

Revealed:

Climate leaders and laggards of the European heating sector

A Brand Audit



A Coolproducts report, by the European Environmental Bureau



2021



The EEB is Europe's largest network of environmental citizens' organisations. We bring together over 160 civil society organisations from more than 35 European countries. We stand for sustainable development, environmental justice & participatory democracy.



Led by the EEB and ECOS, Coolproducts is a coalition of NGOs working to ensure better products for consumers and the planet.

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Executive Summary

Time is running out for the European Union (EU) to decarbonise the heating sector. If fossil-fuel boilers continue to be installed in European buildings beyond 2025, there is a risk that they will still be in place in 2050, when the EU should be climate-neutral. Luckily, the EU has the necessary legislative tools at its disposal to support a rapid decarbonisation of heating systems. A wise use of the Ecodesign and Energy Labelling regulations for heating systems, for example, could help take us in the right direction.¹

Beyond the necessary legislative action, corporate action can support the transition of the European heating sector. This report evaluates the *climate-compatibility* of the portfolios of manufacturers of domestic heating systems in Europe. It analyses their future plans and positions regarding the decarbonisation of their sector.

The report examined publicly available data, as well as companies' responses to a questionnaire, to rank them into "*leaders*", "*followers*", "*laggards*", and "*the dark side*", depending on the extent to which their portfolios were compatible with climate objectives.

Despite all the talk about decarbonisation, and despite public efforts by the heating industry to portray itself as sustainable, 38 companies out of the 53 contacted decided not to reply to our questionnaire. This lack of transparency deprives the public of valuable information about the all-important transition of the residential heating sector.

On the positive side, 15 companies of all sizes, and from 10 European countries, did disclose information about their activities. We are particularly thankful to those companies that, knowing that their portfolio and plans do not necessarily align with the European Environmental Bureau's vision of decarbonisation, decided nonetheless to reply and share their own vision, and their challenges. Our ranking methodology thus yielded six *leaders*, five *followers* and four *laggards*.

Other interesting findings were:

- › There is overwhelming support among respondents for an immediate end to subsidies in Europe for technologies that are not climate-compatible: fossil fuel boilers and inefficient electric heating products.
- › There is broad support for a legal ban on the sales of all domestic fossil-fuel boilers and water heaters.
- › Support for a legal ban on the sale of inefficient domestic electric heating products is unclear.
- › Asked about the key measures needed to achieve climate-neutrality in the building sector by 2050, respondents highlighted: improving building insulation; an increase in renovation rates; and support for renewable technologies, in particular heat pumps, to make them affordable to the end-user. More generally, manufacturers would welcome a reliable EU regulatory framework with clear goals and policies that provide visibility and allow them to invest in the technologies of the future.

1. ECOS, in collaboration with the Coolproducts Campaign. "Five Years Left: How Ecodesign and Energy Labelling can Decarbonise Heating". December 2020.

Introduction

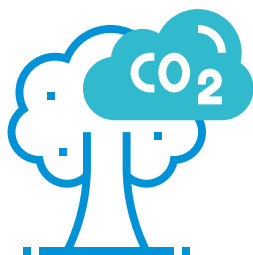
Buildings are responsible for about 40% of the EU's total energy consumption, and for 36% of its greenhouse gas emissions from energy². More than 220 million building units, representing 85% of the EU's building stock, were built before 2001. And 85-95% of the buildings that exist today will still be standing in 2050. For the residential sector, more than 75% of the energy produced for heating currently comes from fossil fuels (gas, oil and coal).³

The EU plans to reduce its greenhouse gas emissions by at least 55% by 2030 compared to 1990⁴. To achieve that target, it is estimated that by 2030 the EU should reduce buildings' greenhouse gas emissions by 60%, their final energy consumption by 14%, and energy consumption for heating and cooling by 18%, all compared to 2015 levels⁵.

The EU should first and foremost focus on increasing the rate and depth of building renovations. The EU's Renovation Wave aims "to at least double the annual energy renovation rate of residential and non-residential buildings by 2030 and to foster deep energy renovations" in order to "green buildings, create jobs and improve lives". Indeed, the benefits of deep energy renovations are multiple.

Beyond that, there is a need to ensure that the remaining energy consumed in buildings is decarbonised. And that this is done really fast. A recent ECOS/Coolproducts report, alarmingly entitled "*Five Years Left: How Ecodesign and Energy Labelling can Decarbonise Heating*"⁶, shows that for the EU to reach its own targets of at least a 55% reduction in emissions by 2030, and of becoming climate neutral by 2050, the installation of fossil-fuel boilers and inefficient heating systems needs to stop no later than 2025. The rationale is simple: because gas and oil boilers can last longer than 25 years, if their sales and installation continue beyond 2025, they will still be in place by 2050, when the EU should already be climate neutral.

While ecodesign and energy labelling measures exist for boilers and water heaters, they date back to 2015. These outdated regulations allow – and sometimes promote via the energy label – the sales of heating technologies that are incompatible with the EU's climate targets.



THE EU PLANS TO REDUCE
ITS GREENHOUSE GAS
EMISSIONS BY AT LEAST

55%

BY 2030 COMPARED TO 1990

2. European Commission communication: "A Renovation Wave for Europe", page 2.

3. European Commission communication: "A Renovation Wave for Europe", page 24.

4. The European Commission has proposed in the Climate Target Plan 2030 to cut net greenhouse gas emissions in the EU by at least 55% by 2030 compared to 1990. The European Parliament suggests a 60% target.

5. European Commission's communication: "A Renovation Wave for Europe", page 2.

6. ECOS, in collaboration with the Coolproducts Campaign. "Five Years Left: How Ecodesign and Energy Labelling can Decarbonise Heating". December 2020.

The EU is currently in the process of reviewing the Ecodesign and Energy Labelling regulations for these products. To align these regulations with the EU's climate ambitions, the energy labelling for heating products needs to allocate fossil fuel heating products and traditional electric products to the lowest classes (F and G); and the Ecodesign regulation for heating products needs to put an end to the sales of these products by 2025 at the latest. Some in the heating sector dispute such a strategy, based on the argument that "decarbonised gases", such as hydrogen, will replace natural gas in heating systems. There is, however, mounting evidence^{7, 8, 9, 10, 11, 12, 13, 14, 15} that such gases – of which the amount would be limited, and which come with a series of economic and technical drawbacks – should be used only in priority sectors that are hard to electrify. This is not the case for domestic heating. The graphic below from Energy Cities perfectly makes the point on the hierarchy of hydrogen use across the economy:

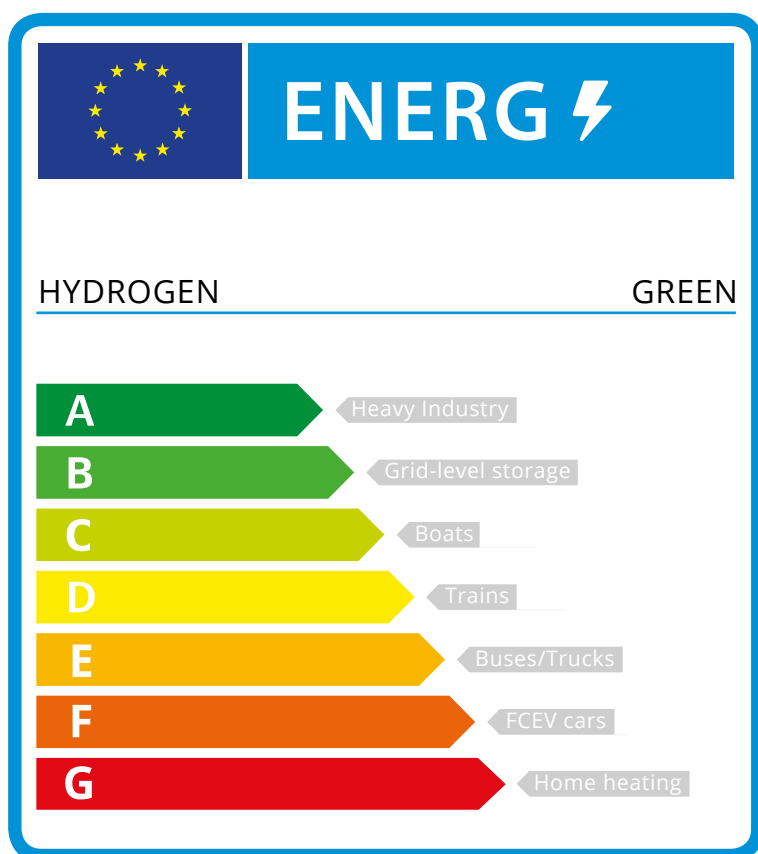


Figure 1: hierarchy of hydrogen uses. Source: Energy Cities.

With all of that in mind, the Coolproducts campaign set out to see what the companies in the heating industry are doing, and what they plan to do in terms of decarbonisation of their portfolios, before and beyond what the EU is doing. The result is this report.

7. Rosenow, J., and Lowes, R. (2020). "Heating without the hot air: Principles for smart heat electrification". Regulatory Assistance Project. March 2020.
 8. Carbonbrief. "In-depth Q&A: Does the world need hydrogen to solve climate change?". November 2020.
 9. CAN Europe and EEB. "Building a Paris Agreement Compatible (PAC) energy scenario".
 10. Liebreich, M. "Separating Hype from Hydrogen – Part One: The Supply Side". Bloomberg NEF, October 2020.
 11. Liebreich, M. "Separating Hype from Hydrogen – Part Two: The Demand Side". Bloomberg NEF, October 2020.

12. Sunny, N., Mac Dowell, N., Shah, N. (2020). "What is needed to deliver carbon-neutral heat using hydrogen and CCS?"
 13. Lowes, R., Woodman, B., and Speirs, J. (2020). "Heating in Great Britain: An incumbent discourse coalition resists an electrifying future". December 2020.
 14. Rosenow, J. "Heating homes with hydrogen: Are we being sold a pup?" Energy Monitor, 29 September 2020.
 15. Cebon, D. "Blog: Hydrogen for Heating". 28 September 2020.

Methodology

Scope

The report covers companies selling domestic heating systems (for space and/or water heating) in the European Economic Area (EEA). It does not include companies that sell commercial or industrial heating systems. Nor does it include companies selling only cooling or ventilation systems. It covers companies selling domestic heaters (the element actually producing the heat, e.g. boilers, heat pumps, etc.), but not those that only sell emitters (e.g. radiators), or heating systems controls.

Contacting companies

Identifying companies that met such criteria was no easy task. We analysed publicly available information about the members of four European heating associations: the European Heating Industry (EHI), the European Heat Pump Association (EHPA), the European Partnership for Energy and the Environment (EPEE), and Solar Heat Europe. Of the 200+ combined members of these associations, we identified some 70 companies as potentially falling within the scope of our research.

We contacted each of these companies individually. We sent them a questionnaire (see [Annex 1](#)) with three broad sections:

- 1) Questions about their current activities and portfolio.
- 2) Questions about their future plans, and their position regarding possible future legislative changes.
- 3) Other broad questions about the decarbonisation of the heating sector in Europe.

We gave companies two weeks to reply. We sent reminders and used different means of contact (email, online contact forms, social networks, phone calls and videoconferences) to ensure that our request reached the right person within each company. All in all, we sent over 500 messages to these companies between mid-November and mid-December 2020. We extended deadlines – sometimes by several weeks – to ensure that high workloads were not an obstacle to replying to the questionnaire. In our last reminder, we informed companies that, even in the absence of a reply, they would be named in our report, under the category of companies that did not want to disclose information about the climate-compatibility of their products. We believe that all companies had a fair chance to reply to the questionnaire.

From further desk research, and from exchanges with the companies that did reply, we were able to narrow the list of companies down to 53 companies. For example, where several companies belong to one corporate group, we considered the whole group for our analysis. Admittedly, these 53 companies do not cover the entire residential heating sector in Europe, but they are hopefully representative of the market.

WE IDENTIFIED

53

COMPANIES AND
CORPORATE
GROUPS THAT
SELL DOMESTIC
HEATING SYSTEMS
IN EUROPE

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Ranking companies

We then set off to rank companies according to their responses (or lack of them): leaders, followers, laggards, and the dark side. The following flowchart summarises the criteria used:

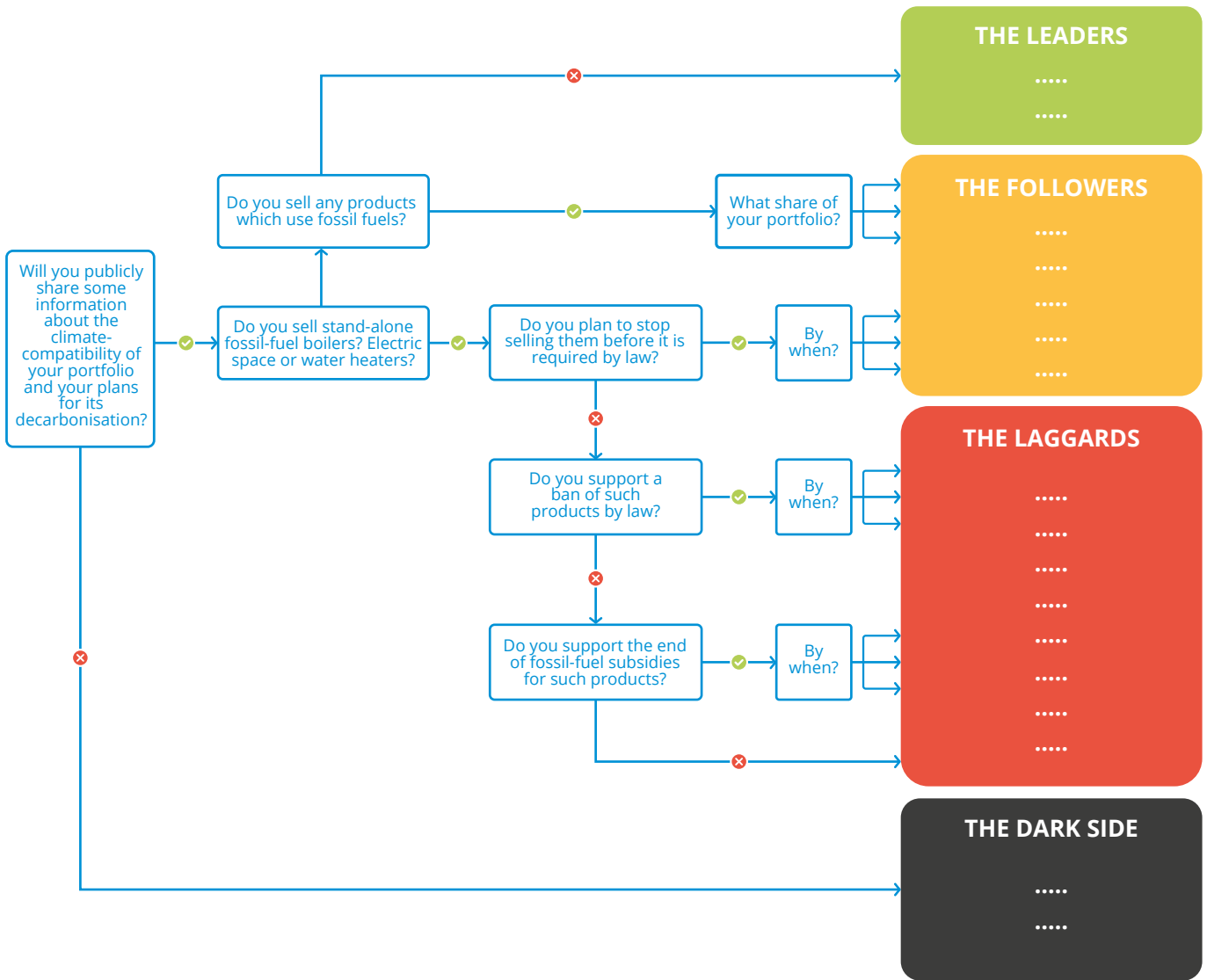


Figure 2: flowchart summarising criteria to rank companies¹⁶.

16. This methodology only allows the ranking of companies according to their domestic heating portfolios. Neither the EEB nor the Coolproducts campaign endorse their overall environmental or social practices.

The main idea behind our ranking is the notion that “*fossil fuel boilers*” and “*electric space and water heaters*” are not climate-compatible. Their sales and installation in European buildings would make it impossible to reach EU and global climate goals.

- › “**Fossil fuel boilers**” is a broad term for all heating devices (for space and/or water) that use coal, oil or natural gas. While some in the heating industry seem to prefer the terms “liquid boilers” for oil boilers, and “gaseous boilers” for natural gas boilers; and while technically they may be more accurate terms, we prefer to avoid them because they hide a bleak reality: an overwhelming majority of such devices operate today with fossil fuels. In addition, evidence indicates that “decarbonised gases” will not be available fast enough, nor in sufficient amounts, to contribute to the decarbonisation of domestic heating.
- › “**Inefficient electric heating systems**” refers to systems with energy efficiency lower than 105%¹⁷. These include all electric devices other than electric heat pumps. While it could be argued that the power mix is not yet fully decarbonised and therefore that electric heat pumps are not renewable, we think that there are clear enough signs – unlike for the gas systems – that the decarbonisation of the power system will take place over the coming decades.

Based on such definitions, our methodology allocates companies to four different categories, depending on their responses to our questionnaire.

- › **Leaders** are companies that sell only electric heat pumps and solar heating systems.
- › **Followers** do sell some heating products that are not climate-compatible, but are in transition towards fully sustainable solutions. There are two types of followers:
 - › Those that sell fossil fuel or inefficient electric systems, but only as a backup to electric heat pumps or solar thermal systems. We acknowledge that it might be necessary, for some specific building typologies, and for cold-weather events, to count on such hybrid solutions while the European building stock gets properly renovated. Hybrids that are mostly operated in their non-renewable mode fall outside the scope of this definition.
 - › Those that sell stand-alone fossil fuel or inefficient electric systems, but have plans to stop on their own initiative, before regulation requires them to do so. **Laggards** sell fossil fuel and/or inefficient electric systems, and have no clear plans to stop doing so before it is required by law.
- › Finally, **the dark side** covers companies that did not reply to our request for input, despite repeated reminders.



“INEFFICIENT ELECTRIC HEATING SYSTEMS” REFERS TO SYSTEMS WITH ENERGY EFFICIENCY LOWER THAN

105%

17. Following the existing methodology for Ecodesign and Energy Labelling, and adjusting the Primary Energy Factor (PEF) to 2.1.

Results

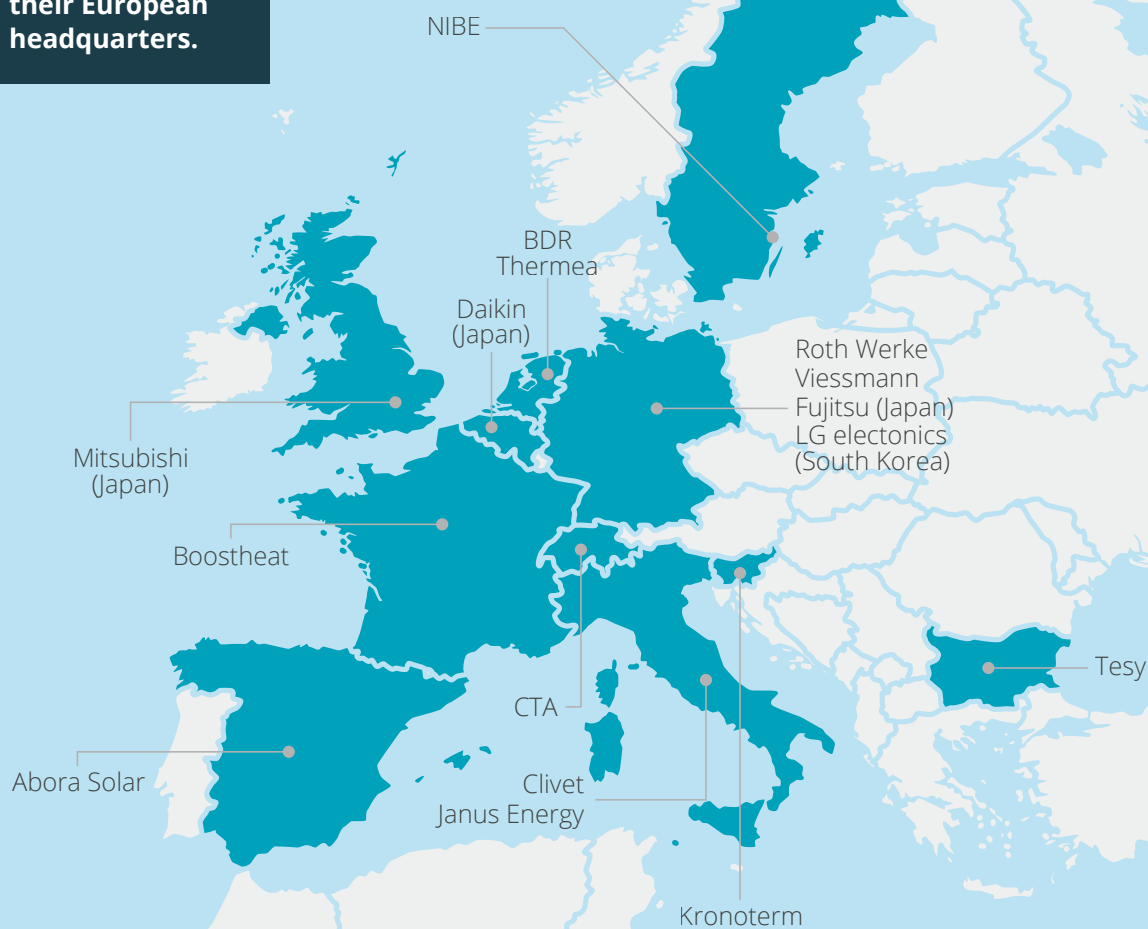
Lack of transparency

The first learning that arises from this first domestic heating industry report is that information is hard to obtain. Despite our repeated attempts to obtain information from companies, and despite all the talk about the importance of decarbonisation of the domestic heating sector, the majority of companies (38 out of 53) did not reply to our requests for input. These companies below belong to what we have dubbed “the dark side”, for their lack of transparency.

On the positive side, 15 companies of all sizes, and from 10 European countries, took the time to complete the questionnaire and send us the requested information. They played the transparency game, and we think they deserve credit for it. In particular, we would like to thank those that, knowing their portfolio does not necessarily align with the EEB’s vision of decarbonisation, decided to reply and share with us their own vision, and their challenges.

Below is a map showing where the companies that replied are based:

Figure 3: map of companies that replied, and their European headquarters.



Overwhelming support for an immediate end to subsidies

Another interesting learning was that there is broad support, across all sizes and types of companies, for the end of subsidies to fossil fuel heating products and inefficient electric heating products.

A staggering majority of companies (87% of respondents) support the end of subsidies for stand-alone boilers and water heaters. What's more, over half of respondents (53%) support such a measure immediately (in 2021), and an additional 13% by 2022.¹⁸

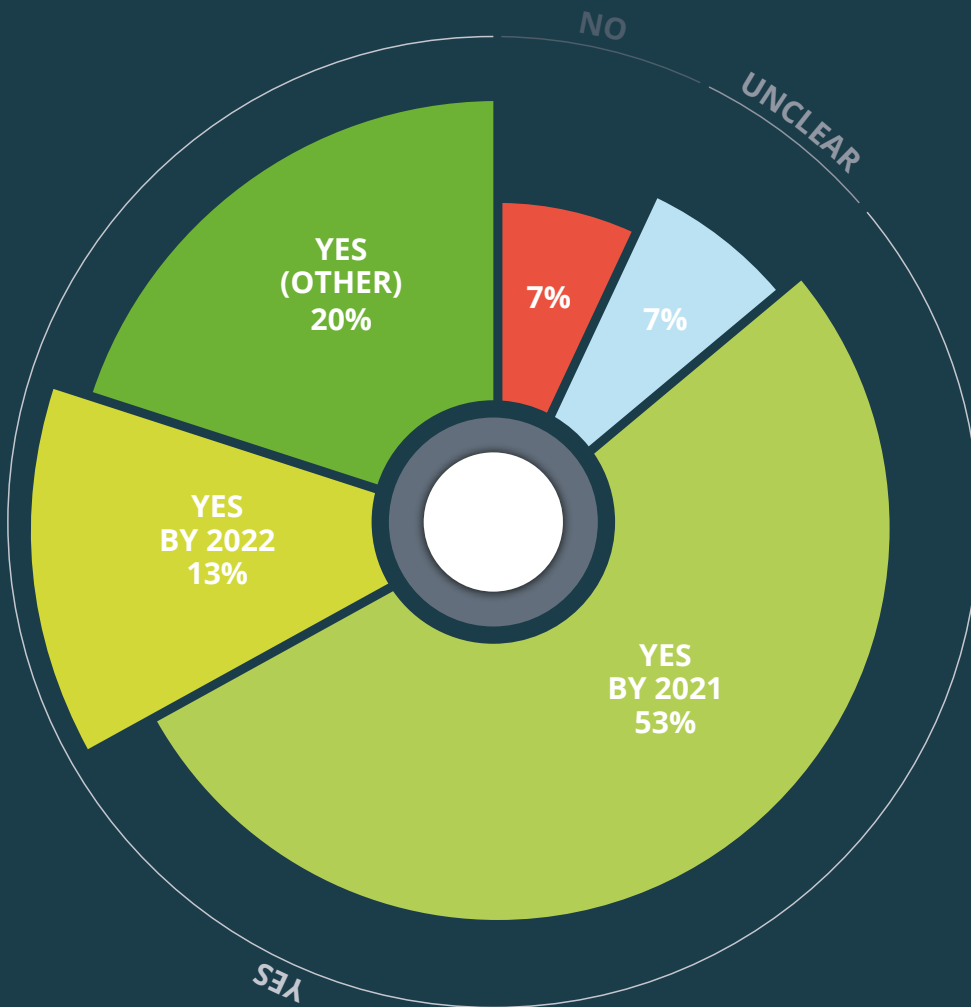


Figure 4: support for the end of subsidies for fossil fuel boilers and water heaters.

A vast majority of companies (80% of respondents) support the end of subsidies for inefficient electric water heaters. As with fossil fuel heating products, over half of respondents (53%) support such a measure immediately (in 2021).

¹⁸. All percentages in figures 4 to 7 have been rounded to zero decimals. In some instances, this results in totals not adding up to 100%.

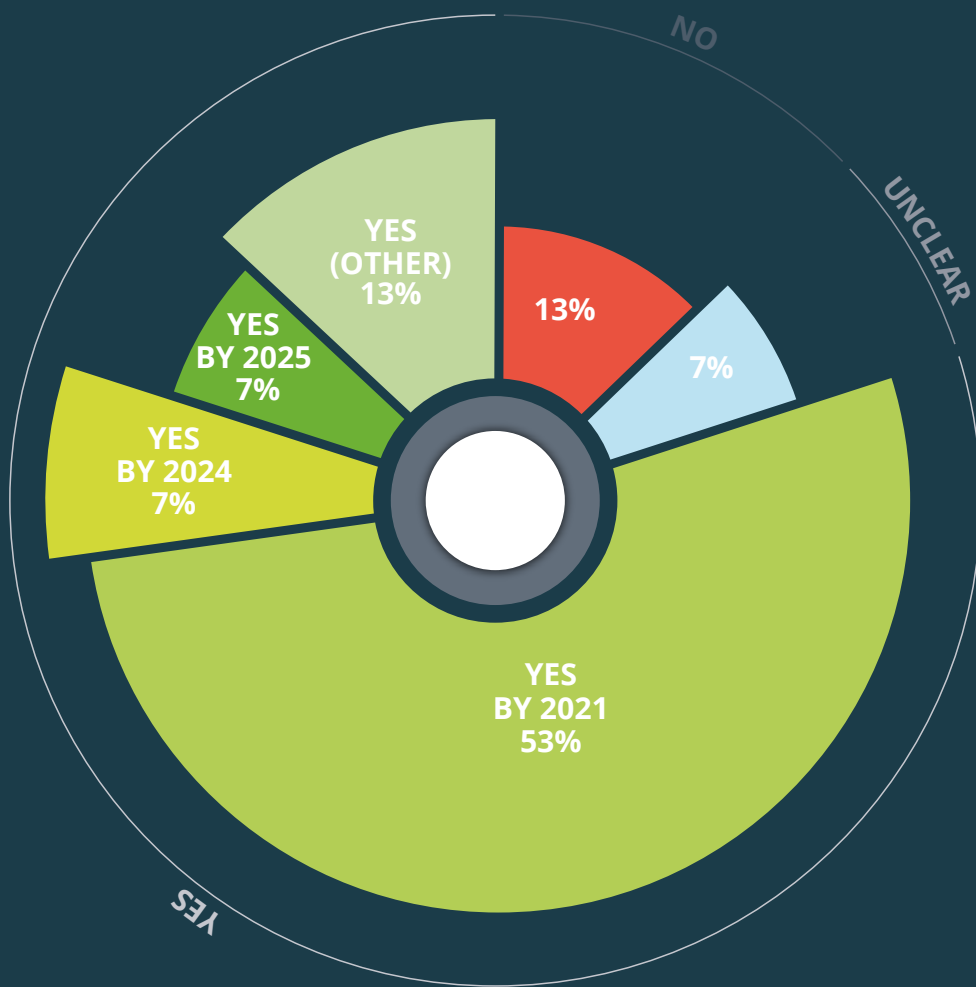


Figure 5: support for the end of subsidies for inefficient electric boilers and water heaters.

In other words, EU governments would not face industry backlash were they to shift subsidies away from fossil fuel and inefficient electric heating systems, and into heat pumps and solar thermal systems. According to a recent mapping of Europe's subsidies for fossil fuel heating systems, "at least 19 out of 27 EU governments still incentivise the purchase and/or installation of new gas boilers through various tax reductions, loans and grants, which range between €300 and €2,500"¹⁹. Our findings show that those governments would be wise to consider a subsidy shift.

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¹⁹. "Mapping Europe's subsidies for fossil fuel heating systems". Coolproducts Campaign, December 2020.

Clear support for a ban on fossil fuel heating products

Around 60% of respondents support a ban on fossil fuel heating products. Interestingly, 40% of all respondents support a ban no later than 2025, as requested by a recent ECOS/ Coolproducts report²⁰. Some respondents also pointed out that a ban on the installation of fossil fuel heaters in new buildings could come even earlier than a complete ban on sales. Among those who do not support such a ban, the reasons vary: hope that green gases will make today's fossil fuel boilers decarbonised; perceived need for fossil fuel backup support in hybrid systems, etc.

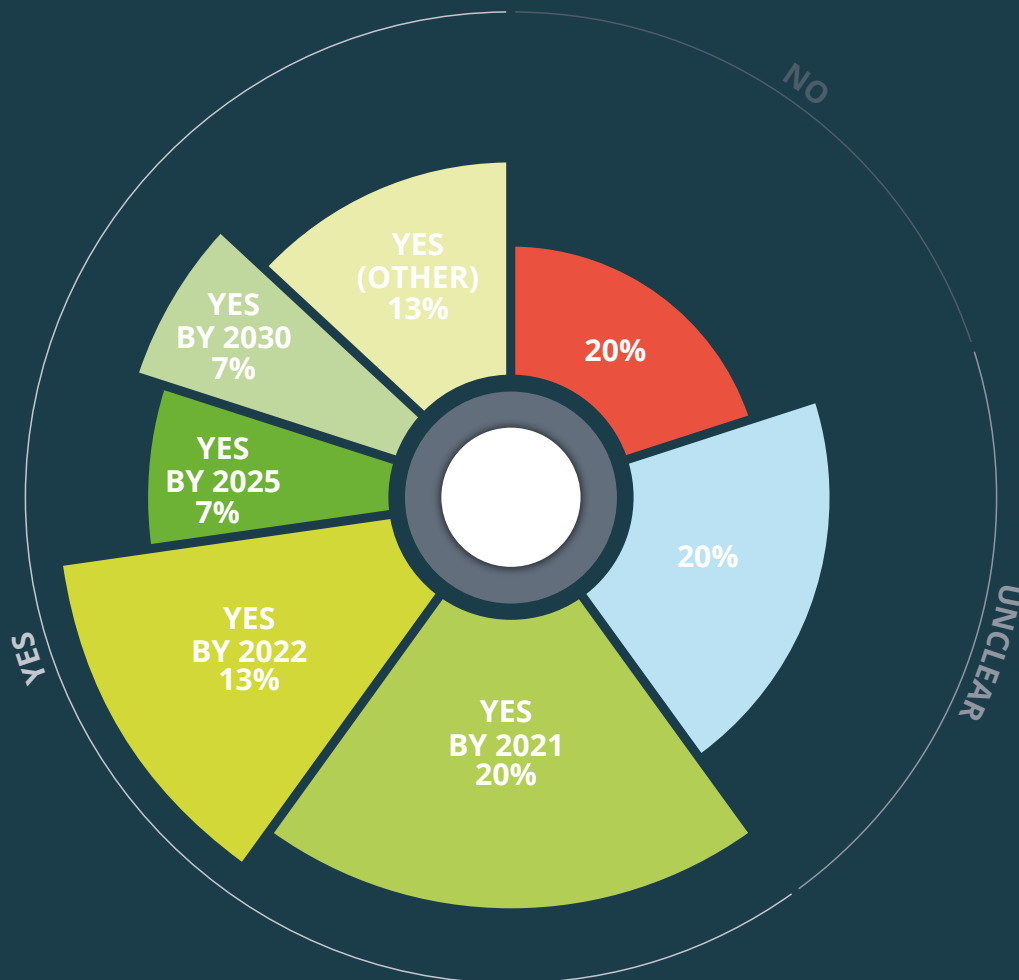


Figure 6: support for a ban on the sales of fossil fuel boilers and water heaters.

20. ECOS, in collaboration with the Coolproducts Campaign. "Five Years Left: How Ecodesign and Energy Labelling can Decarbonise Heating". December 2020.

Unclear support for a ban on inefficient electric heating products

Support for a ban on inefficient electric products was less clear, with only a third of respondents (33%) supporting their ban in the next few years. Among those that do not support a ban, the reasons are diverse: inefficient electric products might be necessary in some specific situations; they may help in some instances to meet net-zero energy buildings standards; and they are not considered a problem if powered with renewable electricity.

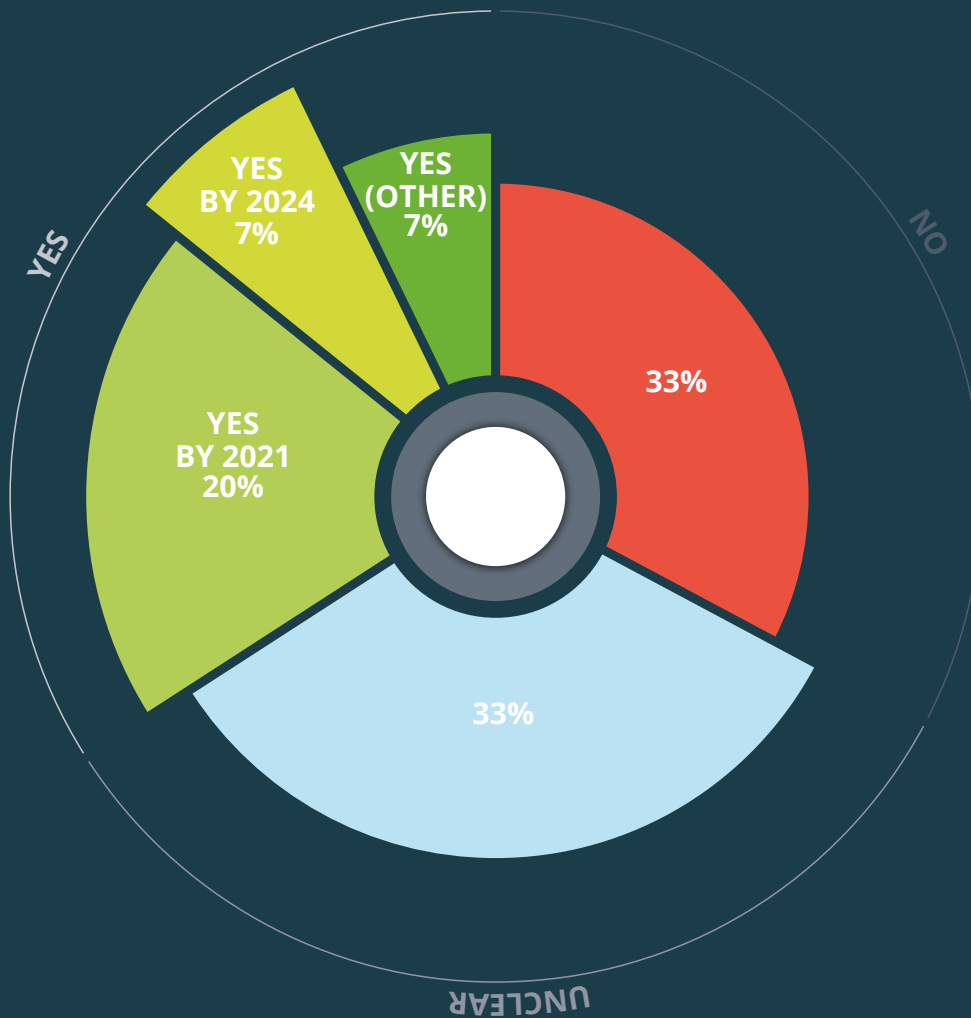


Figure 7: support for a ban on the sales of inefficient electric boilers and water heaters.

Insulate buildings and support heat pumps

Asked about the key measures needed to achieve climate-neutrality in the building sector by 2050, two stand out:

- Improve building insulation and increase renovation rates.
- Provide support for renewable energy, and in particular heat pumps, to make them affordable to the end-user.

More generally, manufacturers would welcome a reliable EU regulatory framework with clear goals and policies that provides visibility and allows them to invest in the technologies of the future.

Leaders, Followers and Laggards. And “the dark side”.

From the responses received – and the lack of them – we were able to allocate companies to four categories, as per the flowchart in Figure 2:

- › **Leaders:** these are companies that manufacture only domestic heating products that are climate-compatible: electric heat pumps and solar systems.
- › **Followers:** the core activities of these companies are climate-compatible products. They may, however, still use fossil fuel heating products as a backup in hybrid systems. Or they sell stand-alone fossil fuel boilers and inefficient electric heating products, but have plans to stop selling them before it is required by law.
- › **Laggards:** these companies sell stand-alone fossil fuel boilers and inefficient electric heating products. They have no clear commitments to stop selling them before it is required by law.
- › **The dark side:** these companies did not reply to our repeated requests for input.

LEADERS

[Abora Solar](#) | [Fujitsu](#) | [Janus Energy](#)
[Kronoterm](#) | [Mitsubishi](#) | [Roth Werke](#)

[CLICK FOR INDIVIDUAL FACTSHEETS](#)

FOLLOWERS

[Boostheat](#) | [Clivet](#) | [CTA](#) | [LG Electronics](#) | [NIBE](#)

[CLICK FOR INDIVIDUAL FACTSHEETS](#)

LAGGARDS

[BDR Thermea](#) | [Daikin](#) | [Viessmann](#) | [Tesy](#)

[CLICK FOR INDIVIDUAL FACTSHEETS](#)

THE DARK SIDE

[Arbonia](#), [Ariston](#), [Atlantic](#), [Bosch](#), [Calpak](#),
[Carrier](#), [Centrotec](#), [Enertech](#), [Ferrol](#), [Fondital](#),
[Glen Dimplex](#), [Heliotherm](#), [Hoval](#), [IDM](#), [Immergas](#),
[Innova](#), [IRSAP](#), [Johnson Controls-Hitachi](#), [Korado](#), [Michl](#)
[Technik](#), [Ochsner](#), [Octopus Energy](#), [Panasonic](#), [Purmo](#)
[Group](#), [Robur](#), [Samsung](#), [Siemens](#), [Solahart](#), [Stiehl Eltron](#),
[Termoshop](#), [TnG-Air](#), [Toshiba](#), [Toyota](#), [Trane](#), [Vaillant](#),
[Vivreco](#), [Weishaupt](#), [Zehnder Group](#).

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Abora Solar


Overview:

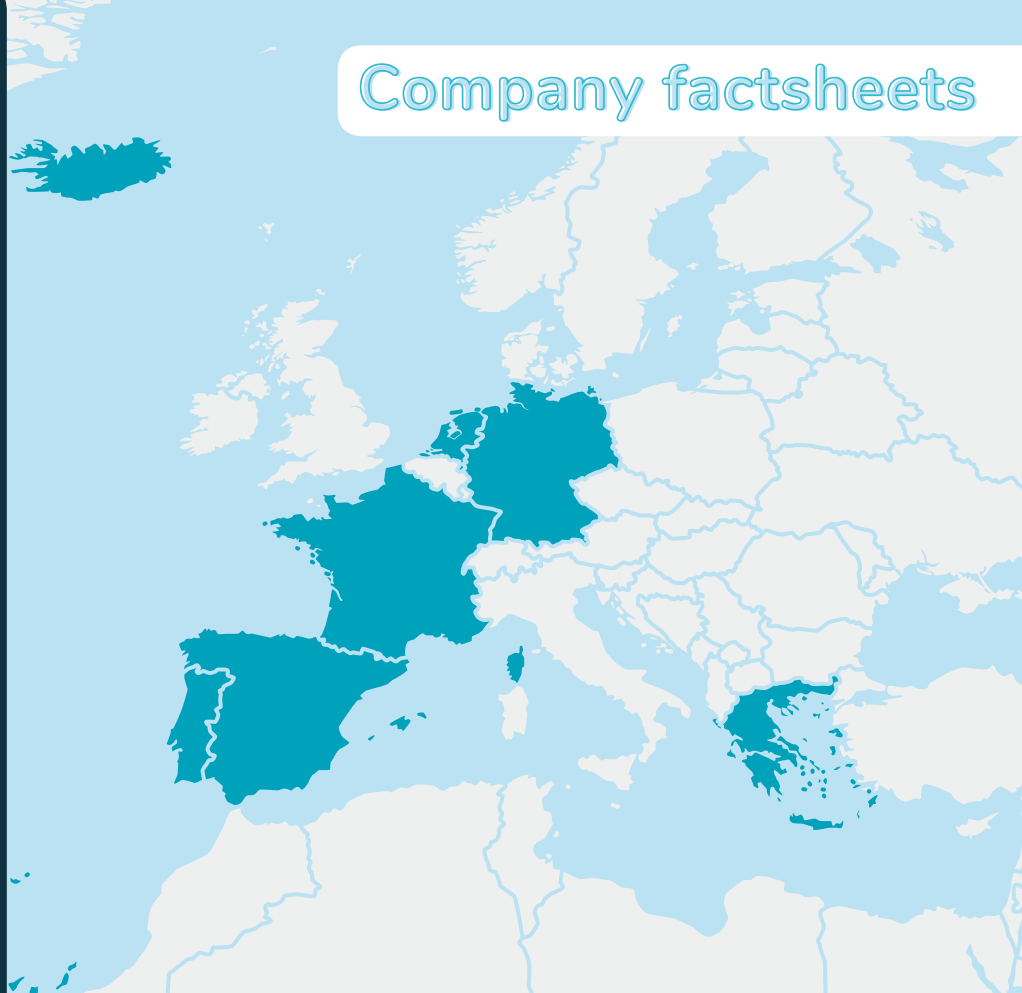
 Based in Zaragoza, Spain.

 19 employees.

Operates in



 abora-solar.com



Products:

- ▶ Abora Solar sells domestic hybrid (photovoltaic and thermal) solar panels in Europe.
- ▶ Abora Solar does not sell domestic fossil fuel heating products.
- ▶ Abora Solar does not sell inefficient electric heating products.

Positions:

- ▶ Abora supports an immediate (2021) end of subsidies for both fossil fuel and inefficient electric heating products.
- ▶ Abora Solar supports a 2030 ban on the sales of fossil fuel heating products.
- ▶ Abora Solar does not support a ban on the sales of inefficient electric products, if these are “powered by solar energy (thermal and photovoltaic)”.

See [Abora Solar's full answer](#) to our questionnaire

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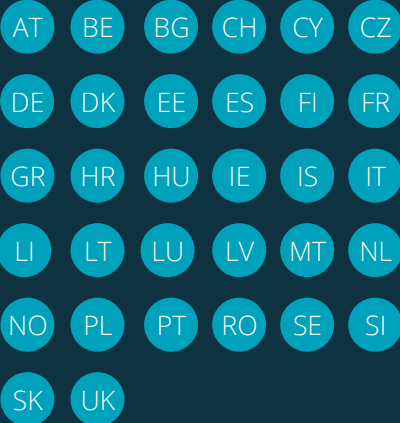
BDR Thermea

Overview:

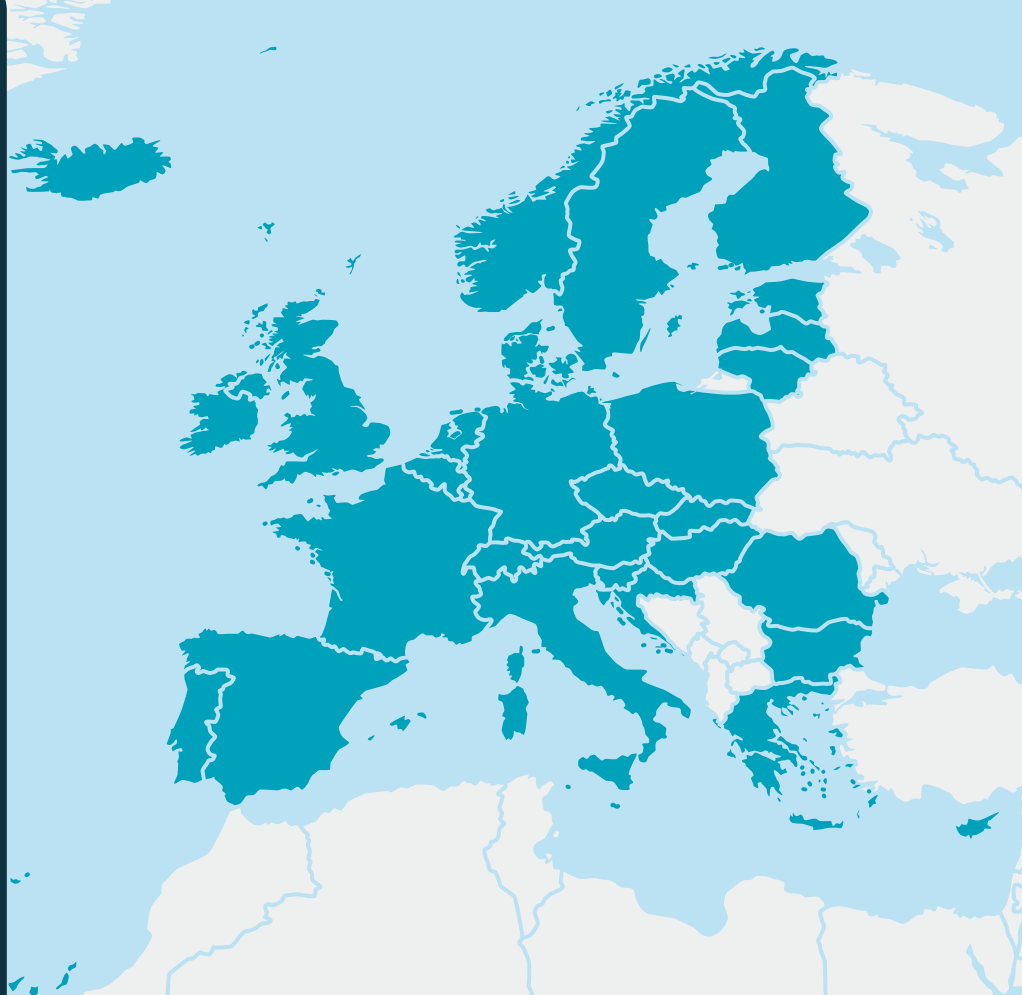
 Based in the Netherlands.

 6,700 employees.

Operates in



 www.bdrthermeagroup.com



Products:

- ▶ BDR Thermea sells a large range of domestic heating products in Europe, including climate-compatible technologies but also fossil fuel boilers and inefficient electric products.

Positions:

- ▶ BDR Thermea does not plan to stop selling fossil fuel boilers and inefficient electric products before it is required by law.
- ▶ BDR Thermea does not support the end of subsidies for, nor a ban on the sales of, fossil fuel heating products.
- ▶ BDR Thermea supports the immediate (2021) end of subsidies for inefficient electric products. Regarding a ban on the sales of these products, its position is unclear.

See [BDR Thermea's full answer](#) to our questionnaire

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Boostheat


Overview:

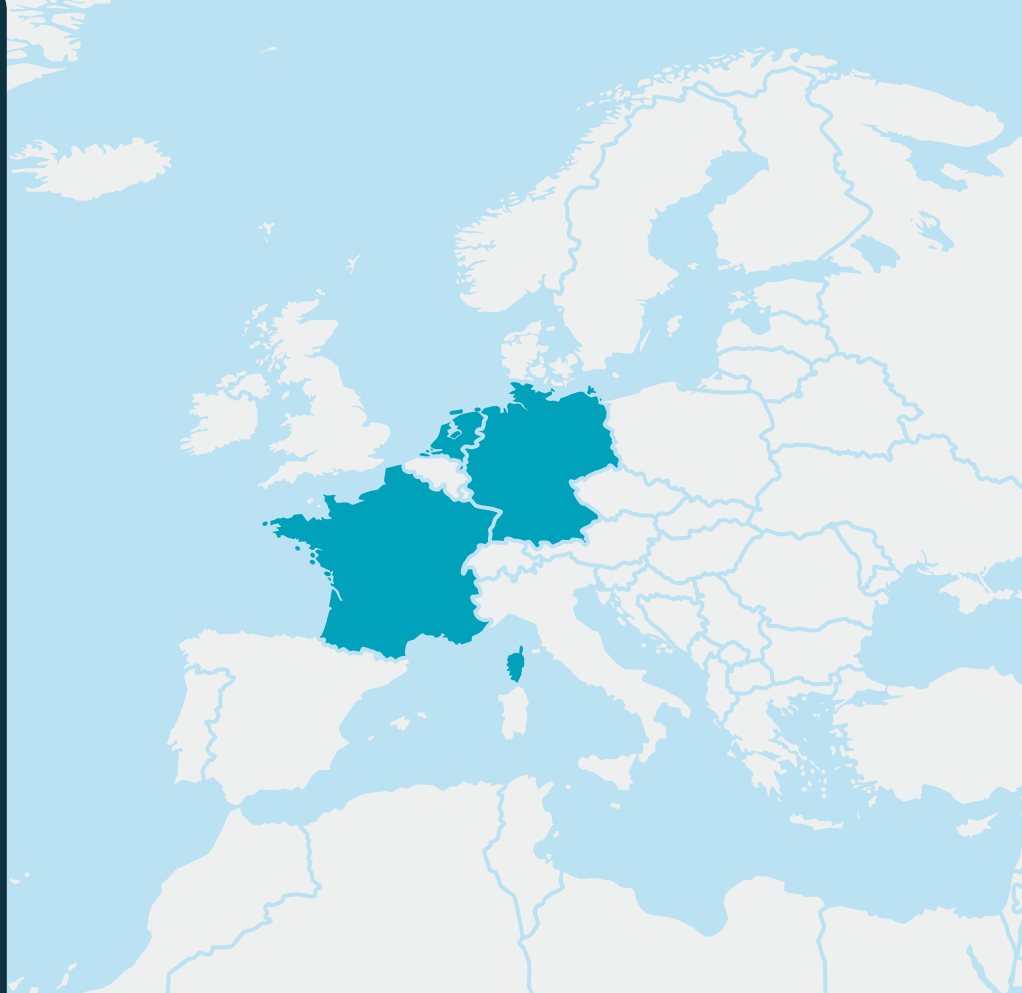
 Based in Vénissieux, France.

 Fewer than 50 employees

Operates in

 www.boostheat.fr



Products:

- ▶ Boostheat sells gas heat pumps and hybrids thereof (with gas boilers and solar thermal systems) in Europe.
- ▶ Boostheat does not sell inefficient electric heating products.

Positions:

- ▶ Boostheat does not plan to stop selling gas boilers (which it sells as a backup to the gas heat pump) before it is required by law.
- ▶ Boostheat supports the end of subsidies for, and a ban on the sales of, inefficient electric heating products.
- ▶ Boostheat does not support the end of subsidies for, and a ban on the sales of, fossil fuel heating products.

See [Boostheat's full answer](#) to our questionnaire

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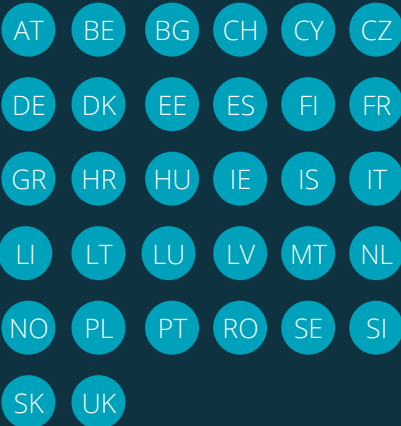
Clivet

Overview:

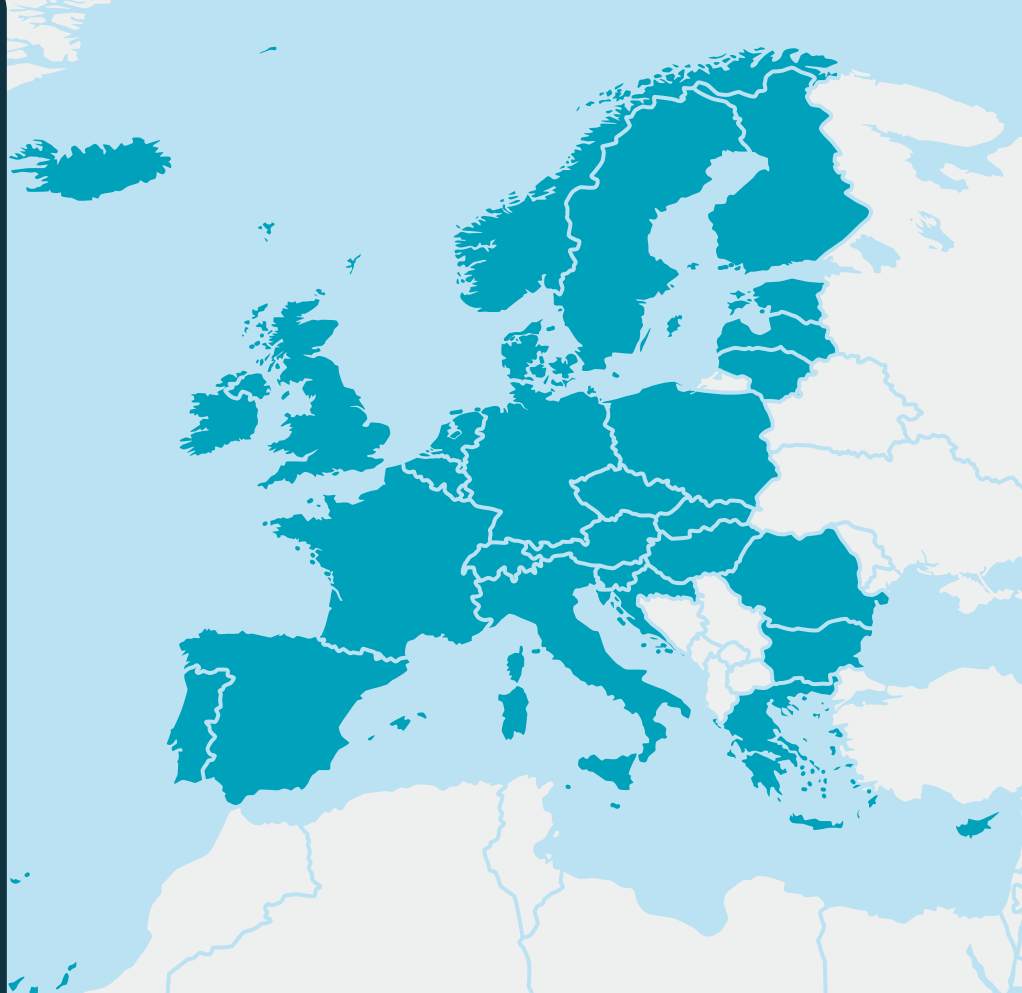
 Based in Italy.

 600 employees.

Operates in



 www.clivet.com



Products:

- ▶ Clivet sells electric heat pumps and “heat pump + boiler” hybrids in Europe.
- ▶ Clivet does not sell inefficient electric heating products.

Positions:

- ▶ Clivet does not plan to stop the sale of their hybrids (heat pump + boiler) before it is required by law.
- ▶ Clivet supports the immediate (2021) end of subsidies for, and a ban on the sales of, fossil fuel heating products.
- ▶ Clivet supports the immediate (2021) end of subsidies for, and a ban on the sales of, inefficient electric heating products.

See [Clivet's full answer](#) to our questionnaire

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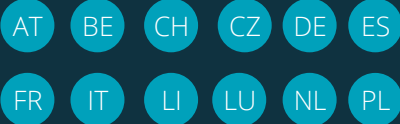
CTA

Overview:

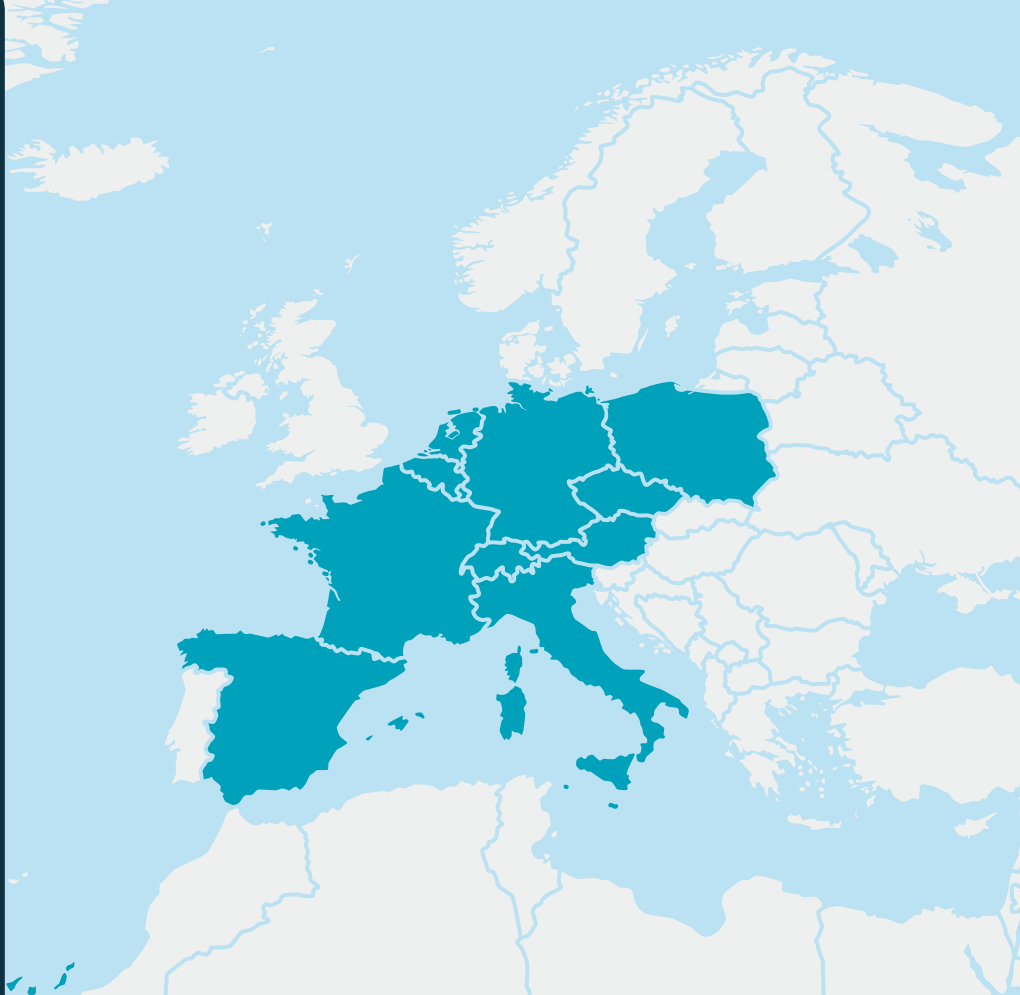
 Based in Munsingen, Switzerland.

 220 employees.

Operates in



 www.cta.ch



Products:

- ▶ CTA sells electric heat pumps and “heat pump + boiler” hybrids in Europe.
- ▶ CTA does not sell inefficient electric heating products.

Positions:

- ▶ It is unclear whether CTA plans to stop selling “heat pump + boiler” hybrids before it is required by law.
- ▶ CTA supports a short-term (2022) end of subsidies for, and a ban on the sales of, fossil fuel heating products.
- ▶ CTA supports a mid-term (2024) end of subsidies for, and a ban on the sales of, inefficient electric products.

See [CTA's full answer](#) to our questionnaire

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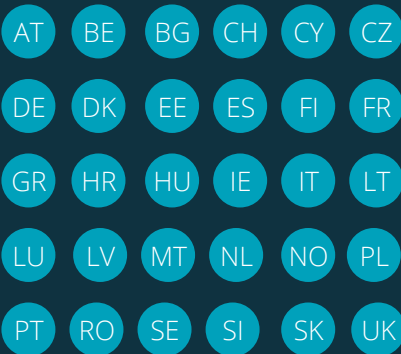
Daikin Europe (Daikin Industries LTD)

Overview:

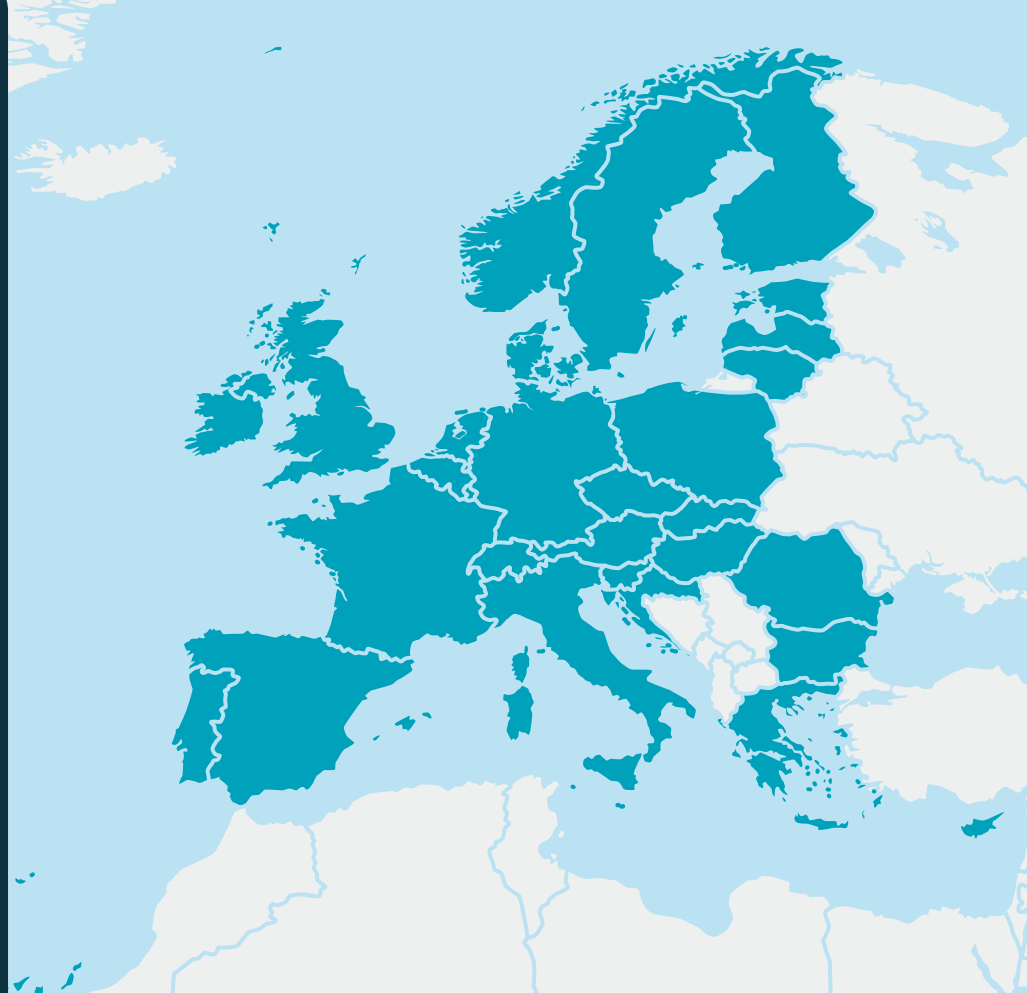
 Based in Brussels, Belgium.

 10,000 employees.

Operates in



 www.daikin.eu



Products:

- ▶ Daikin Europe sells a large range of domestic heating products in Europe, including climate-compatible technologies but also fossil fuel boilers.
- ▶ Daikin Europe does not sell inefficient electric heating products.

Positions:

- ▶ Daikin Europe does not plan to stop selling fossil fuel heating products before it is required by law.
- ▶ Daikin Europe supports the end of subsidies for fossil fuel heating products, so long as this does not concern hybrids thereof. Its support for bans on the sales of fossil fuel heating products depends on the “availability of hybrid systems, and also taking into account financial impact to end-users”.
- ▶ Daikin Europe supports the end of subsidies for inefficient electric products. Its support for a ban on the sales of inefficient electric products is unclear.

See [Daikin Europe's full answer](#) to our questionnaire


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21. Although beyond the scope of our questionnaire, it is noteworthy that Daikin Europe has publicly supported a quick rescaling of the energy labelling for space heaters.



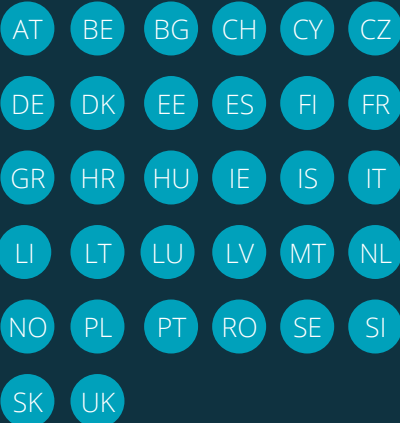
Fujitsu General (EURO) GmbH (Fujitsu General Limited Group)

Overview:

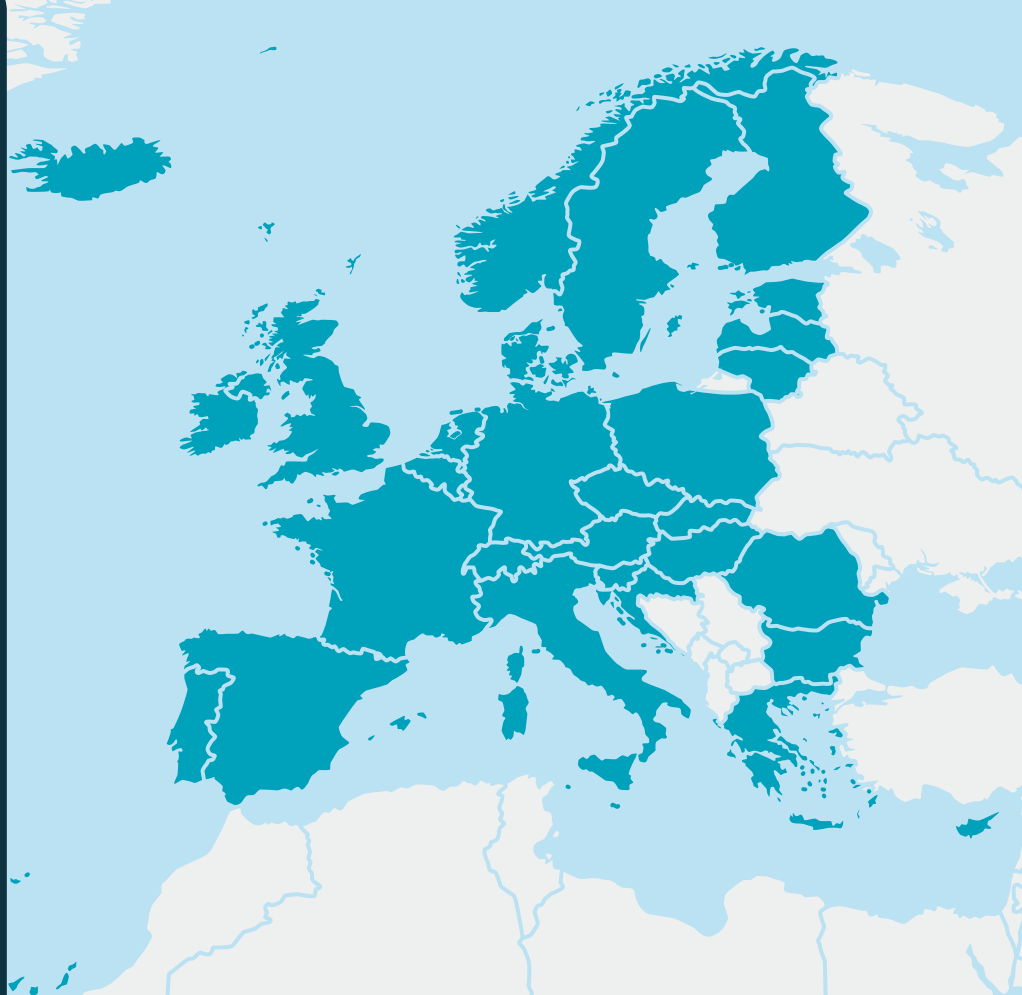
 Based in Kawasaki, Japan
(Fujitsu General Limited
Group).

 8,042 employees (Fujitsu
General Limited Group).

Operates in



 www.fujitsu-general.com



Products:

- › Fujitsu sells only electric heat pumps in Europe.
- › Fujitsu does not sell domestic fossil fuel heating products.
- › Fujitsu does not sell inefficient electric heating products.

Positions:

- › Fujitsu supports the immediate (2021) end of subsidies for fossil fuel heating products. Fujitsu supports a ban on the sales of fossil fuel heating products by 2025.
- › Fujitsu supports the immediate (2021) end of subsidies for inefficient electric heating products. It does not support a ban on the sales of inefficient electric heating products.

See [Fujitsu's full answer](#) to our questionnaire

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Janus Energy


Overview:

 Based in Fabriano, Italy.

 2 employees.

Operates in

 IT

 www.janusenergy.it



Products:

- › Janus Energy sells domestic solar thermal systems in Europe.
- › Janus Energy does not sell domestic fossil fuel heating products.
- › Janus Energy does not sell inefficient electric heating products.

Positions:

- › Janus Energy supports the immediate (2021) end of subsidies for fossil fuel heating products. It supports Ecodesign bans on the sales of products “based on energy efficiency and cost benefit criteria, not on product categories”.
- › Janus Energy supports the immediate (2021) end of subsidies for inefficient electric heating systems. It supports Ecodesign bans on the sales of products, “based on energy efficiency and cost benefit criteria, not on product categories”.

See [Janus Energy's full answer](#) to our questionnaire

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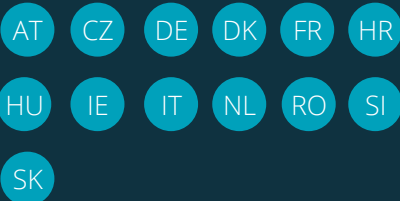
Kronoterm d.o.o


Overview:

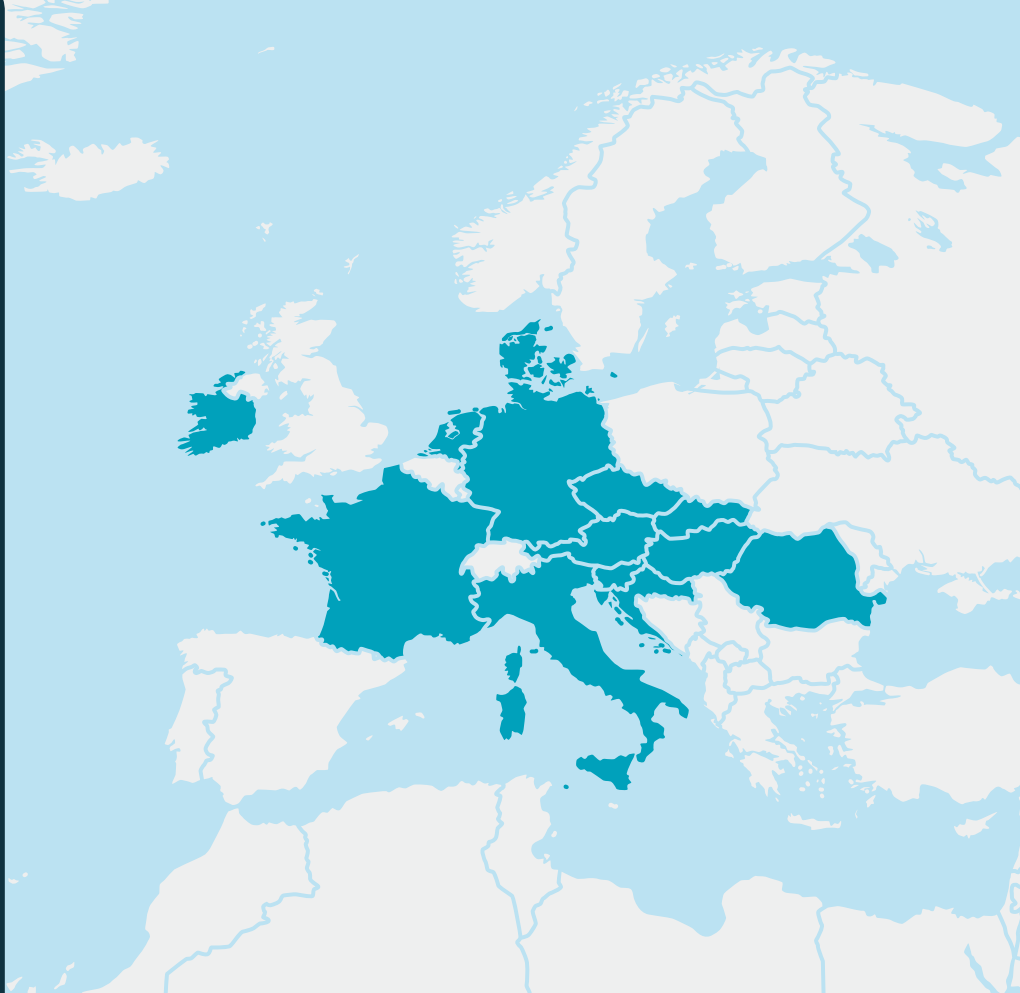
 Based in Gomilsko, Slovenia.

 65 employees.

Operates in



 kronoterm.com



Products:

- › Kronoterm sells electric heat pumps in Europe.
- › Kronoterm does not sell domestic fossil fuel heating products.
- › Kronoterm does not sell inefficient electric heating products.

Positions:

- › Kronoterm supports the immediate (2021) end of subsidies for, and a ban on the sales of, fossil fuel heating products.
- › Kronoterm supports the immediate (2021) end of subsidies for, and a ban on the sales of, inefficient electric heating products.

See [Kronoterm's full answer](#) to our questionnaire

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LG Electronics (LG Corporation)

Overview:

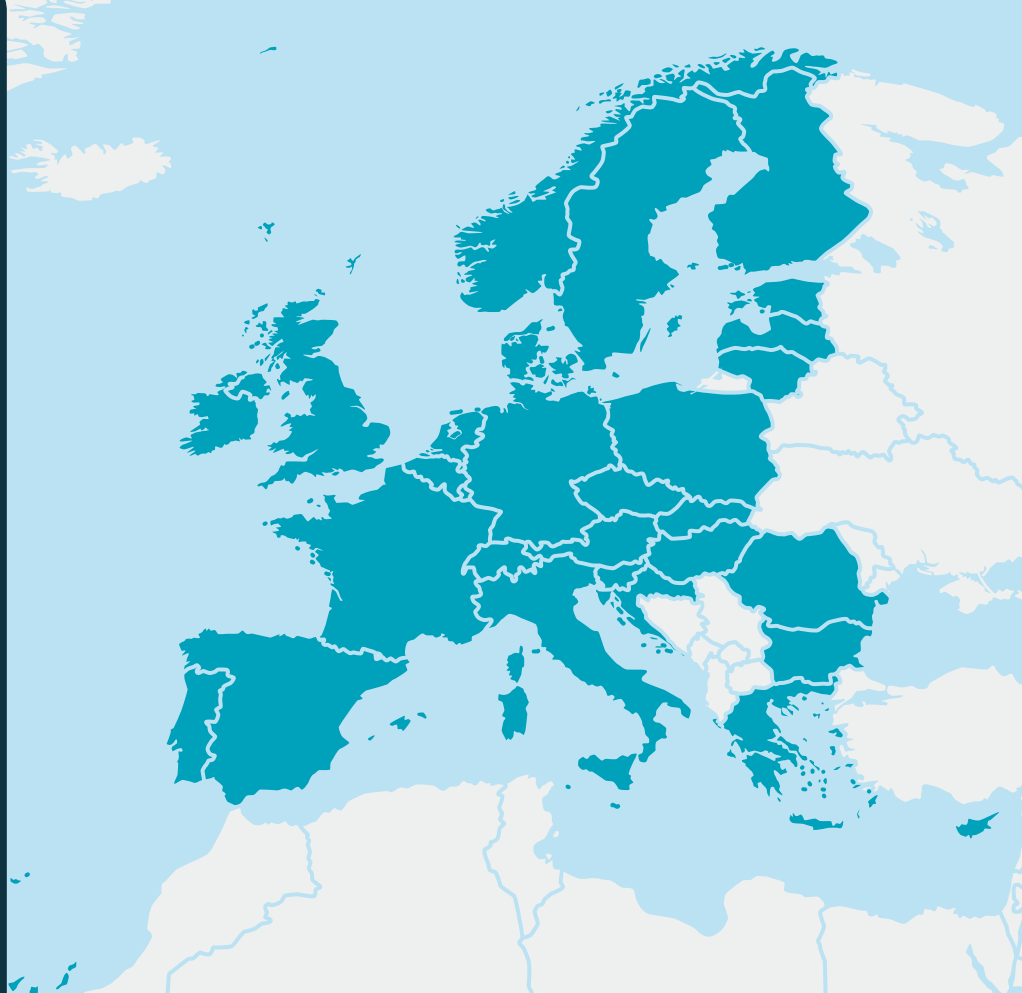
 Based in Seoul, South Korea.

 222,000 employees
(LG Corporation).

Operates in



 www.lg.cpm/global



Products:

- ▶ LG sells domestic electric heat pumps and hybrids thereof in Europe, including “heat pump + boiler hybrids”.
- ▶ LG does not sell inefficient electric heating products.

Positions:

- ▶ LG does not plan to stop the sale of its hybrids (heat pump + boilers) before it is required by law.
- ▶ LG supports the immediate (2021) end of subsidies for fossil fuel heating products. It also supports a ban on the sales of fossil fuel products “as early as it is determined to be feasible, provided that the socio-economic impacts on the EU population are properly evaluated and addressed”.
- ▶ LG supports the immediate (2021) end of subsidies for inefficient electric heating products. Its position with regards a ban on the sales of inefficient electric heating products is unclear.

See **LG Electronics's full answer** to our questionnaire

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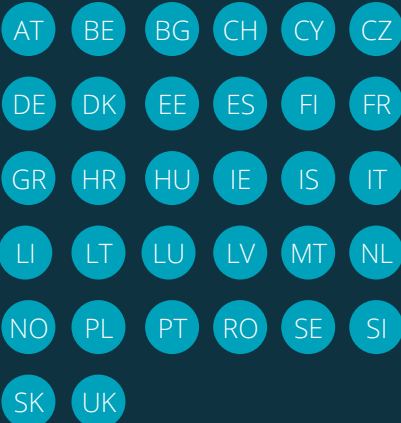
Mitsubishi Electric Europe B.V. (Mitsubishi Electric Corporation)


Overview:

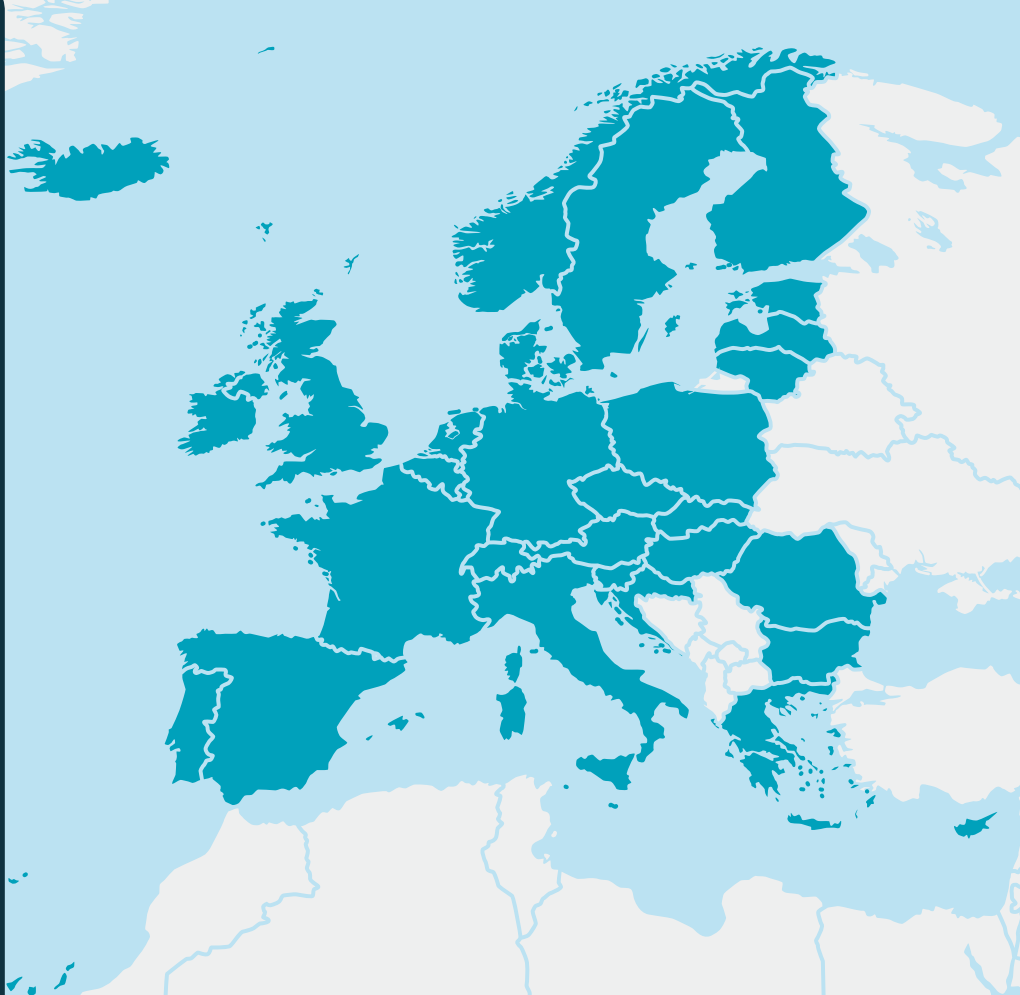
 Based in Uxbridge, UK.

 138,700 employees
(Mitsubishi Electric Corporation).

Operates in



 emea.mitsubishielectric.com



Products:

- › Mitsubishi Electric Europe (MEE) sells only domestic electric heat pumps in Europe.
- › MEE does not sell domestic fossil fuel heating products.
- › MEE does not sell inefficient electric heating products.

Positions:

- › MEE supports an immediate (2021) end of subsidies for fossil fuel heating products. MEE also supports a 2030 ban on the sales of all fossil fuel boilers; and a 2023 ban on the sales of oil boilers, and on the installation of fossil fuel boilers in new buildings.
- › MEE supports an immediate (2021) end of subsidies for both fossil fuel and inefficient electric heating products. Regarding a ban on the sales of inefficient electric products, its position “depends on product type and application”.

See *Mitsubishi's full answer* to our questionnaire

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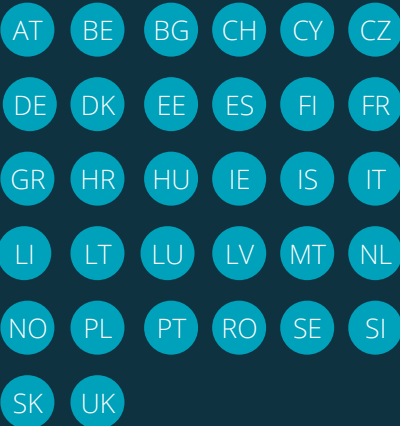
NIBE

Overview:

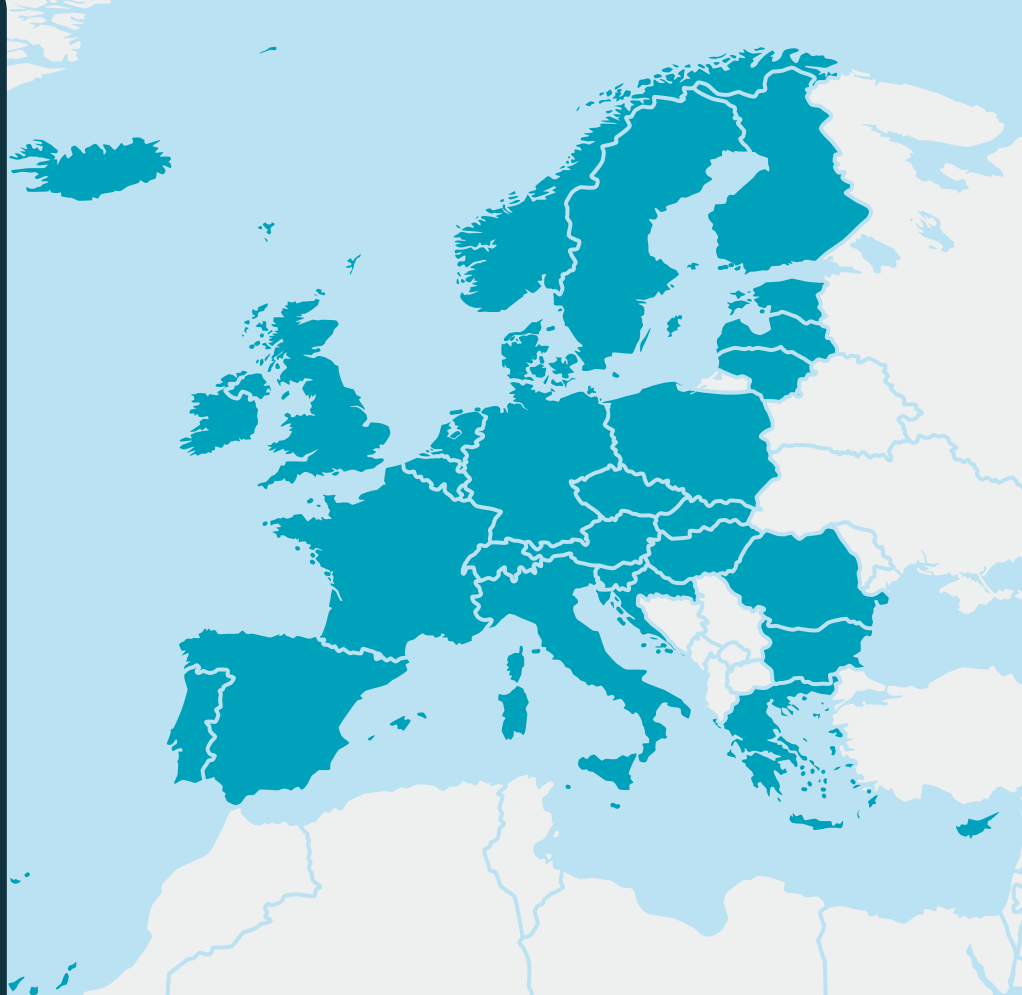
 Based in Markaryd, Sweden.

 18,500 employees.

Operates in



 www.nibe.eu



Products:

- ▶ NIBE sells electric water heaters, electric heat pumps (including heat pump-photovoltaic packages), and biomass stoves in Europe.
- ▶ NIBE does not sell domestic fossil fuel heating products.

Positions²²:

- ▶ NIBE does not plan to stop the sale of its electric water heaters before it is required by law.
- ▶ NIBE supports immediate (2021) end of subsidies for, and a ban on the sales of, fossil fuel heating products.
- ▶ NIBE supports a mid-term (2025) end of subsidies for inefficient electric products. It does not support a ban on the sales of electric water heaters.

See **NIBE's full answer** to our questionnaire

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22. Although beyond the scope of our questionnaire, it is noteworthy that NIBE has publicly supported a quick rescaling of the energy labelling for space heaters.



Roth Werke GmbH (Roth Industries GmbH & Co. KG)


Overview:

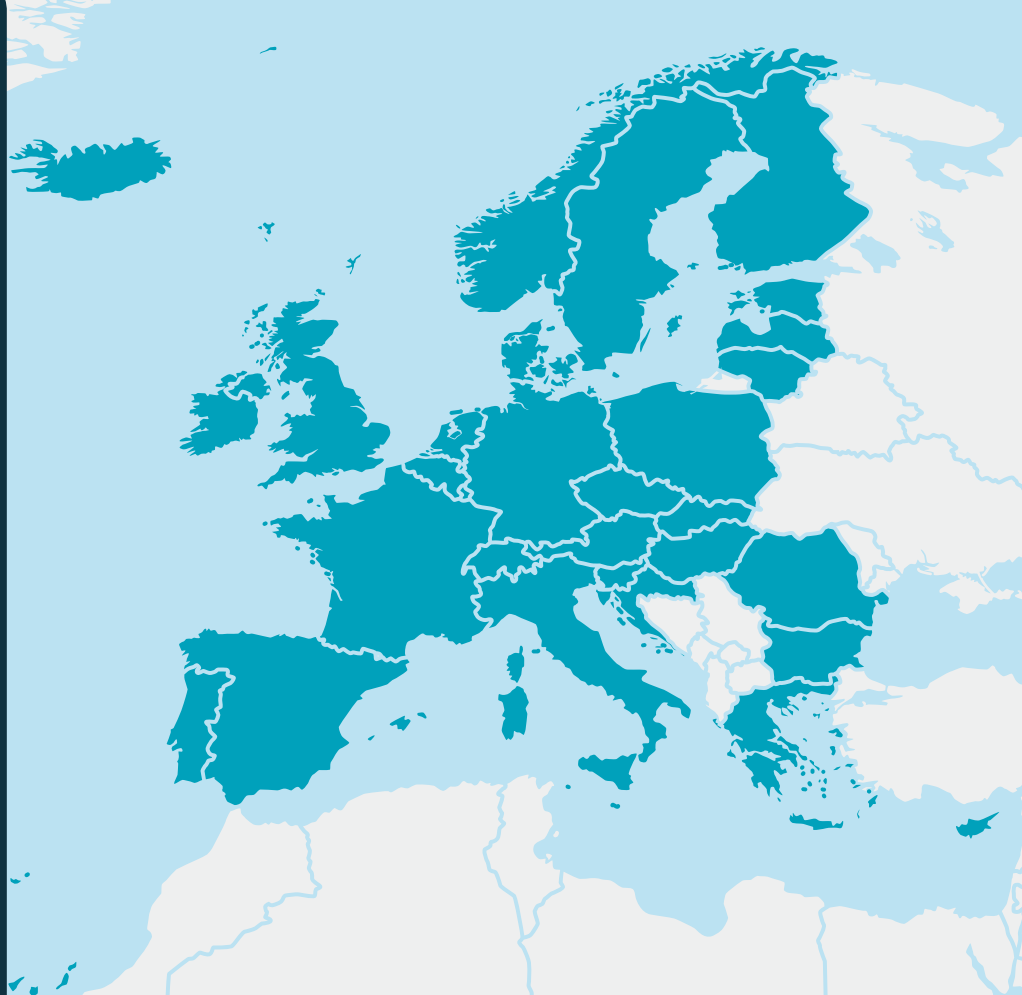
 Based in Dautphetal, Germany.

 1,340 employees.

Operates in



 www.roth-industries.com



Products:

- ▶ Roth Werke sells electric heat pumps and solar thermal systems in Europe.
- ▶ Roth Werke does not sell domestic fossil fuel heating products.
- ▶ Roth Werke does not sell inefficient electric heating products.

Positions:

- ▶ Roth Werke supports an end to subsidies by 2030 for fossil fuel heating products. It does not support a ban on the sales of fossil fuel heating products.
- ▶ Roth Werke does not support the end of subsidies for inefficient electric heating products. Nor does it support a ban on the sales of inefficient electric heating products.

See [Roth Werke's full answer](#) to our questionnaire

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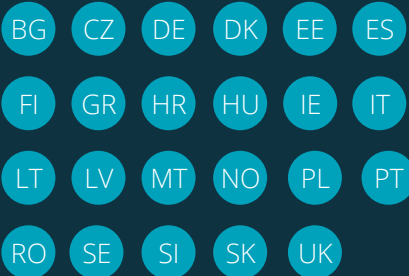
TESY (Ficosota Holding)

Overview:

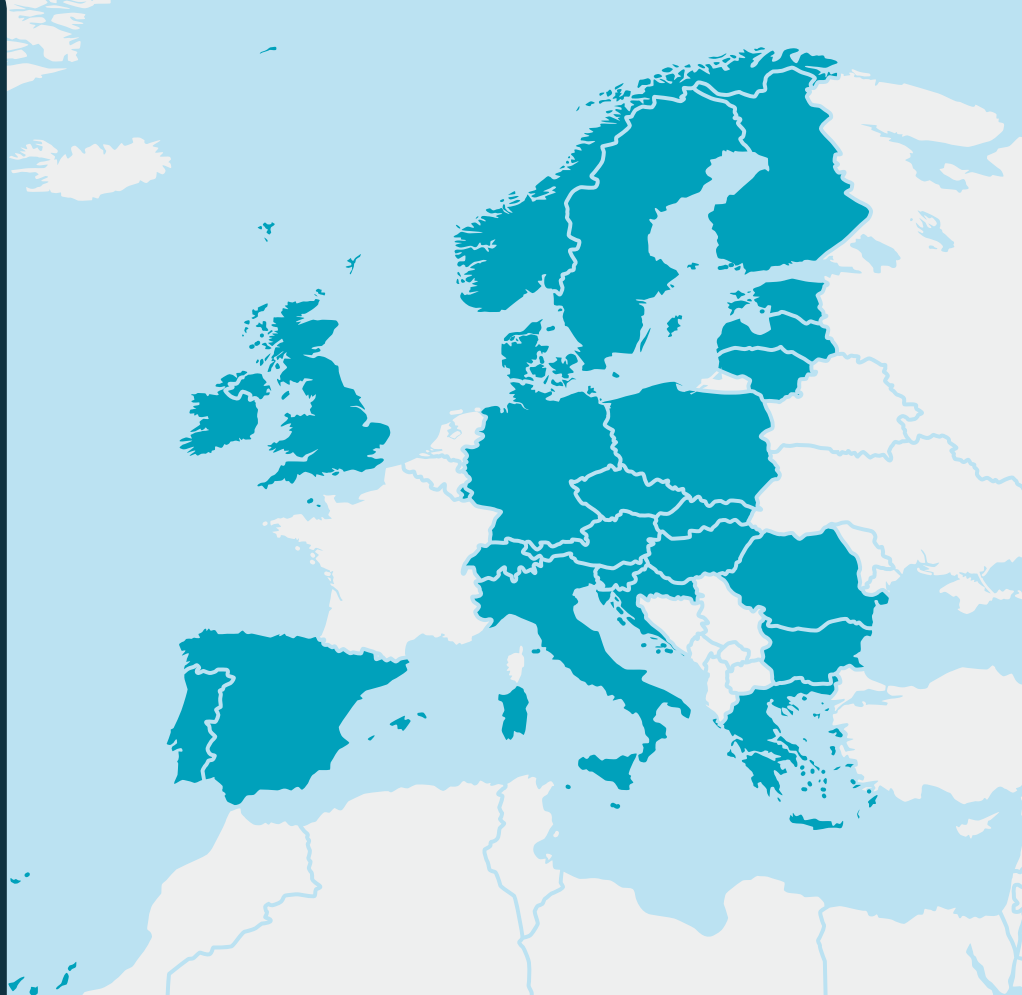
 Based in Shumen, Bulgaria.

 850 employees.

Operates in



 [tesy.com](https://www.tesy.com)



Products:

- ▶ TESY sells only electric products in Europe: heat convectors, electric radiators, electric water heaters and electric heat pumps.
- ▶ TESY does not sell domestic fossil fuel heating products.

Positions:

- ▶ TESY does not plan to stop selling inefficient electric heating products before it is required by law.
- ▶ TESY supports the short-term (2022) end of subsidies for, and a ban on the sales of, fossil fuel heating products.
- ▶ TESY does not support the end of subsidies for, nor a ban on the sales of, inefficient electric products.

See **TESY's full answer** to our questionnaire

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Viessmann Werke GmbH & Co KG

Overview:

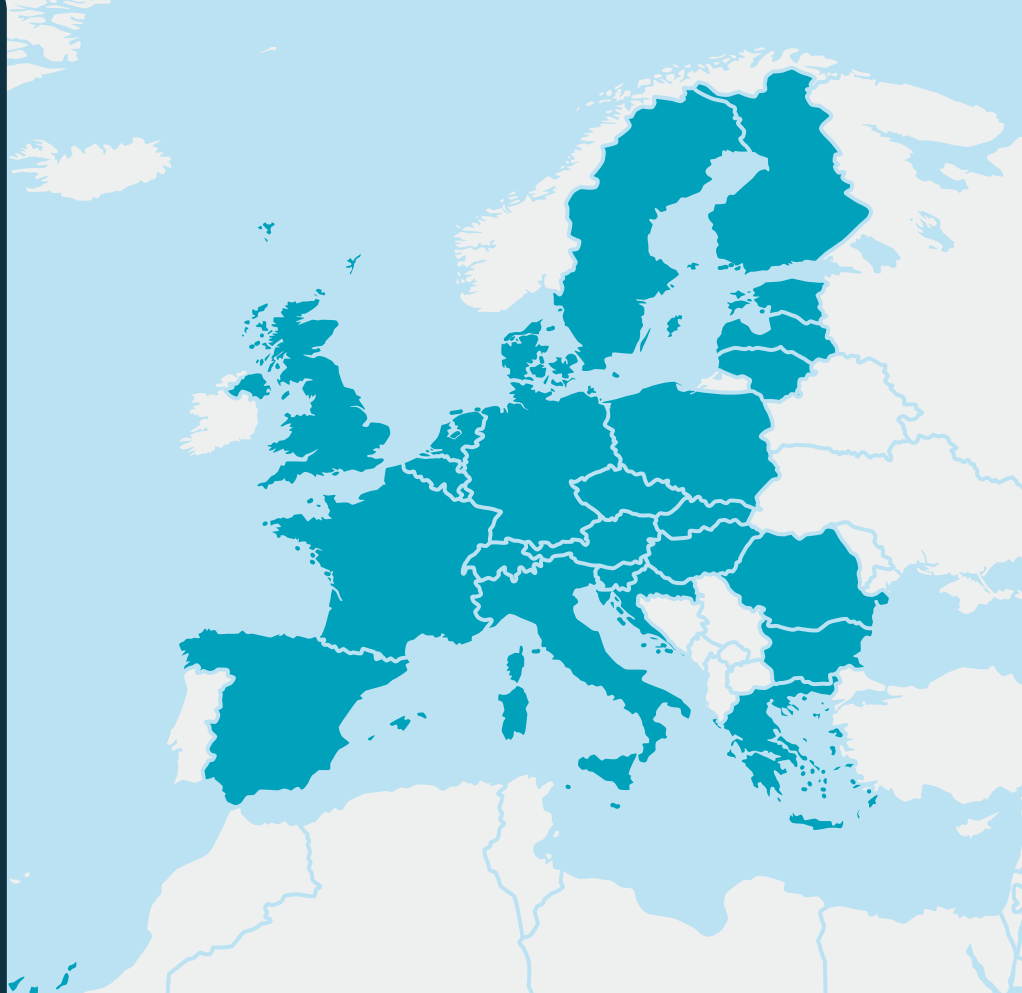
 Based in Allendorf (Eder), Germany.

 12,300 employees.

Operates in



 www.viessmann.de



Products:

- ▶ Viessmann sells a large range of domestic heating products in Europe, including climate-compatible technologies but also fossil fuel boilers and inefficient electric products.

Positions:

- ▶ Viessmann does not plan to stop selling fossil fuel boilers and inefficient electric products before it is required by law.
- ▶ Viessmann does not support the end of subsidies for, nor a ban on the sales of, fossil fuel heating products.
- ▶ Viessmann does not support the end of subsidies for, nor a ban on the sales of, inefficient electric heating products.

See [Viessmann's full answer](#) to our questionnaire

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Time is running out for the EU to decarbonise the heating sector. If fossil fuel boilers continue to be installed in European buildings beyond 2025, there is a risk that they will still be in place in 2050, when the EU should already be climate-neutral. Our report shows that, fortunately, there is support from heating companies from different countries, and of different sizes and portfolios, for a rapid ban on fossil fuel boilers and water heaters.

Putting an end to subsidies for polluting and inefficient heating technologies is also uncontroversial, according to companies' replies to our questionnaire. Shifting those subsidies to climate-compatible technologies (electric heat pumps and solar thermal systems) would help companies and citizens transition towards a decarbonised heating system.

Our report also shows that some industry leaders are already acting without waiting for legislation: they manufacture and sell only climate-compatible heating products – electric heat pumps and solar thermal systems. Other *followers* are hot on the leaders' heels, with their manufacturing of fossil fuel and inefficient electric heating products being limited to backup support.

Unfortunately, there are also *laggards* who do not have any concrete plans to stop climate-incompatible heating technologies. Some of them argue that "decarbonised gases" will make today's fossil fuel boilers decarbonised, despite mounting evidence of cost and technical issues that point in the opposite direction. Others think that new heating systems will still require the old technologies as a backup, which may be true if the heating system is looked at in isolation, but very rare when building envelope improvements are considered.

We thank all those who took the time and effort to reply to our questions, and in particular those that, knowing their portfolio and plans do not necessarily align with the EEB's vision of decarbonisation, decided to reply and share with us their own vision, and their challenges. We hope that, despite differences of vision, they feel that their views have been accurately portrayed in this report.

A large *dark side* of the industry declined to reply to our questions about the climate-compatibility of their current portfolio and future plans. This lack of transparency is in contrast with all the communication and branding about sustainability that can be observed across the industry. Among those that did not reply, there are all types of companies: big and small; renewable-only companies and generalists; and from across Europe.

Overall, there is room for improvement in terms of decarbonisation of the heating industry. That is why we plan to follow up in the coming years with updated editions of this report, to track how the heating industry is walking the decarbonisation talk; and call on them for additional decarbonisation pledges.

Even if a large part of the industry continues to be opaque, we hope that in future editions we will be able to use data from the European Product Database for Energy Labelling (EPREL), which should be fully operational in 2021. EPREL should also allow us to more comprehensively cover the heating industry.

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References

General references

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about.bnef.com/blog/liebreich-separating-hype-from-hydrogen-part-one-the-supply-side

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www.csrf.ac.uk/2020/09/hydrogen-for-heating

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www.coolproducts.eu/failing-rules/mapping-europes-subsidies-for-fossil-fuel-heating-systems

European Product Database on Energy Labelling (EPREL)
ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/product-database_en

Company associations websites

(visited between mid-November and mid-December 2020)

European Heating Industry – www.ehi.eu

European Heat Pump Association – www.ehpa.org

European Partnership for Energy and the Environment – www.epeeglobal.org

Solar Heat Europe – solarheateurope.eu

Company websites

(visited between mid-November and mid-December 2020):

Companies that replied to our questionnaire:

Ahora Solar – abورا-solar.com/en

BDR Thermea – www.bdrthermeagroup.com

Brötje (BDR Thermea) – www.broetje.de/en/broetje

Boostheat – www.boostheat.fr

Clivet – www.clivet.com

CTA – www.cta.ch

Daikin Europe – www.daikin.eu

Fujitsu General – www.fujitsu-general.com/global

Janus Energy – www.janusenergy.it

Kronoterm – kronoterm.com

LG Electronics – www.lg.com/global

Mitsubishi Electric Europe (Mitsubishi) – emea.mitsubishielectric.com

Turboden (Mitsubishi) – www.turboden.com

NIBE – www.nibe.eu

Alpha Innotec (NIBE) – www.alpha-innotec.de

Roth Werke – www.roth-industries.com

TESY – tesy.com

Viessmann – www.viessmann.de

Companies that did not reply to our questionnaire:

Arbonia – www.arbonia.com
Kermi (Arbonia) – www.kermi.com
Vasco Group (Arbonia) – vasco-group.eu
Ariston Thermo Group – www.aristonthermo.com
Atlantic – groupe-atlantic.fr/en
BOSCH – www.bosch-thermotechnology.com
Calpak – calpak.gr
Carrier – www.carrier.fr
Riello (Carrier) – www.riello.com/corporate/it
Centrotec – www.centrotec.de
Wolf (Centrotec) – www.wolf.eu
Enertech – enertech.se/en
Ferroli – www.ferroli.com/it
Fondital – www.fondital.com/it/it
Glen Dimplex – glendimplex.de
Heliotherm – www.heliotherm.com/en
Hoval – fr.hoval.com
IDM – www.idm-energie.at/en
Immergas – www.immergas.com
Innova – www.innovaenergie.com
IRSAP – www.irsap.com
Johnson Controls – www.johnsoncontrols.com
JCI-Hitachi – www.jci-hitachi.com
Korado – www.korado.com
Michl – michl.com
OCHSNER – www.ochsner.com/de-at
Octopus Energy – www.octopusenergy.eu
Panasonic – www.panasonic.com
Purmo Group – www.purmogroup.com
Robur – www.robur.com
Samsung – www.samsung.com/fr
Siemens – www.siemens-home.bsh-group.com
Solahart – www.solahart.com.au
Stiebel Eltron – www.stiebel-eltron.de
Thermia (Stiebel Eltron) – thermia.com
Termoshop – www.termoshop.si
TnG-Air – www.zatopime.cz/en
Toshiba – www.toshiba-airconditioning.eu
Toyota – www.toyota-global.com
Aisin Seiki (Toyota) – aisin.com/product/energy
Trane Technologies – www.trane.com/residential
Vaillant – www.vaillant.com/home/europe
Vivreco – vivrecoheatpumps.com
Weishaupt – www.weishaupt.de
Zehnder Group – www.zehndergroup.com



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