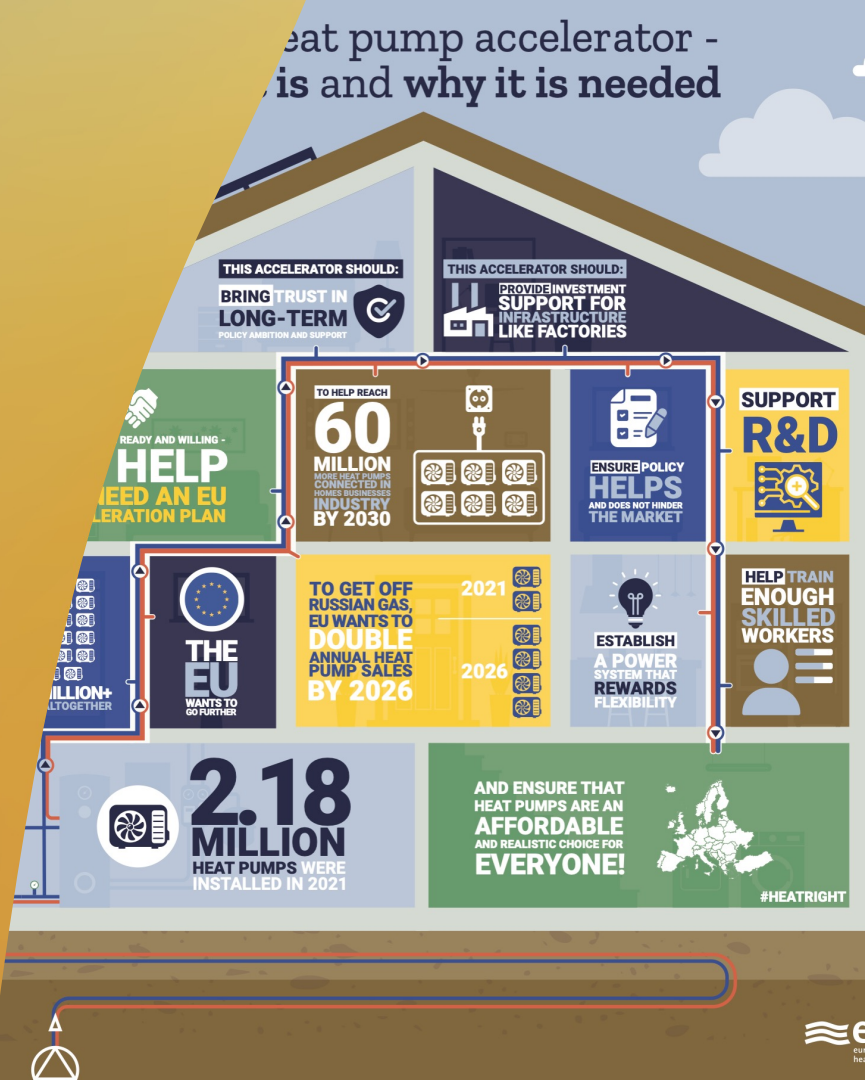




Heat pump accelerator -
What is and why it is needed

Heat Pump, the solution for decarbonisation of the heating sector

Five steps to a fast heat pump roll-out



Mélanie Auvray, 9 November 2023



About EHPA

Founded in **2000**

193 Members representing the entire value chain

- Heat pump and component manufacturers
- National associations
- Test labs
- Utilities and Consultancies
- Research institutes and Universities

28 Countries

International cooperation

CECA, IEA, IEA HPT, IRENA, HPCJ

Vision: In a fully decarbonised Europe, heat-pump technologies are the number one heating and cooling solution, being a core enabler for a renewable, sustainable and smart energy system.



Heat pumps are mature and used



White goods & cars

Commercial Applications



Residential Applications

Industrial Applications & District Heating



Big buildings

Heat pumps drive decarbonizations in 3 ways

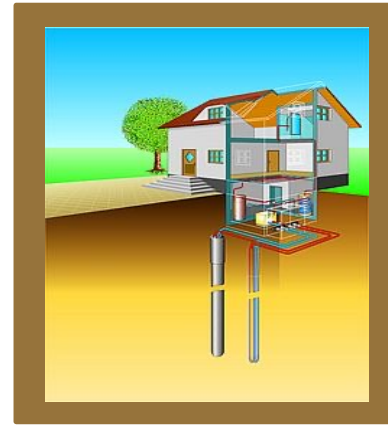
Thermal energy from the air, the water and the ground



Air source HP



Water source HP



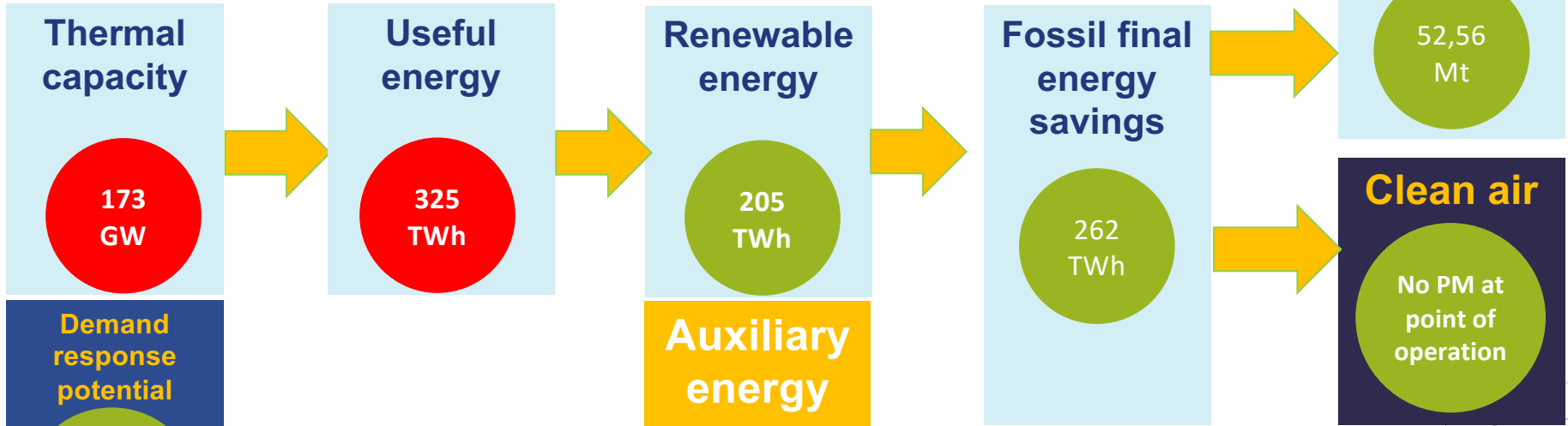
Ground source HP

Heat pumps drive decarbonizations in 3 ways

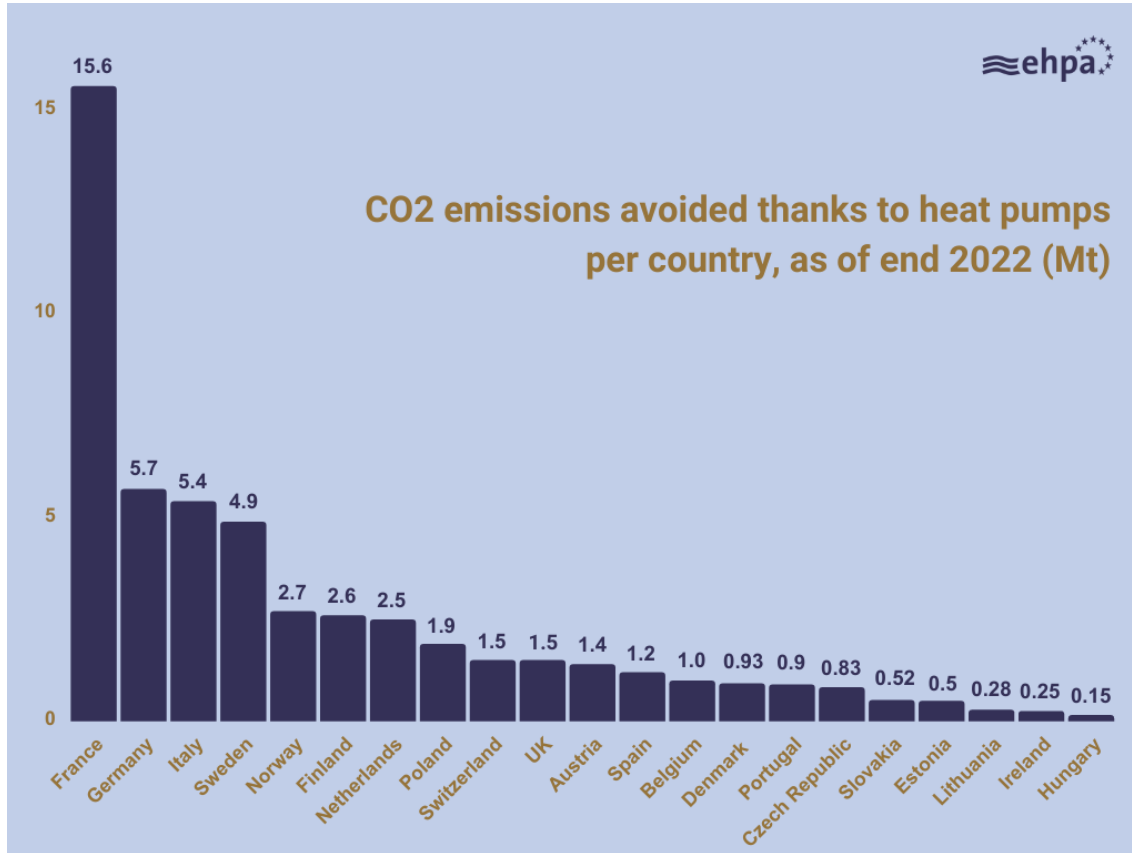
Energy Source	Hydronic, water-based distribution system	Air (ducted or non-ducted) distribution system
Air	Air/water heat pumps use air as energy source and a hydronic system for energy distribution production	Air/air heat pumps use air as energy source and ducts to distribute the energy in the building
Water	Water/water heat pumps use Water as energy source and a hydronic system for energy distribution production	Water/air heat pumps use water as energy source and ducts to distribute the energy in the building
Ground	Ground/water heat pumps use geothermal energy as energy source and a hydronic system for energy distribution production	Ground/air heat pumps use geothermal energy as energy source and ducts to distribute the energy in the building

Heat pump benefits 2022

Based on 19.79 million heat pumps installed



If auxiliary energy is **green**, heat pumps provide 100% **green heat**



The heating and cooling sector is responsible for **27%** of its CO2 emissions.

Heat pumps can provide **CO2-free** heating and cooling and hot water

A heat pump solution for all buildings

Heat pumps work in renovation

Heat Pumps in Renovation | Update 2022



The most flexible technology when renovating any kind of building



Several examples of successful heat pumps installations in the renovation sector.

Booklet can be found on our [website](#).

Heat pumps work in renovation

- Integrated home renovation services or One-Stop-Shop:



Heat pumps work in multi-family buildings



Source: Glen Dimplex

Heat pumps and high rise homes:

Case studies from across Europe



Several examples of successful heat pumps installations in multi-family buildings.

These case studies show a variety of solutions for different shapes and sizes of buildings but also solutions for new or retrofitted buildings, and even for buildings where no energy savings measures have been taken.

Booklet can be found on our [website](#).

Heat pumps work in multi-family buildings

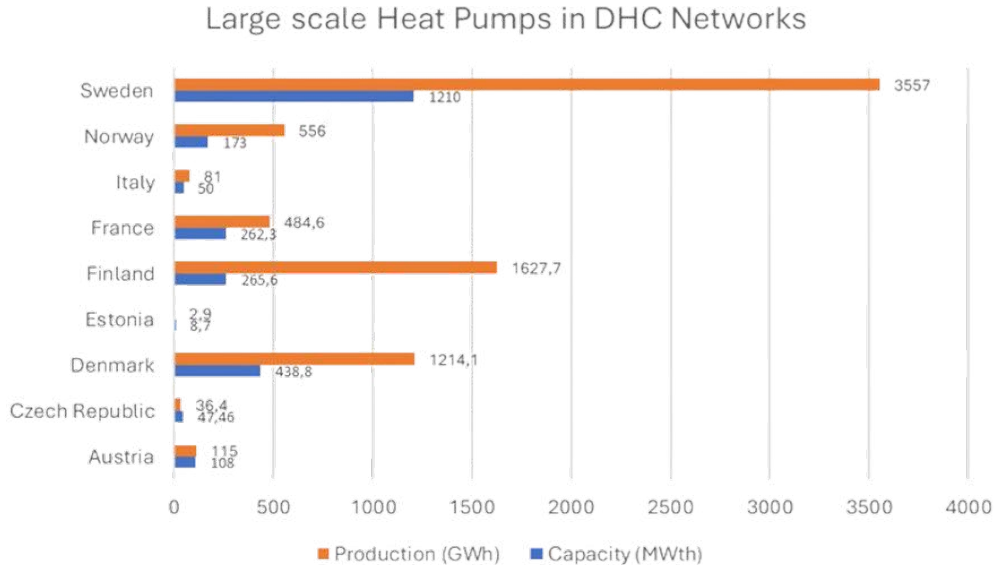
Sustainable modernization project in AT

- 12 flats supplied by mini heat pump
- Heat distribution in the flats with existing radiators
- Domestic hot water tanks with 150l
- Required space in the flat - Important
- Distribution lines of heat pump source through old installations shaft
- Design of a new boiler room in the attic



VAILLANT GROUP

Large heat pumps work in district heating and cooling



Source: ext. EHP, *Large Heat Pumps in District Heating and Cooling Systems*, 2022, p.10.

Large heat pumps used in district heating and cooling (DHC) systems are not new. **In Sweden, heat pumps coupled with District Heating were installed in the 1980-90s to provide sustainable heat and balance the grid**

EHP report can be found [here](#).

Large heat pumps work in district heating and cooling

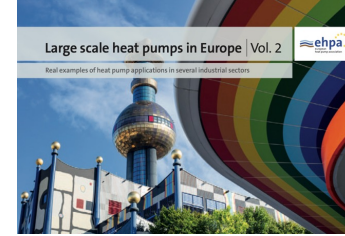
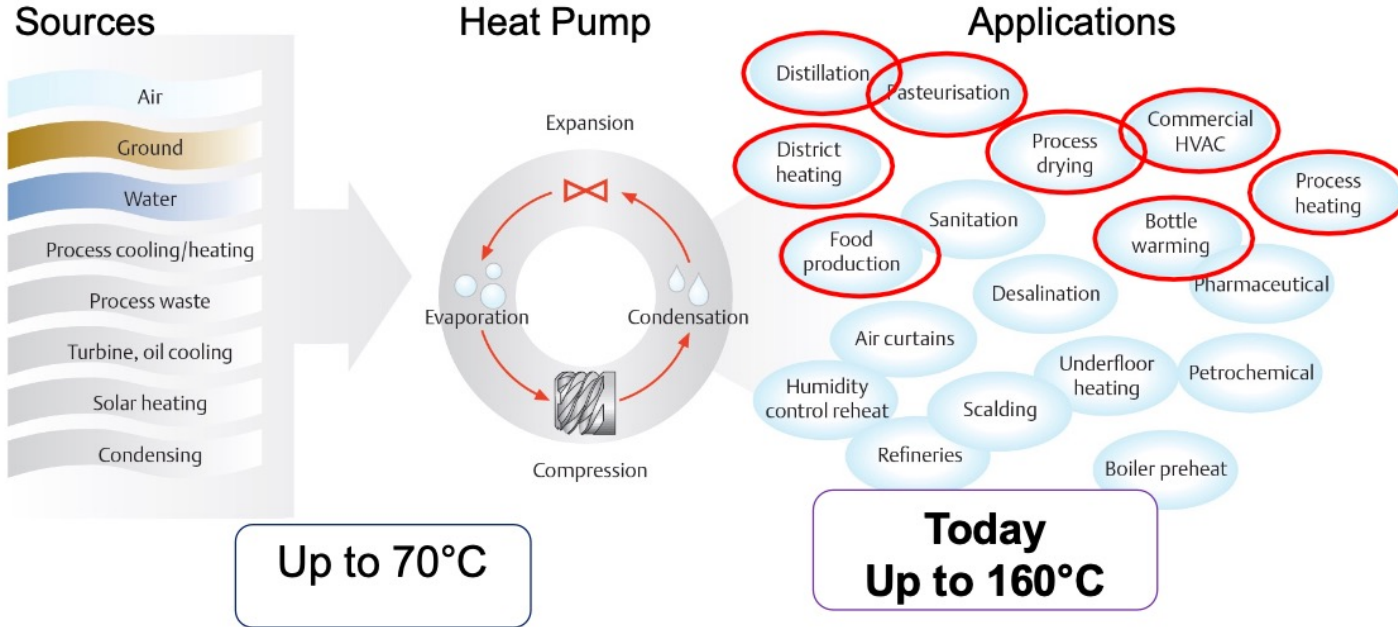
Use of waste heat from cooling for district heating, Berlin, Germany



District heating River Clyde, Glasgow, UK



Industrial heat pumps to decarbonise the industry

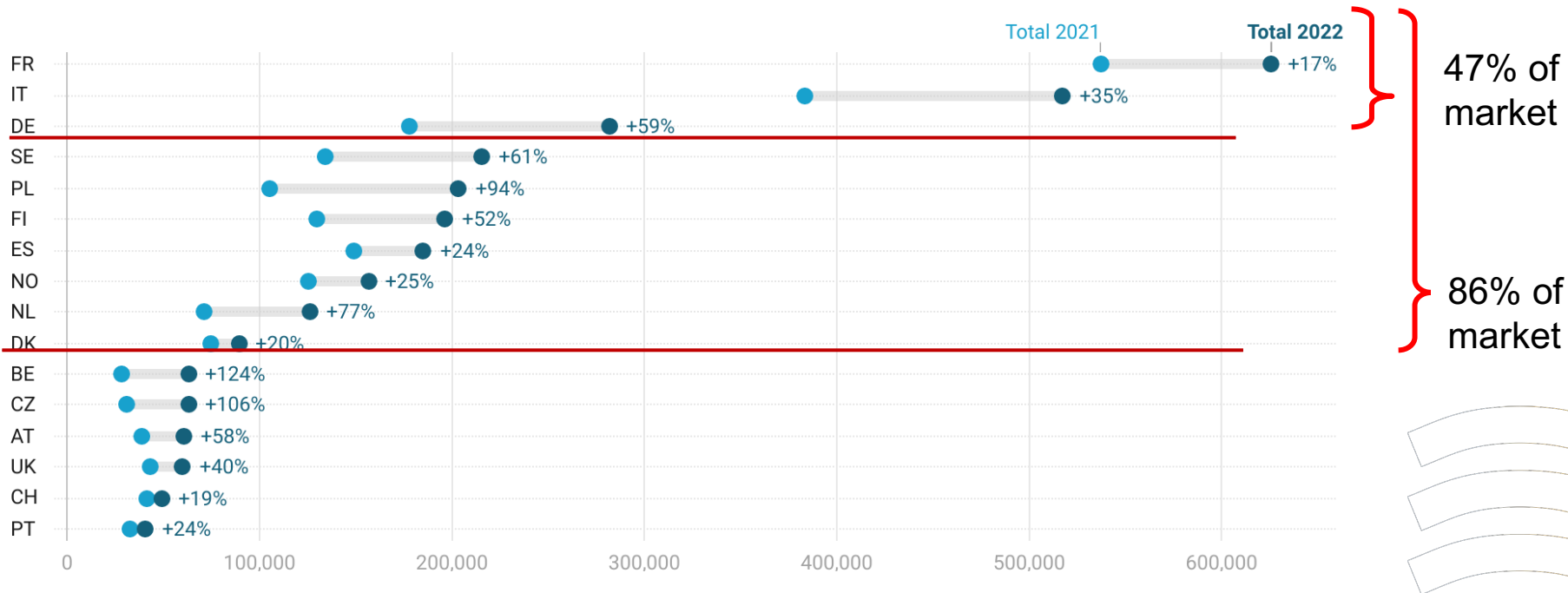


Examples of heat pump applications in several industrial sectors, can be found in the booklet on our [website](#).

Key Market Data Figures

European heat pump markets 2021 and 2022

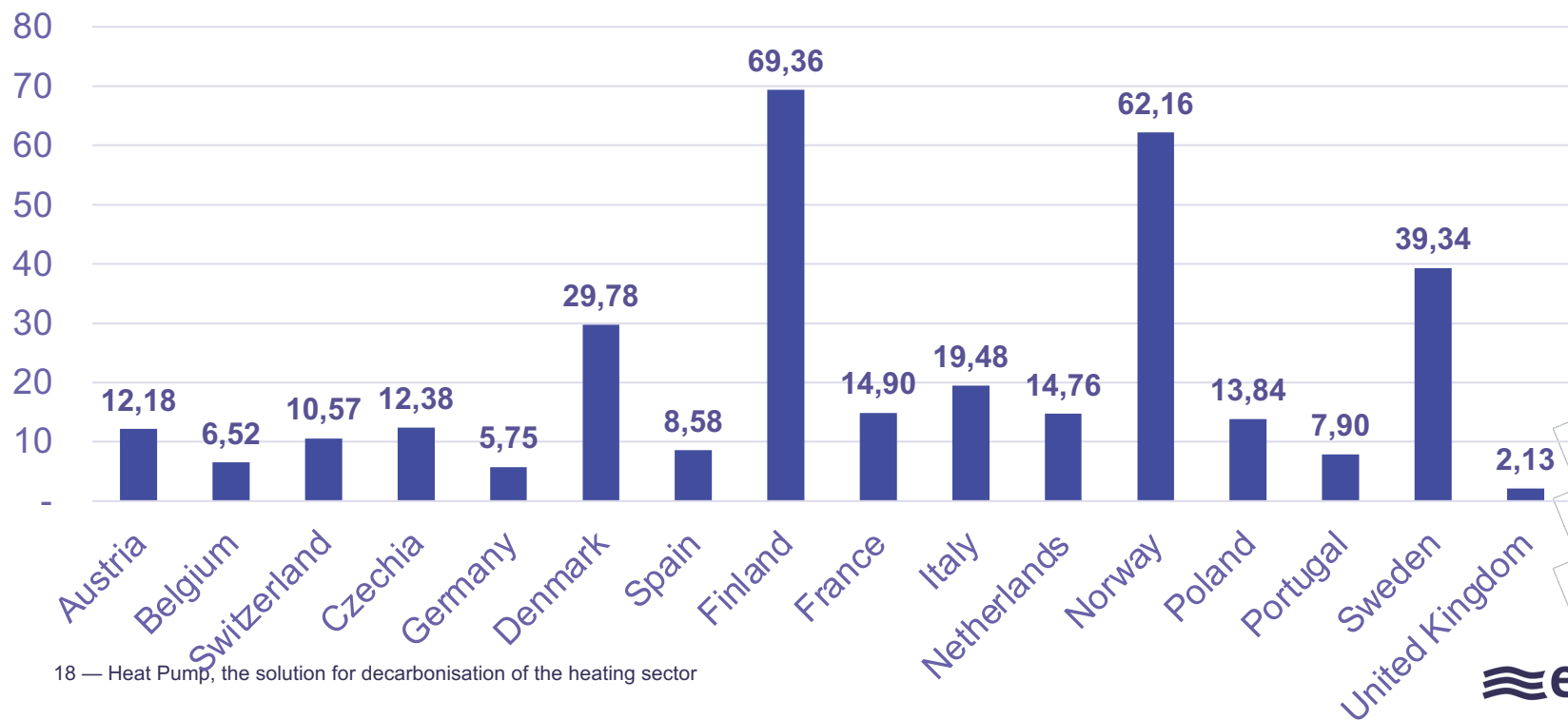
Change of total sales of heat pumps (heating and sanitary hot water) by size of market.



Source: stats.ehpa.org • Created with Datawrapper

What if all countries were like Finland, Norway and Sweden?

HP per 1000 households 2022 (household data for 2021)



Five steps to a fast heat pump roll-out

Heat pumps are recognized in policy



60 Million additional hydronic heat pumps to be sold in Europe by 2030

20 — Heat Pump, the solution for decarbonisation of the heating sector

European Commission

English

Energy, Climate change, Environment

Energy

Home Topics Data and analysis Studies Publications Consultations Energy explained Events News

Home > Topics > Energy efficiency > Heat pumps

Heat pumps

Heat pumps are key to enabling the clean energy transition and achieving the EU's carbon neutrality goal by 2050.

PAGE CONTENTS

- [EU Heat Pump Action Plan](#)
- [Related links](#)

According to Eurostat data, about [50% of all energy consumed](#) in the EU is used for heating and cooling, and more than 70% still comes from fossil fuels (mostly natural gas). In the residential sector, around 80% of the final energy consumption is used for space and water heating.

Heat pumps are a mature technology that is much more energy efficient than boilers. They allow greater use of renewable energy sources, ambient energy, and waste heat. In buildings, heat pumps are used for heating, hot water, and in some cases also for cooling. Rather than producing heat, they extract and upgrade ambient energy (heat or cold from outdoor air and surface or sewage

Heat pumps

0:10 / 2:00

©European Union, 2023

The screenshot shows the top navigation bar of the European Commission website, including the logo, language selector, and search bar. Below is a blue header with the word 'Energy' and a menu. The main content area is titled 'Heat pumps' and contains introductory text, a 'PAGE CONTENTS' section with links to the 'EU Heat Pump Action Plan' and 'Related links', and a paragraph of text about energy consumption. At the bottom, there is a video player with a cartoon character and a heat pump, and a copyright notice for the European Union, 2023.



Heat Pump Accelerator to reach 60 million heat pumps by 2030

EU Heat Pump Accelerator



A joint plan for boosting heat pump deployment and meeting the REPowerEU targets



Heat Pump, the solution for decarbonisation of the heating sector

→ Five steps to a fast heat pump roll-out



- 1 Make clean heating the standard



- 2 Support European industry leadership



- 3 Increase energy system integration with flexible heat pumps



- 4 Make it easier for consumers



- 5 Develop the required skills and workforce



Kadri Simson
@KadriSimson

I met with @helloheatpumps & the European Climate Foundation who handed me their “Heat pump accelerator” – a joint plan for boosting the deployment of #heatpumps. We are working on a heat pump action plan, which we aim to deliver by the end of 2023. This input will help us a lot.



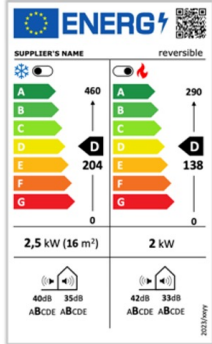
EHPA and 2 others



1. Make clean heating the standard

EU level

16.6 Label for reversible room air conditioners / heat pumps
(7) Label / Average climate only

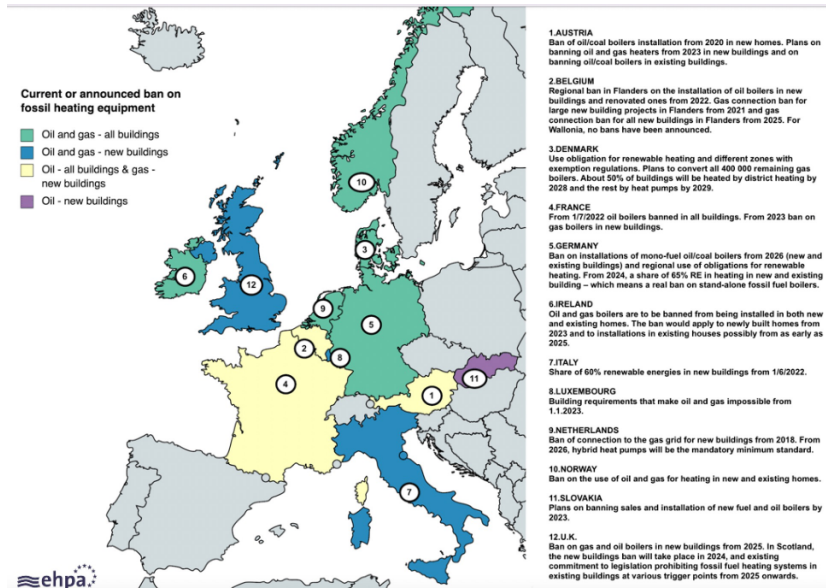


Ecodesign



Energy Performance of Buildings

National level



2. Support European industry leadership



Source: Daikin

23 — Heat Pump, the solution for decarbonisation of the heating sector

Industry is preparing for growth

As of today, more than 5 billion € of investment announced until 2025

Based on press releases by Daikin, Viessmann, Stiebel-Eltron, Bosch, Panasonic, Vaillant, Hoval, Ziehl-Abegg, Alfa-Laval, Grundfoss, Wilo, Kensa, Ariston, Clivet/Midea, etc.

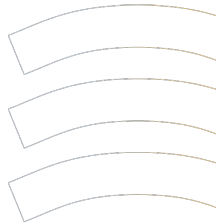
3. Develop the required skills and workforce



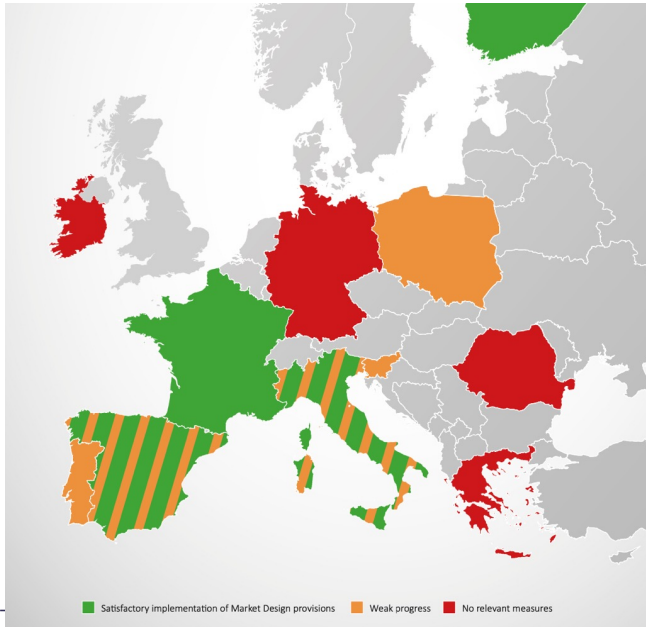
HP  ALL



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 891775



4. Increase energy system integration with flexible heat pumps



25

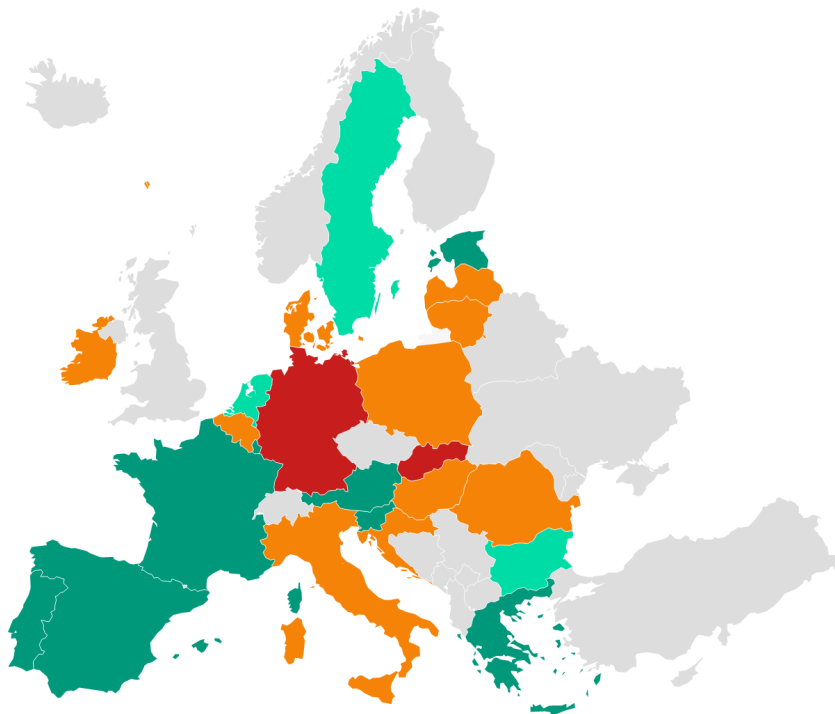
Demand side flexibility update:
“Barely any progress to ensure access to price signals for end-users” *

Giving a value to flexibility is essential to make heat pumps attractive to end users and aggregators

* Source: The implementation of the Electricity Market Design 2022 to drive demand side flexibility. Smarten 2022

5. Make it easier for consumers: importance of the electricity to gas price ratio

■ < 1.5 ■ 1.5-2.5 ■ 2.5-3.5 ■ ≥ 3.5





Thank you!

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 [@helloheatpumps](https://twitter.com/helloheatpumps)

 [European Heat Pump Association](https://www.linkedin.com/company/european-heat-pump-association/)



www.ehpa.org

