



EGEC Geothermal Market Report 2021/2022

In the last edition of the EGEC Market Report 2021, the message was clear: Sales and new installations of geothermal heat pumps were strong across all countries, more than overcoming the slump due to COVID lockdowns in 2020. France experienced a 73% growth in sales from the previous year, Austria 59%, Belgium 35%, and the German 10%. In terms of overall capacity installed, the market was still dominated by Germany and Sweden.

The next edition of the Market Report 2022 will be published soon. It will show a record year in terms of installations of geothermal HP systems.



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GeoBOOST project

Geothermal heat pumps (GHPs) are the most effective and versatile technology solution today to lower the carbon footprint and fossil fuel dependency (nowadays, over 75% of household heating demand energy in the EU is being covered by fossil fuels) in the heating and cooling sector. High effectivity and broad scalability hand in hand with the utilization of local and stable heat source are only a few advantages of the GHPs. Moreover, combined with passive cooling in summer, provide the GHPs practically time-unlimited heat source.

More than competitive are the GHP systems as well compared to the widely used classical air-water heat pump technologies. Despite significantly higher capital costs of the GHPs, higher effectivity of the GHPs and lower operating costs in most applications prevail. The Seasonal Coefficient of Performance (SCOP) of the GHPs is typically between 2,7 (55 °C – demand side) and 8 (35 °C – demand side) for heating (air-water heat pumps between 2,5 and 4). Where passive summer cooling combined with subsequent heat energy storage is implemented, rises the combined SCOP of the GHPs up to 20. In such cases, the GHPs overcome the classical air-water heat pumps in efficiency four times.

The GeoBOOST project focuses on the steadily growing demand for renewable energy implementation in the heating and cooling sector. The project's main goal is to promote broader use of the fast-evolving geothermal heat pump (GHP) technology. To do so the following challenges will be addressed: lack of awareness, revalorising high upfront CAPEX costs, lack of data and monitoring standards, insufficient business models and financing, regulatory harmonisation and expanding the workforce.

GeoBOOST will improve statistical and market data for geothermal heat pump investments, develop business models and financing schemes to help individual investors to understand the opportunities and to measure the progress towards the EU's climate policy objectives. Besides a general raising of the awareness of geothermal heat pumps the project will work on a regulatory framework toolkit and a growing and upskilling of workforce.

The project is led by the European Geothermal Energy Council (EGEC). In cooperation with geological survey organisations, universities, non-profit organisations and private expert companies, concepts and strategies for a market uptake of GHP will be explored.

France's Geothermal Action Plan

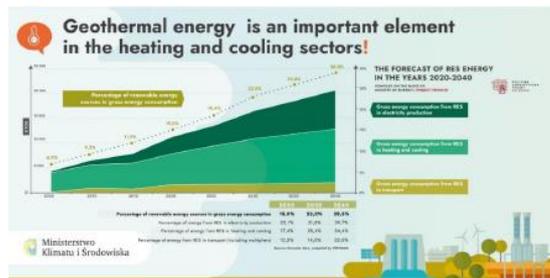
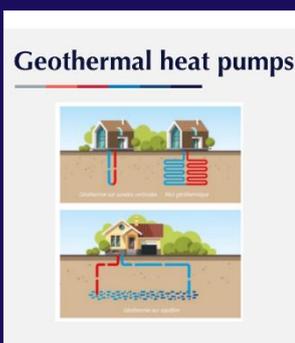
French national geothermal energy action plan to boost geothermal energy

EGEC and AFPG produced an English summary of France's Geothermal Action Plan released in December 2022.

This summary provides an insight into geothermal as well as other key national legislation relevant to the development of geothermal in France and elsewhere.

The objective of this Action Plan is to make France a leader in geothermal energy through different challenges, one of which is to double the sales of heat pumps.

[Download the Action Plan.](#)



The total estimated subsidy costs for pts. 1-9 in the period 2022-2050 will amount to about EUR 2,620.5 million. Financing takes into account the funds of the Ministry of Climate and Environment, National Environmental Protection and Water Management, NCBiR, BOŚ, the Treasury, NPO, sources of the new financial prospects, e.g. FENIKS and modernization fund.

The development of geothermal broadly based on private capital, taking into account the level of co-financing, may reach a value of EUR 10,080 million by 2050. Support in the form of co-financing amounts to about 26% of the total value of capital involvement in the development of geothermal broadly based in Poland.

Total projected installation capacity: 8,559.5 MWth and 7.6 MWeI.



Polish geothermal roadmap

Multi-year Program for the Development of the use of Geothermal Resources in Poland

The table of contents of this publication is composed by:

1. Utilization of ground source heat pumps up to 30 kW and compressor heat pumps in systems of more than 200 kW.
2. Science, Technology and Business HUB - National Center for Geothermics and Heat Pumps.
3. Utilization of low-temperature geothermal energy resources up to 45°C and above 45°C.
4. Use of high-temperature geothermal energy resources (above 100°C) - cogeneration facilities producing electricity and heat.
5. Use of shallow groundwater, mine water, surface water and waste water.
6. Development of Deep Borehole Heat Exchanger Technology.
7. Innovative technologies for storing heat in the rock mass.
8. Risk insurance program for geothermal projects.
9. Legislative changes, promotion and education.

[Download the Polish geothermal roadmap](#)

Strong heat pump sales on the Swedish market in 2022

Despite challenges in logistics and component supply, heat pumps sales in Sweden increased dramatically during the last quarter of 2022, compared to the same period in 2021. The Swedish heat pump association SKVP reports that the total heat pump sales increased 3% in 2022, with ground source heat pumps accounting for the largest increase (+10%). The main sales increase was for the small house section (+11%), while sales for larger buildings only increased +1.5%. The ground source heat pump sales in the fourth quarter of 2022 increase with 30% compared to the same period in 2021, and the small house section increased most (+31%) followed by the large building section which increased with +13%. The Swedish heat pump association says the increase in sales is a result of the increasing energy prices and the urgent need for transition to an emission-free energy system in the EU. European initiatives such as RePowerEU and Fit for 55 are examples of how the EU sends signals that heat pumps are a key technology for the energy transition process in Europe.

[More information here](#) (In Swedish)

EC Heat pumps – action plan to accelerate roll-out across the EU

The use of efficient heat pumps in buildings, industry & local heat networks is key for cutting greenhouse gases and achieving the Green Deal & REPowerEU targets.

The Eu Commission will launch in 2023 an action plan on accelerating the heat pump market and deployment. It will set out 4 strands of action:

- partnership between the Commission, EU countries and the sector (including R&I)
- communication to all interest groups & a skills partnership for rolling out heat pumps
- legislation (ecodesign & energy labelling)
- accessible financing.

Heat pumps 'up to three times cheaper' than green hydrogen in Europe, study finds

[Read more about this initiative](#)

The research, published in the journal Energy Conversion and Management, concludes that a green hydrogen heating system would be roughly "two to three times more expensive" than one relying on electric heat pumps in the EU and UK.

Decarbonising heat is a key goal for governments seeking to hit their climate targets and end their reliance on expensive gas, amid a global energy crisis.

QHeat's project

The geothermal heating plant built by QHeat for Vantaan Energia in the district of Varisto in Vantaa, Finland has started operations. This marks the first time that geothermal heat has been used for a district heating network in Finland.

The plant consists of three heating wells about 800 metres deep. The estimated annual energy production of the wells is 2,600 MWh which corresponds to the annual heating demand of about 130 private houses.

We had previously reported on the investment aid for this project, as well as the completion of drilling of the first thermal well.

In recent years, Vantaan Energia has made significant investments in carbon footprint reduction of district heating and the company aims to ensure that the heat in the heating network comes entirely from renewable energy sources. As part of its climate objectives, Vantaan Energia will phase out fossil fuels in energy production as quickly as possible and move towards carbon neutrality by 2030.

More information [about the project](#)

EP's ENVI Committee agrees to an ambitious reduction of F-gas emissions

End of March 2023, members of ZU parliament adopted their position on revising the EU's legislative framework on fluorinated gases (F-gases) emissions. MEPs want to strengthen new requirements proposed by the Commission that prohibit the placing on the single market of products containing F-gases (Annex IV).

The text also adds prohibitions on the use of F-gases for sectors where it is technologically and economically feasible to switch to alternatives that do not use F-gases, such as refrigeration, air conditioning, heat pumps and electrical switchgear. The report introduces a steeper trajectory from 2039 onwards to phase down hydrofluorocarbons (HFCs) placed on the EU market, with the goal of a zero HFC target by 2050 (Annex VII).

According to MEPs, the Commission should closely monitor market developments in key sectors such as heat pumps and semiconductors. For heat pumps, the Commission needs to ensure that the HFC phase-down would not endanger the RePowerEU heat pump deployment targets as the industry has to work towards replacing HFCs with natural alternatives.

The report constitutes Parliament's negotiating position with EU governments on the final shape of the legislation.

More information here.

Relevant policy news

REPowerEU: emergency measures on fast permitting

The Council Regulation (EU) 2022/2577 of 22 December 2022 laying down a framework to accelerate the deployment of renewable energy to accelerate the deployment of renewable energy has been adopted on 22nd December 2022. This regulation should apply temporarily for 18 months, covering the time needed for the adoption and transposition of the Renewable Energy Directive. Among the main measures:

- **Renewable energy plants would be presumed to be of overriding public interest (Article 3).**

This would allow new permitting procedures to benefit with immediate effect from a simplified assessment for specific derogations foreseen in EU environmental legislation.

- **Heat pumps permit-granting procedures would be accelerated (Article 7).**

The permit-granting process for the installation of heat pumps below 50MW shall not exceed one month, in case of ground-source heat pumps three months (+ simplified procedure for grid connection of smaller heat pumps). Member States agreed to give the possibility to apply the faster permitting rules for ongoing permit requests.

[See here the Council Regulation.](#)

EBPD recast: final EP position

On 14th March 2023, the EP Plenary adopted the ITRE report on the EPBD recast. Among the main measures:

- All new buildings should be zero-emission from 2028, with the deadline for new buildings occupied, operated or owned by public authorities in 2026. All new buildings should be equipped with solar technologies by 2028, where technically suitable and economically feasible, while residential buildings undergoing major renovation have until 2032.
- Residential buildings would have to achieve, at a minimum, energy performance class E by 2030, and D by 2033 - on a scale going from A to G, the latter corresponding to the 15% worst-performing buildings in the national stock of a member state. Non-residential and public buildings would have to achieve the same ratings by 2027 and 2030 respectively.
- Most importantly, **MEPs agreed to phase out fossil fuel heating systems from households, preferably by 2035, and by 2040 at the latest** (see Article 1a point h). However, this agreement is accompanied by a provision **allowing hybrid boilers in new buildings fired with biofuels, hydrogen or a blend of fossil and renewable gas** (see Article 7 paragraph 4a).

MEPs will now enter into negotiations with Council to agree on the final shape of the bill. [More information here.](#)