Commission's published a Grids Package [6] which aims to modernise Europe's electricity grids, and connect them up better. This will help integrate more renewable electricity and lower energy prices – both key to speeding up heat pump rollout.

Finally, investment in skills is key to meet the expected needs in terms of heat pump engineers and installers, with around 500,000 more full-time equivalent employees needing to be ready for action in the next seven years. Skills is one of the topics being researched by the European Commission's Heat Pump Accelerator Platform, of which EHPA is a co-organiser. This Platform brings together the heat pump sector to find ways to address the barriers to heat pump roll-out.

The conclusion? There are huge opportunities in the heat pump sector, and work to do to ensure they are tapped. Slowly but surely the EU is rolling out

initiatives that will help this to happen, providing they contain the right elements and are correctly implemented in good time. Given the pressing need to

secure European energy, increase Europe's autonomy, shore up and decarbonise the economy, the future is very bright for heat pumps.

## References

- [1] <https://ehpa.org/heat-pump-stories/>
- [2] <https://ehpa.org/heat-pump-factories-map/>
- [3] [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_26\\_515](https://ec.europa.eu/commission/presscorner/detail/en/ip_26_515)
- [4] <https://www.ehpa.org/news-and-resources/press-releases/electricity-cost-drives-successful-heat-pump-markets/>
- [5] [https://csbd004.na1.hubspotlinksstarter.com/Ctc/DM+113/cSBd004/MWP\\_H0gcf1tW3jMt624VX5yxV5XFwB5H77tfN6Q02qY5kBVzW50kH\\_H6lZ3lwW15yWzP8qQ5JNW1lv-0Z7g0YWpW2srX8S5xzyjvW4h6\\_3Z5WyNT8W7k36GJ1rMVQcW7H0rzD9h8Yk2W3PXP7\\_3zkLV\\_W9kmCdK5TfQPNVjFmyM58LqGCW1vn48w4zwDYMW4LFnM15B49yfw3tfhW83q6FFFW1Lgldz5DFLd0W4\\_mfT-5bdXMjW2Fss0n48x0rzW8Wf-5q4wkYg8W5wrryG8\\_fZmfN7zNV6B\\_-RVsW5VCWPW6vwmtrW1WH9jd1wS0QBW6cRtD-58xtMIW5H-8bY3mJjtVW8811bB7b-mMVW55Wxfn3Whf2TW2n2\\_CF76H4Y1W7q52s297s1FkW3t8\\_6J2gnV-5W2vZ-QM4Y1SnbW4ZG4VW9fY0hgW4kBs0L8P5M2VXPbj83KxL8W4V5\\_P87SDJW4f7hcv5Y04](https://csbd004.na1.hubspotlinksstarter.com/Ctc/DM+113/cSBd004/MWP_H0gcf1tW3jMt624VX5yxV5XFwB5H77tfN6Q02qY5kBVzW50kH_H6lZ3lwW15yWzP8qQ5JNW1lv-0Z7g0YWpW2srX8S5xzyjvW4h6_3Z5WyNT8W7k36GJ1rMVQcW7H0rzD9h8Yk2W3PXP7_3zkLV_W9kmCdK5TfQPNVjFmyM58LqGCW1vn48w4zwDYMW4LFnM15B49yfw3tfhW83q6FFFW1Lgldz5DFLd0W4_mfT-5bdXMjW2Fss0n48x0rzW8Wf-5q4wkYg8W5wrryG8_fZmfN7zNV6B_-RVsW5VCWPW6vwmtrW1WH9jd1wS0QBW6cRtD-58xtMIW5H-8bY3mJjtVW8811bB7b-mMVW55Wxfn3Whf2TW2n2_CF76H4Y1W7q52s297s1FkW3t8_6J2gnV-5W2vZ-QM4Y1SnbW4ZG4VW9fY0hgW4kBs0L8P5M2VXPbj83KxL8W4V5_P87SDJW4f7hcv5Y04)
- [6] <https://ehpa.org/news-and-resources/press-releases/eu-grids-package-an-important-signal-fast-implementation-key/> ■