Is Europe on track to deliver a heat pump roll out?

EUROPEAN HEAT PUMP POLICIES RANKING

RE:FORM

Authors
Kamil Laskowski, Maria Niewitała-Rej, Aneta Stefańczyk, Aleksander Śniegocki (Reform Institute)

Acknowledgements: The authors would like to thank the national experts who shared their knowledge and insights from their countries: Mihnea Cătuți – The Energy Policy Group (EPG), Romania; Léo Cogos – European Climate Foundation (ECF), France; Marco Dall'Ombra – Assoclima – Anima Confindustra, Italy; Corinna Fischer – Agora Energiewende, Germany; Duncan Gibb – Regulatory Assistance Project (RAP), France; Katja Kruit – CE Delft, The Netherlands; Paweł Lachman – Polish Organization of Heat Pump Technology Development (PORT PC), Poland; Richard Lowes – Regulatory Assistance Project (RAP), United Kingdom; Jana Odstrčilová – Budovy 21, Czechia; Olivia Smalley – Heat Pump Association (HPA), United Kingdom; Michaela Valentová – Czech Technical University in Prague, Czechia; Francisco Zuloaga – ECODES, Spain.

Suggested citation: Suggested citation: Laskowski K., Niewitała-Rej, M., Stefańczyk A., and Śniegocki A. (2024), European Heat Pump Policies Ranking, Reform Institute, Warsaw.

Graphic design
Zofia Lasocka, Sylwia Niedaszkowska

Publication date
October 2024

Image on the cover: StockSeller_ukr/IStock, smartboy10/IStock

Instytut Reform
office@ireform.eu | ul. Puławska 26/1, 02-512 Warszawa | www.ireform.eu

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Executive Summary

European governments need to boost support for heat pumps if they want to deliver on the promise of safe, clean and affordable energy

Buildings in the European Union account for around 40% of the region's energy consumption and pump out 35% of its greenhouse gas emissions. This means tackling emissions from heating is critical for Europe to meet its 2030 climate targets, and to achieve net zero emissions by 2050. Achieving the climate and energy targets requires around 60 million heat pump units to be installed by 2030[1], but the European Heat Pump Association's (EHPA) projections show a shortfall of around 15 million units by then[2]. At the current rate of heat pump installations Europe's heat pump roll out is stalling, throwing its climate targets into jeopardy – but there is a way to get back on track.

1 See the European Commission's estimates here (Figure 44).

2 See EHPA's projections here.

Policy revamp will unlock huge climate, gas dependency & competitiveness benefits

Creating the right policies to boost the heat pump roll out will bring major benefits: an additional 15 million heat pumps will mean that Europe will not need to import around 23 billion cubic metres of gas (nearly the equivalent to the amount of gas imported via pipelines from Russia in 2023) to keep its houses warm. It will also avoid the emission of around 45 million tonnes of CO_2 annually (equivalent to the emissions of Denmark), contributing around 2.3 p.p. to the overall 55% emission reduction target by 2030.

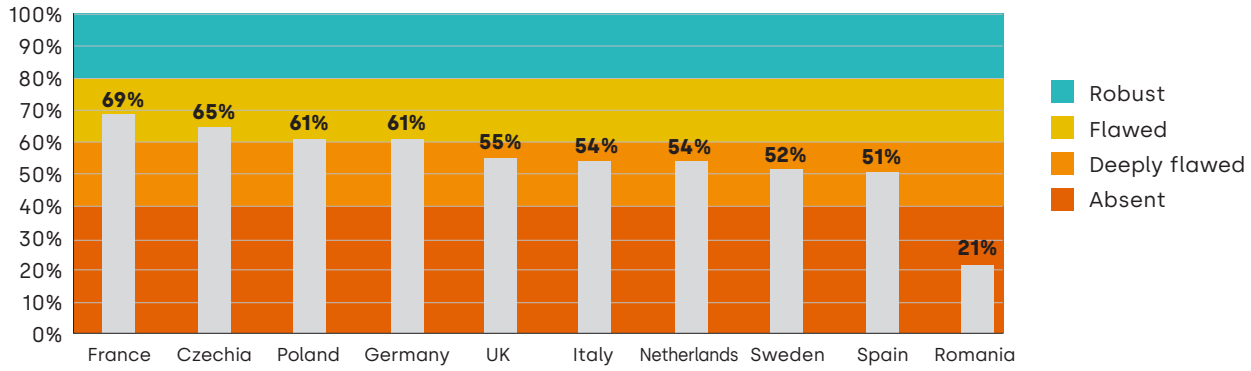
Accelerating the deployment of heat pumps will also improve Europe's competitiveness, as heat pump manufacturing is one of the few clean tech areas where Europe is a global leader. Maintaining this lead will be vital for future jobs, as well as energy security, given that fossil fuel boilers increase import dependencies on gas, oil products and coal. Governments must therefore enhance support measures to ensure that the transition from fossil heating is seen as a valuable opportunity rather than a burden. Coordinated efforts at both national and European levels are required to advance the adoption of cleaner heating systems.

This report aims to support the heat pump roll-out by assessing existing national support schemes for heat pumps in 10 countries. It examines the quality of policies in Germany, France, the UK, Italy, Poland, Spain, the Netherlands, Romania, Czechia, and Sweden – countries representing 81% of the combined EU and UK household energy demand.

Main findings: Flawed policies with potential for improvement

None of the examined countries have fully implemented robust policy frameworks to support the widespread uptake of heat pumps. The policies in the majority of countries (nine out of ten countries) are categorised as either 'Flawed' or 'Deeply Flawed'. France leads with a score of 69%. Czechia follows with 65%, while Poland and Germany both score 61%. Even the top-performing markets have significant room for improvement in providing citizens access to affordable home heating solutions and ensuring a timely transition to a decarbonised heat supply.

Figure 1. Heat pump policies – country scores



Source: Reform Institute

The comparison of policy mixes in the reviewed countries shows **no clear divide between north and south or west and east, lower or higher-income countries. Having a strong heat pump policy is a choice, not a luxury.** For example, despite similar potential, the heat pump market in Poland and Czechia is developing, whereas in Romania, it is not.

Recommendations for effective heat pump support

Despite varying market development and policies across the countries studied, certain recommendations apply to all countries.

- **Tailor policies to national and socio-economic conditions,** adapting them to fit specific needs and conditions of each country.
- **Simplify subsidy programmes** while focusing on the quality and accessibility of the policies offered and the devices being subsidised.
- **Recognise independent quality certifications for heat pumps,** ensuring that devices used meet high-quality standards.
- **Create a list of certified installers** who will support quality and reliability of installations.
- **Promote comprehensive building renovations** to ensure that heat pumps operate more efficiently, leading to lower energy consumption and reduced heating bills.

- **Establish consultation points** that help beneficiaries navigate funding opportunities, even for complex programmes.
- **Develop cheap and clean energy sources** that ensure access to affordable electricity for those using heat pumps for heating.
- **Leverage international experiences:** Learning from common mistakes and adopting good practices from similar markets is key to success.

National recommendations

The table below summarises key recommendations for each evaluated country.

Table 1. Key national recommendations

Country	Key recommendations
Germany	▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high-quality service and installations ▪ Increase the availability of heat pump tariffs
France	▪ Simplify funding programmes ▪ Raise awareness of available funding across the population ▪ Create channels to reach the most vulnerable households
The UK	▪ Shift the tax burden from electricity ▪ Provide funding for comprehensive renovation ▪ Establish credit channels to complete subsidies
Italy	▪ Learn from current programmes to design improved new funding schemes ▪ Create channels to support the most vulnerable households ▪ Reduce payment processing time
Poland	▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high quality ▪ Review the subsidy scheme rules to reduce the bureaucratic burden on beneficiaries and suppliers
Spain	▪ Increase the amount of subsidy available to householders and the overall pot designated by the government for the sector. ▪ Improve the consumer experience with better information and predictability of funding schemes ▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high quality
The Netherlands	▪ Enhance focus on the quality of the devices and the installations ▪ Establish requirements or support for heat pumps in new buildings ▪ Create channels to reach the most vulnerable households
Romania	▪ Establish a stable support programme for heat pumps ▪ Simplify the application process ▪ Implement more favourable electricity tariff policies for heat pumps
Czechia	▪ Increase the level of subsidies ▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high quality ▪ Simplify rules and reduce the number of attachments required
Sweden	▪ Enhance outreach to the most vulnerable consumers and address market gaps ▪ Improve the quality of appliances ▪ Increase support for heat pumps compared to other appliances

Source: Reform Institute

Country scoreboard

The table below summarises the detailed assessment described in the following chapters and illustrates which criteria require more attention in each country. The countries are listed in the order of their respective market size. For detailed description of the colour codes, see section 2.4.

Table 2. Heat pump policies – country scoreboard

	DE	FR	UK	IT	PL	ES	NL	RO	CZ	SE
Broad coverage across income levels										
1.1 Coverage – social groups	2	3	3	3	3	1	3	2	3	1
1.2 Coverage – new buildings	3	2	0	2	2	1	0	0	1	1
1.3 Coverage – renovated buildings	2	2	3	3	2	2	2	1	3	3
Score	78%	78%	67%	89%	78%	44%	56%	33%	78%	56%
Fair and easy access										
2.1 Complexity of the application process	1	1	3	2	2	1	2	0	2	1
2.2 Accessibility of information on the available support	3	3	1	2	2	1	3	1	3	3
2.3 Dedicated outreach channels for the most vulnerable households	1	2	1	0	1	1	0	0	2	0
Score	56%	67%	56%	44%	56%	33%	56%	11%	78%	44%
Affordable investment										
3.1 Amount of available investment subsidies	3	3	3	3	3	1	3	2	1	1
3.2 Support intensity relative to fossil fuel alternatives	3	3	2	0	1	3	2	0	3	0
3.3 Predictability and permanence of policy support	1	2	3	3	2	0	3	0	3	3
3.4 Support linked to income	3	3	2	0	3	2	0	0	1	0
3.5 Complex renovations	2	3	1	1	3	2	3	1	1	1
3.6 Support linked to the costs of renovation	3	1	2	3	3	2	1	2	3	3
Score	83%	83%	72%	56%	83%	56%	67%	28%	67%	44%
Liquidity safeguards										
4.1 Timing of the payment	0	1	3	0	0	0	1	0	0	3
4.2 Availability of prefinancing	1	2	3	1	2	2	0	0	2	3
4.3 Availability of complementary loans	3	3	0	0	2	0	1	0	2	0
Score	44%	67%	67%	11%	44%	22%	22%	0%	44%	67%
Reduced bills										
5.1 Cost-competitive electricity prices*	1	5	0	5	3	5	6	2	4	6
5.2 Special tariffs for heat pumps	2	0	1	1	0	1	1	0	2	1
Score	33%	56%	11%	67%	33%	67%	78%	22%	67%	78%
Reliable quality										
6.1 Heat pump certification	3	1	2	2	1	2	1	0	1	0
6.2 Energy audit	1	2	2	1	3	3	0	2	2	0
Score	67%	50%	67%	50%	67%	83%	17%	33%	50%	0%
Country score	**61%**	**69%**	**55%**	**54%**	**61%**	**51%**	**54%**	**21%**	**65%**	**52%**

*Given the importance of this indicator, a scale between 0 and 6 points is used

Source: Reform Institute

1. Introduction

Why heat pumps matter for Europe's climate and energy goals

To counter the adverse effects of climate change, the EU adopted an ambitious target of reaching climate neutrality by 2050. As the 2020s are the decisive decade for reaching long-term climate goals, European policymakers set more ambitious targets for 2030 and intensified efforts to accelerate the energy transition and reinforce climate action, particularly focusing on the building sector. The 2022 Russian invasion of Ukraine and fossil fuel crisis further proved the importance of delivering a rapid transition based on the deployment of renewables and investment in energy efficient solutions. The REPowerEU plan introduced in response to the crisis has firmly put investment in renewables and energy efficiency at the centre of long-term European energy security policy.

Buildings are a significant source of emissions, accounting for 35% of total EU energy-related emissions in 2021[3]. This is driven by the direct use of fossil fuels (gas, oil products, coal) for individual heating systems. Given their long lifespan and the durability of heating and cooling systems, implementing zero-carbon solutions like heat pumps is crucial for achieving the overall goal of climate neutrality by 2050 and cutting the dependency of the European economy on imported fossil fuels this decade. The changes made now will shape energy use and fuel structure for many years to come. Heat pumps, which are already a mature technology, offer notable potential for emission reductions and energy savings in the buildings sector[4].

3 See EEA database.

4 See e.g. IEA (2022), The Future of Heat Pumps.

Despite the clear benefits, policies promoting heat pumps have faced significant challenges. Public backlash against phasing out fossil fuel-based heating has led to missed opportunities across several countries. In Germany, coalition tensions have created uncertainty around heat pump regulations. The political compromise delaying the ban on the installation of new oil and gas boilers has slowed the heat pump rollout and hindered upgrades in the building sector, which still relies on fossil fuel heating for 80% of its needs. This jeopardises Germany's goal of achieving climate neutrality by 2045. Similarly, the Dutch government has backtracked on its plan to implement a hybrid heat pump standard for all buildings from 2026, now exempting multi-story apartments and historic buildings due to feasibility concerns. In the UK, the target of installing 600,000 heat pumps annually by 2028 has faced significant pushback despite being deemed essential for reducing emissions from carbon-intensive homes which account for 15% of the country's greenhouse gases. Ho-

An additional 15 million heat pumps will contribute around 2.3 p.p. to the overall 55% emission reduction target

meowner scepticism and criticism from the heating sector have led to calls for policy repeal. These examples reflect a broader resistance at the European level that has weakened ambitions in the revision of the Energy Performance of Buildings Directive (EPBD).

The heat pump market is, nonetheless, growing rapidly in Europe, and the European Commission intends to further stimulate its wide-scale deployment not only through creating a supportive political framework for accelerating building sector decarbonisation, but also through the EU Heat Pump Action Plan. This plan will be crucial for meeting the EU heat pump installation target outlined in REPowerEU. According to the European Commission, this means that 60 million heat pumps need to be installed by 2030[5], while the EHPA estimates that current trends will result in only around 45 million units in place[6]. Closing this gap will bring major benefits in terms of both energy security and climate protection: an additional 15 million heat pumps will mean that Europe will not need to import around 23 billion cubic metres of gas (nearly the equivalent to 25 bcm of Russian gas imported via pipelines in 2023[7]) to keep its houses warm and will avoid the emissions of around 45 million tonnes of CO_2 annually (equivalent to the emissions of Denmark)[8], contributing around 2.3 p.p. to the overall 55% emission reduction target by 2030.

5 See the European Commission's estimates here (Figure 44).

6 See EHPA's projections here.

7 See the EC analysis here.

8 Assuming that 1 million heat pumps removes 1.5 billion cubic metres of gas, see EU Heat Pump Accelerator.

The revised Energy Performance of Buildings Directive aims for a zero-emission building stock by 2050

The current political landscape for decarbonising the buildings sector – and thus heat pump adoption – is shaped by the revised Energy Performance of Buildings Directive (EPBD), which entered into force in 2024. This directive sets an emission reduction target of 60% for the sector between 2015 and 2030 and aims for a zero-emission building stock by 2050. It also outlines a plan for decarbonising non-residential buildings through Minimum Energy Performance Standards (MEPS), establishes an energy efficiency trajectory for residential buildings, and streamlines the energy renovation process by defining deep renovations and improving access to financing. The directive puts an end to subsidies for the installation of stand-alone fossil fuel boilers as of 2025, makes zero-emission buildings the standard for new buildings and encourages Member States to plan for the phase-out of fossil fuel heating by 2040. Additionally, the revised Energy Efficiency Directive (EED) sets an ambitious annual renovation target of 3% for public buildings which should meet the new zero-emission building (ZEB) standard. This creates additional demand for heat pump installations which are consistent with the ZEB standard.

A major policy shift is anticipated in 2027 with the full implementation of the new Emission Trading System (ETS2), which includes buildings[9]. As a result, two years from now, the cost of CO_2 emissions will be reflected in household fossil fuel heating expenses. Consequently, the higher relative cost of fossil fuels will create an incentive to switch to zero-emission technologies, thus triggering emission reductions. Despite the many opportunities associated with this change, social and economic challenges are likely to arise, particularly for vulnerable groups who may face a disproportionate increase in costs. To address this, the Social Climate Fund (SCF) will be launched to complement ETS2. The SCF will mitigate the impact of carbon pricing on the most vulnerable entities by redistributing funds from the sale of emission allowances. Member States will also be able to fund additional actions through the revenues which they will gain directly from

9 This will be delayed by one year if fossil fuel prices rise sharply again, to avoid overlapping price shock.

the ETS2. However, if the SCF and ETS2-funded subsidies are not well-targeted, sufficient in scale and social safeguards are not in place, there is a risk of public backlash against the EU climate policy agenda, and ETS2 in particular. The presence of a robust policy framework for modernising heating in buildings, which can be further supported by the new streams of revenues from ETS2, is crucial for delivering the whole European climate policy package. Furthermore, effective policy frameworks to support heat pump deployment should also take into account energy prices: operating costs of heat pumps should be lower than gas heaters. This can be achieved by increasing the pace of transition in the energy sector, adjusting the energy taxation rules to shift the burden from clean to polluting energy carriers, and providing dedicated tariffs for heat pumps.

In the context of these major socioeconomic drivers and political risks, it is crucial for the national governments to ensure that policies supporting heat pump installations are well-tailored. They should be inclusive, fair, and generous enough to effectively create a mass heat pump market as soon as possible.

Europe's key to climate success or a missed opportunity?

Heat pumps are highly efficient devices that can heat and cool buildings in an environmentally friendly and cost-effective way. However, high initial investment costs make heat pumps unaffordable for many households, especially those experiencing energy poverty. This raises key questions that apply to many European policies e.g.:

- Why do subsidies for gas boilers, and low gas prices relative to electricity prices, continue to encourage the use of these appliances?
- Why are people forced to wait months or even years for subsidies?
- Why are people in energy poverty not given a chance to access clean heating, which, through its efficiency, could help reduce their energy poverty?

If the Social Climate Fund and ETS2-funded subsidies are not well-targeted and sufficient in scale there is a risk of public backlash

Effective regulation, support schemes, and well-managed electricity pricing policies are essential to help the European heat pump market grow. Without them, the target of 60 million heat pumps by 2030 will remain out of reach.

2. Methodology

Behind the rankings: How we measured success

2.1 Insights from Europe: Reviewing policies and markets

The methodology for the Heat Pump Policy Ranking was developed following a thorough review of existing literature. This included an analysis of recent trends in heat pump market development across European countries and examples of policy measures supporting the growth of cleantech technologies. The review also examined existing policy instruments related to heat pump and building renovation support, as well as public consultations on their actual effectiveness and practical challenges. In particular, publications by the European Heat Pump Association (EHPA) were reviewed, including:

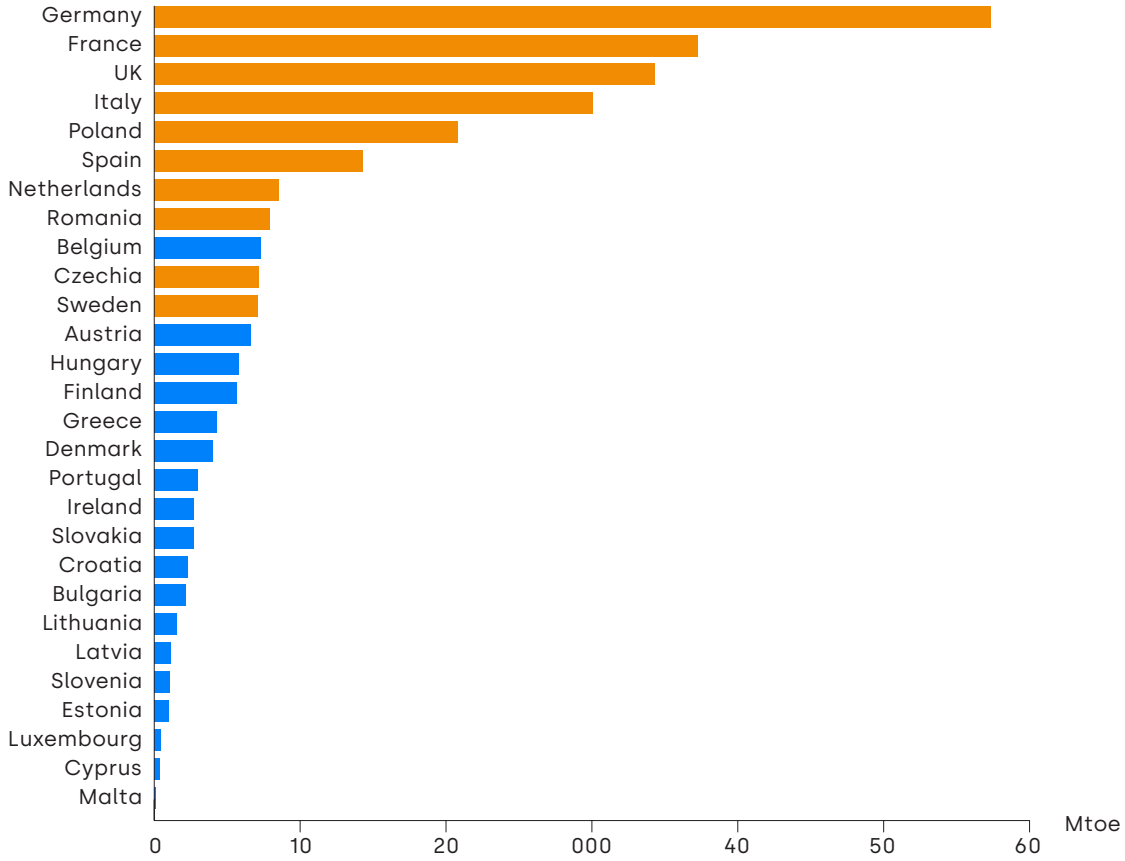
- EHPA market report 2024.
- Subsidies for residential heat pumps in Europe 2023.

Desk research also extensively utilised official EU documents and publications, such as:

- Energy Performance of Buildings Directive,
- the EU Member States Long Term Renovation Strategies,
- Renewable heating and cooling pathways report.

The insights gained from desk research were used to refine, supplement, and enhance the initial assumptions about policy tools supporting heat pump deployment, which were based on expert knowledge.

Figure 2. Final energy consumption in households in the EU+UK, 2022.



Source: Eurostat, UK ONS

The ranking covers the nine largest (or potentially largest) heat pump markets in the EU and the UK. The EU Member States included were selected based on their household sector's final energy consumption in 2022. Belgium was excluded from the ranking due to the high regional differences in the policy mix. This allowed the report to include Sweden – one of Europe's leading heat pump markets.

The final selection includes 10 countries: Germany, France, the UK, Italy, Poland, Spain, the Netherlands, Romania, Czechia, and Sweden, covering 81% of the EU+UK household energy demand.

2.2 Assessing policies: What we measured and why

The ranking evaluates the entire range of policy tools currently operational in the analysed countries, focusing on those relevant for heat pump uptake in the residential sector. Therefore, the analysis examines the spectrum of solutions available to potential beneficiaries, rather than assessing whether each support programme meets all the criteria.

The analytical process allowed researchers to identify 19 assessment criteria, which were subsequently grouped into six thematic categories. These categories reflect various factors influencing households' decisions to invest in heat pumps for heating.

Diagram 1. Heat Pump Policies Ranking – categories

Broad coverage across income levels (3 criteria)	Assessing whether the policy mix is **comprehensive,** offering support to a **wide of households and types of buildings.**
Fair and easy access (3 criteria)	Evaluating whether the policy mix is **fair and inclusive** and if it **targets the priority groups effectively.**
Affordable investment (6 criteria)	Assessing whether policy tools alleviate the cost of heat pump investments sufficiently, thus **systemically supporting the uptake of heat pumps.**
Liquidity safeguards (3 criteria)	Evaluating how effective the policy mix is in **minimising out-of-pocket** expenses for households investing in heat pumps.
Reduced bills (2 criteria)	Assessing broader market conditions and the quality of public support offered to heat pump owners to ensure that they **benefit from heat pump operation cost savings.**
Reliable quality (2 criteria)	Checking whether **public funds for heat pump support are spent efficiently,** i. e. for investments which are guaranteed to deliver the expected results.

Source: Reform Institute

An overview of all of the 19 criteria is provided in the table below.

Table 3. Heat Pump Policies Ranking – criteria and weighting

Category and criteria		Weighting
Broad coverage across income levels		
1.1 Coverage – social groups	Examines the extent to which the policy mix covers society and key groups, such as low-income groups.	15%
1.2 Coverage – new buildings	Examines the extent to which the policy mix provides support for new buildings.	
1.3 Coverage – renovated buildings	Examines the extent to which the policy mix supports renovated buildings.	
Fair and easy access		
2.1 Complexity of the application process	Investigates the complexity of applying for and receiving funding.	15%
2.2 Accessibility of information on the available support	Examines the ease of accessing funding information.	
2.3 Dedicated outreach channels for the most vulnerable households	Examines the availability of information campaigns targeted at the most vulnerable households.	
Affordable investment		
3.1 Amount of available investment subsidies	Assesses the adequacy of the level of support available for heat pumps.	25%
3.2 Support intensity relative to fossil fuel alternatives	Assesses whether the level of support offered for heat pumps is competitive with fossil fuel alternatives.	
3.3 Predictability and permanence of policy support	Examines the predictability of the timing of support.	
3.4 Support linked to income	Examines the extent to which the amount of support offered is related to income.	
3.5 Complex renovations	Examines the possibility of combining heat pump subsidies with financing for complex renovation.	
3.6 Support linked to the costs of renovation	Examines whether funding is offered as a lump sum or as a percentage of the total cost of heat pump installation.	
Liquidity safeguards		
4.1 Timing of the payment	Examines how long it takes to receive funding once the investment has been completed.	15%
4.2 Availability of prefinancing	Examines whether subsidised heat pump investment can be pre-financed and whether the pre-financing conditions improve the management of the renovation costs.	
4.3 Availability of complementary loans	Examines whether the subsidy is complemented by favourable loan terms.	
Reduced bills		
5.1 Cost-competitive electricity prices	Examines the electricity to gas price ratio.	20%
5.2 Special tariffs for heat pumps	Examines whether the policy mix contains special tariffs for heat pumps.	
Reliable quality		
6.1 Heat pump certification	Examines whether heat pump certification is taken into account in support schemes.	10%
6.2 Energy audit	Examines whether an energy audit is required to receive financing.	

Source: Reform Institute

2.3 Scoring the market: How we ranked countries' support policies

Each of the 19 criteria – with one exception – was assessed according to the following scale:

0 – low score:	The policy mix is mostly not consistent with the criterion's requirements
1 – medium score:	The policy mix is partly consistent with the criterion's requirements, but some key elements are missing
2 – high score:	The policy mix is largely consistent with the criterion's requirements, with some minor objections
3 – good practice:	The policy mix is fully consistent with the criterion's requirements

A different scoring system was used to assess whether electricity prices are cost-competitive compared to gas prices (criterion 5.1). To evaluate this, we used the "electricity to gas price ratio"[10] in each country. Given the importance of this indicator, a scale between 0 and 6 points is used:

0 – the lowest score: electricity to gas price ratio is above 4 (i.e. electricity is more than 4 times more expensive than gas)

1 – electricity to gas price ratio is between 4 and 3.5

2 – electricity to gas price ratio is between 3.5 and 3.2

3 – electricity to gas price ratio is between 3.2 and 2.8

4 – electricity to gas price ratio is between 2.8 and 2.5

5 – electricity to gas price ratio is between 2.5 and 2

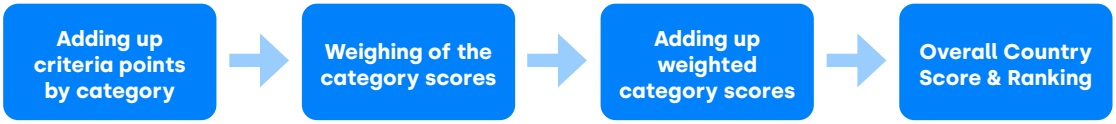
6 – the highest score: electricity to gas price ratio is below 2 (i.e. electricity is less than 2 times more expensive than gas).

10 Electricity to gas price ratio is a comparison of the price of electricity to the price of gas, calculated by dividing the price of electricity by the price of gas.

A detailed scoring table that explains how the general scoring scale was adapted to each criterion, can be found in the Annex.

To create the ranking, points scored by a country for each criterion were first summed up by category to receive a category score. These category scores were then weighted. Experts determined the weight of each category score, reflecting the category's relevance, to ensure that key policy aspects had the greatest impact. The overall country score was calculated by summing weighted category scores. The country's overall score is expressed as a percentage within the 0-100% range. Finally, countries were ranked based on their overall scores and then sorted to determine their final Heat Pump Policy Ranking.

Diagram 2. Calculating country scores and ranking

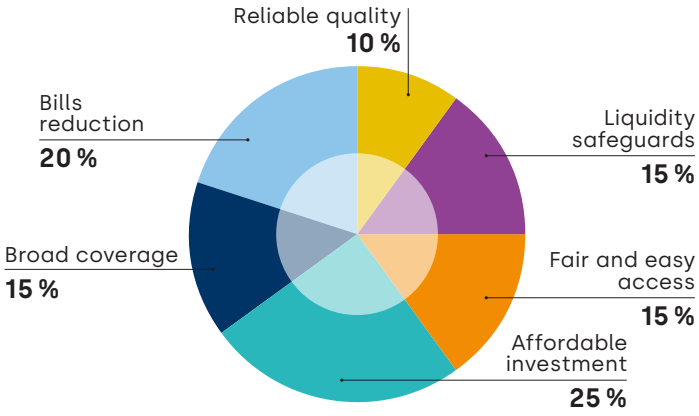


Source: Reform Institute

2.4 What matters most: Weighting key factors

Weighting reflects the importance of factors related to the overall cost of investing in a heat pump, which are crucial for customers choosing their heating source. The country's position in the ranking also heavily depends on how well it covers and provides access to heat pump subsidies. Thus, the ranking favours policy mixes that support the creation and development of a mass heat pump market.

Figure 3. Heat Pump Policy Ranking – category weights



Source: Reform Institute

3. Overall results

Heat pump policies: Leaders and laggards in Europe

3.1 Policy performance: Top countries and areas for improvement

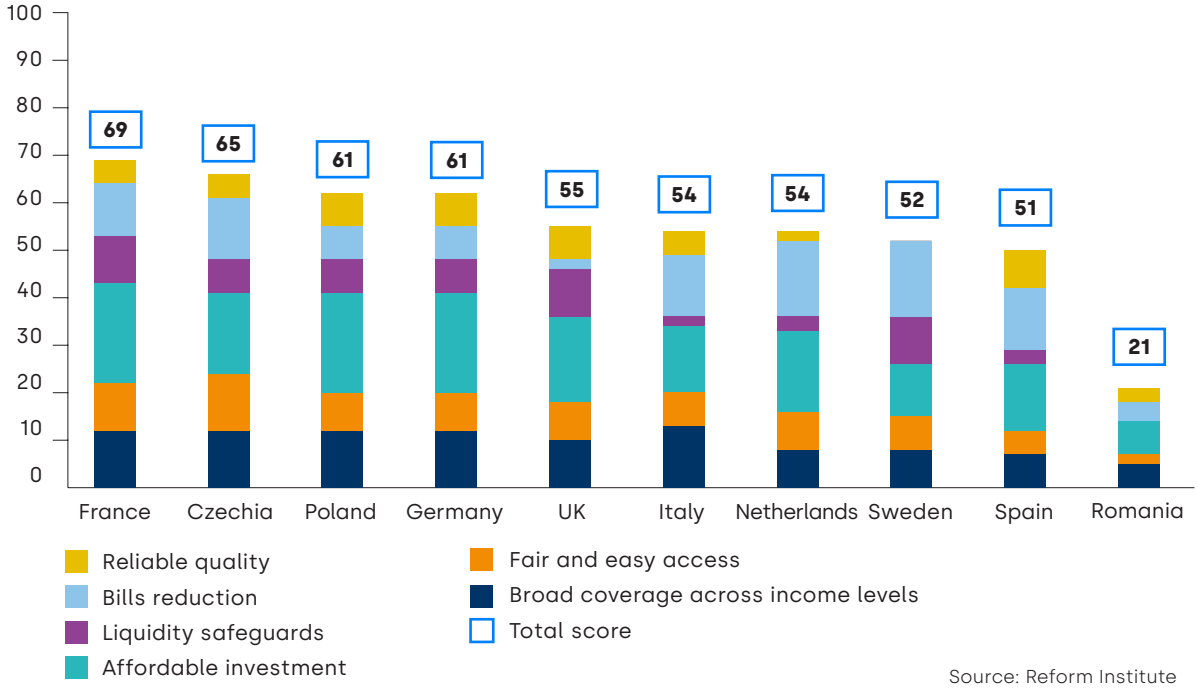
As of mid-2024, none of the countries covered by the ranking offer a sufficiently robust mix of policies to support wide-scale heat pump deployment. The best-performing country – France – scored just below 70 out of total 100 points. France, along with Czechia, Poland, and Germany (receiving 65, 61, and 61 points, respectively), lead the ranking with at least moderate scores in each category. However, each of these top four countries have areas where significant improvement is required. For example, France needs to improve controls on the quality of heat pump investments, Poland and Germany should provide better conditions for beneficiaries after installation, and Czechia could explore methods to make heat pump investments more affordable.

The UK, the Netherlands and Italy closely follow the top four, scoring 55-54 points. For these countries, a major area of improvement lies in the coverage provided by available heat pump support, and for the Netherlands and Italy – strengthening liquidity safeguards. The next group of countries scores between 51 to 52 points, with Sweden and Spain facing major gaps in their policy frameworks. Spain struggles with liquidity safeguards, while Sweden with ensuring reliable quality and the affordability of investments.

Romania has the weakest policy framework among the major European markets for heat pumps. Support is limited and difficult to access for a significant part of population, while switching to electricity-based heating remains costly.

Overall, there is considerable room for improvement in the policy frameworks of all assessed countries. Each country could benefit from adopting good practices and learning from successful examples across Europe.

Figure 4. Heat Pump Policy Ranking overview



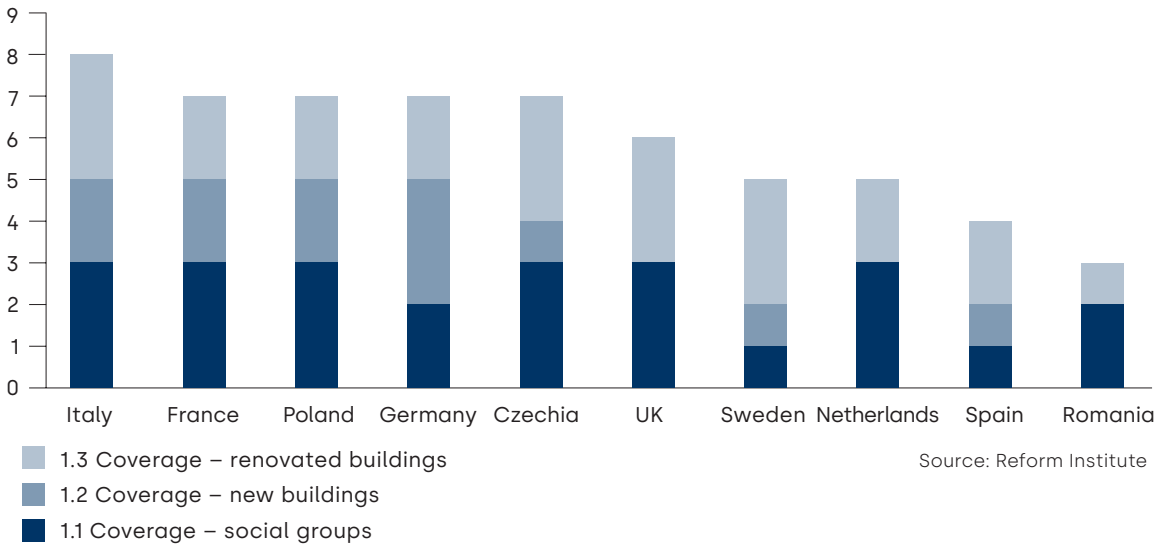
Source: Reform Institute

3.2 Policy categories: Strengths and weaknesses

Broad coverage across income levels

Italy achieved a very high score of 8 out of 9 points for broad coverage of its policy mix, which was close to the maximum possible score in the category. France, Poland, Germany, and Czechia followed closely, falling just one point behind. Most countries provide broad support across various social groups. However, three of the analysed countries completely exclude support for heat pump installations in new buildings.

Figure 5. Broad coverage scores



Source: Reform Institute

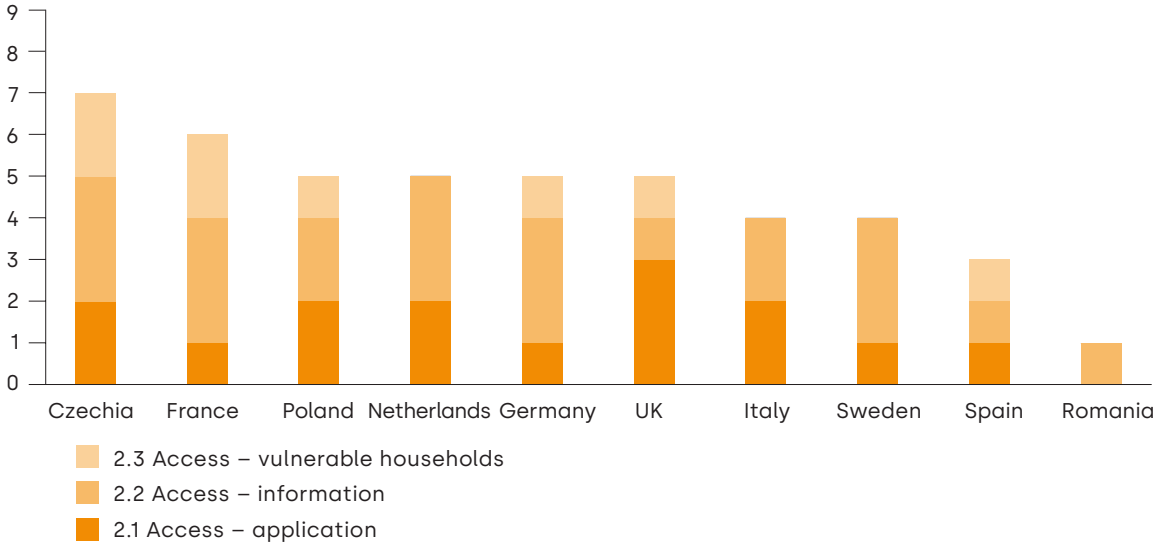
Good practice: Low emission standards for new installations

Most countries assessed have policies that cover the majority or all social groups. Many measures are dedicated to the renovation of buildings. However, subsidies for new buildings are rare. Some countries are starting to introduce a low emission building standards (Italy, France, Germany), which automatically encourages more heat pump investments. In Germany, new buildings with heat pumps can also benefit from preferential loans, which is a good practice. Similarly, Poland's *Moje Ciepło* programme offers subsidies for heat pumps in new buildings only if they meet higher energy standards, which promotes the development of low-carbon buildings.

Fair and easy access

Across all countries assessed, fairness and ease of access to the policies were generally poor, with most countries scoring between 4 and 5 out of 9 points available. Relatively low scores in this category are mostly due to insufficient outreach to vulnerable households. Czechia stands out in this field thanks to several subprogrammes specifically targeting vulnerable groups. Improving access in other countries could be relatively easy and cost-effective.

Figure 6. Fair and easy access scores



Source: Reform Institute

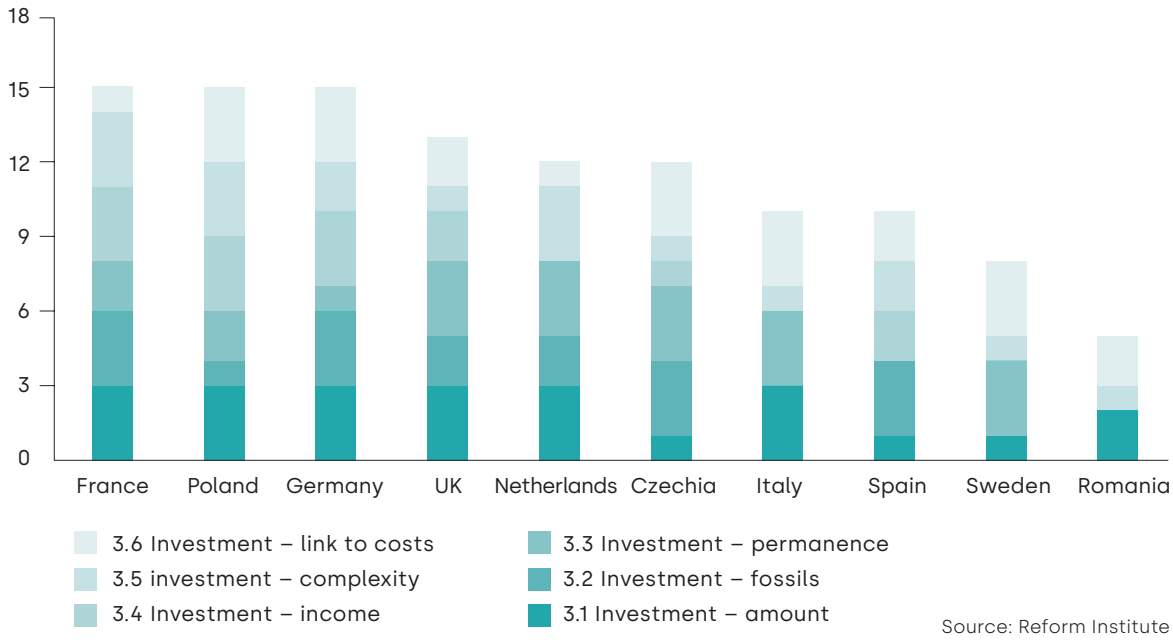
Good practice: Paperwork completed by the heat pump installer and use of online chat

Several countries, including the UK, Italy, and Sweden, allow heat pump installers to handle the application and paperwork. This simplifies the process for beneficiaries who receive guidance on required documents and available funding sources. With this type of solution, it is crucial that only certified installers are involved in the grant schemes, as seen in the UK. Although French applicants handle their own applications, the country's policy mix offers very intuitive tools and easy access to information. None of the countries have developed a good practice in reaching the most vulnerable audiences, but e.g. in Italy citizens are aware of subsidies because they have been available for many years. The Netherlands and Poland stand out for their use of online chat to provide quick, real-time answers from human (not an automated bot) advisers about funding. The Dutch chatbot is available on **the ISDE website** and the Polish one on the ***Czyste Powietrze* website.**

Affordable investment

Affordable investment shows the greatest variation of performance among the assessed countries. Differences are mainly due to the terms and conditions offered, not the level of support. France, Poland, and Germany are the top performers, scoring 15 out of 18 points. A common issue in the investigated countries is the lack of a link between the level of support and household income. Additionally, there is insufficient support for combining heat pump investments with comprehensive building upgrades.

Figure 7. Affordable investment scores



Source: Reform Institute

Good practice: Linking support to income and installation costs

A sufficiently high level of support is crucial. The UK, for example, drives its heat pump market with a substantial grant of GBP 7,000. However, support is not the only factor in making investments affordable. Heat pumps are often more expensive than other heat sources like gas or biomass boilers, but their higher efficiency leads to lower running costs. Making heat pumps more attractive by subsidising them, as opposed to other alternatives, is a good practice followed in Germany, France, the UK and Spain.

Since heat pumps can be costly initially, supporting complex renovations helps maximise their efficiency. This approach is seen in France, Poland, the Netherlands and Spain.

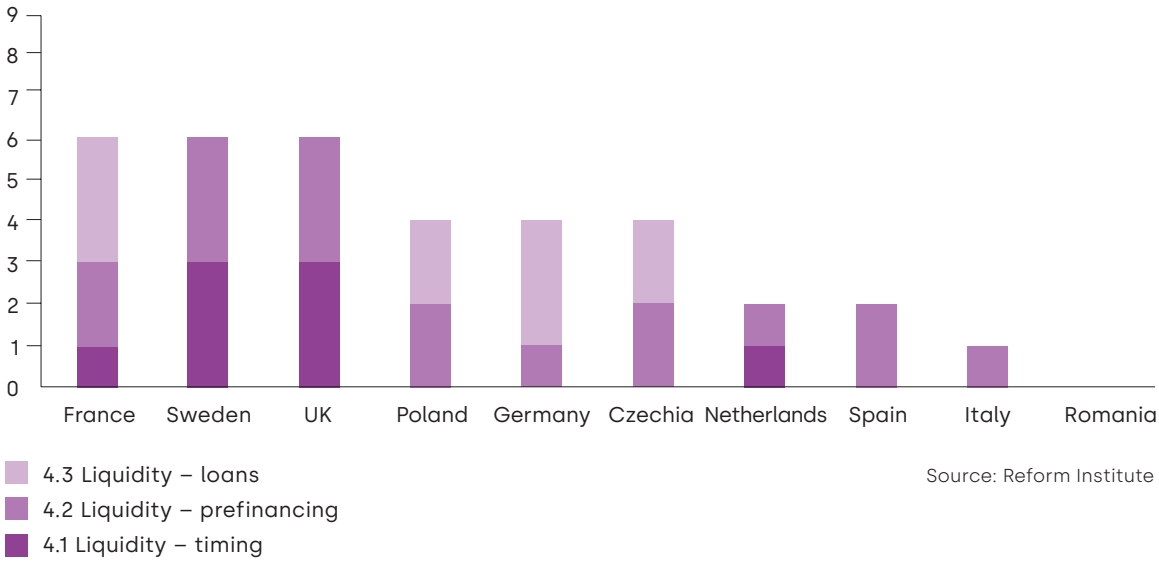
Higher initial cost also means that not all families can afford it. It is therefore good practice to link support to income levels, ensuring that households with lower incomes receive more support. This is practised in Germany, France and Poland.

Finally, predictability of support is important. In Italy, long-standing programmes to promote energy efficiency are well-known and regularly featured in the media.

Liquidity safeguards

Overall, the scores for liquidity safeguards were relatively low. The best performers – France, Sweden, and the UK – achieved 6 out of 9 points. In the UK and Sweden funding is deducted from the invoice. However, many countries do not allow pre-financing or offer it only to a very limited extent. France scored highly because of its access to loans, while grant programmes are rarely complemented by loan options, leaving beneficiaries to secure commercial loans independently. A major problem in many countries is the delay in fund disbursement. Beneficiaries pay for the investment upfront out-of-pocket and receive the grant a few months later. It is a major problem, while many households even well above the poverty line do not have savings, so asking them to advance a few thousand Euros means they cannot take advantage of the subsidy scheme.

Figure 8. Liquidity safeguards scores



Source: Reform Institute

Good practice: Prefinancing and payment timing in Sweden and the UK, loans in Germany

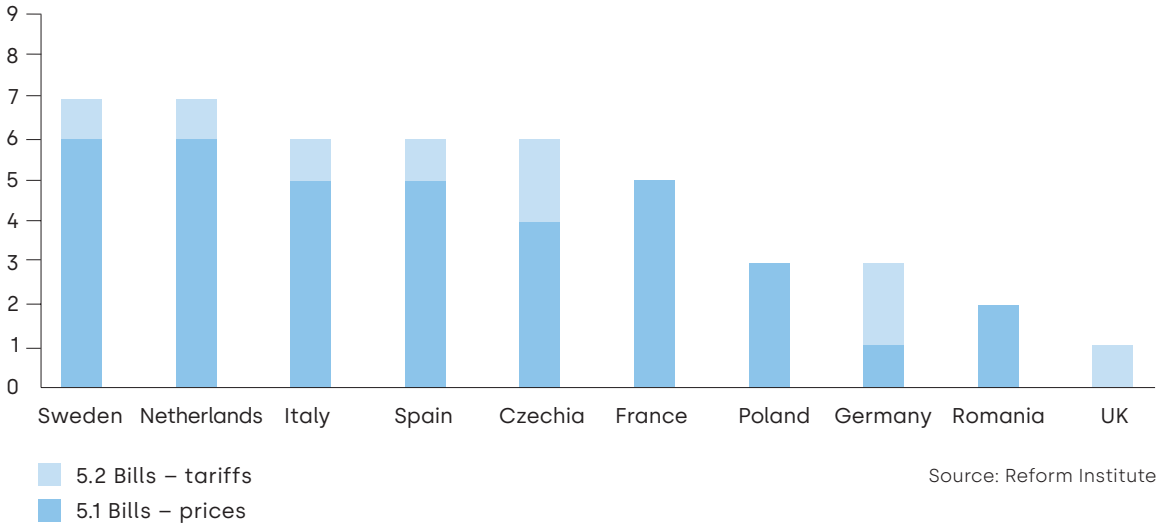
In the area of "liquidity safeguards", no single country excels across all aspects, but some stand out. The UK and Sweden are notable for their pre-financing and timely subsidy payments. In both countries, the subsidy is automatically deducted from the invoice, ensuring the recipient benefits. However, these systems work due to the relative simplicity of their frameworks. The Polish *Czyste Powietrze* Programme, on the other hand, is correct in its assumptions, as high pre-financing is targeted at low-income beneficiaries, however it fails in practice due to human factors and attempts at abuse.

Germany distinguishes itself in terms of loan accessibility, offering a range of complementary loan options for both new and existing buildings although high inflation and hence high interest rates hinder the full potential of these options.

Bill reduction

Sweden and the Netherlands scored the highest on bill reduction with 7 out of 9 points. This indicates that these countries have made good progress in providing households with favourable conditions for maintaining heat pumps. Three of the analysed countries – France, Poland and Romania – do not offer any preferential tariffs, while wholesale prices are partially compensated by favourable tariff offers in Germany and the UK.

Figure 9. Bill reduction scores



Source: Reform Institute

Good practice: Access to affordable and clean energy

Sweden benefits from low electricity prices relative to gas, largely due to cheap and clean energy. Less than 1% of Sweden's electricity is generated from fossil fuels[11]. This demonstrates how the development of renewable energy sources generating cheap energy can positively influence the adoption of heat pumps.

As the EHPA data shows, low energy prices boost heat pump sales. According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales. To motivate people to buy heat pumps, they need to see a quick return on their investment. To achieve this, the cost of electricity should be no more than twice the price of gas. According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Sweden was 1.05.

Other ways to reduce the impact of high gas-electricity price ratios include shifting taxes and levies away from electricity bills or to introducing carbon pricing. In the Netherlands, the climate agreement has mandated a gradual increase in gas taxes and a decrease in electricity taxes by 2026, encouraging a shift away from natural gas. For an average household, this change results in a yearly gas tax increase of EUR 124 and an electricity tax decrease of EUR 137 by 2026. Without these energy taxes, gas consumption would be around 9% higher. According to Eurostat data for the second half of 2023, the electricity-gas price ratio in the Netherlands was 1.68.

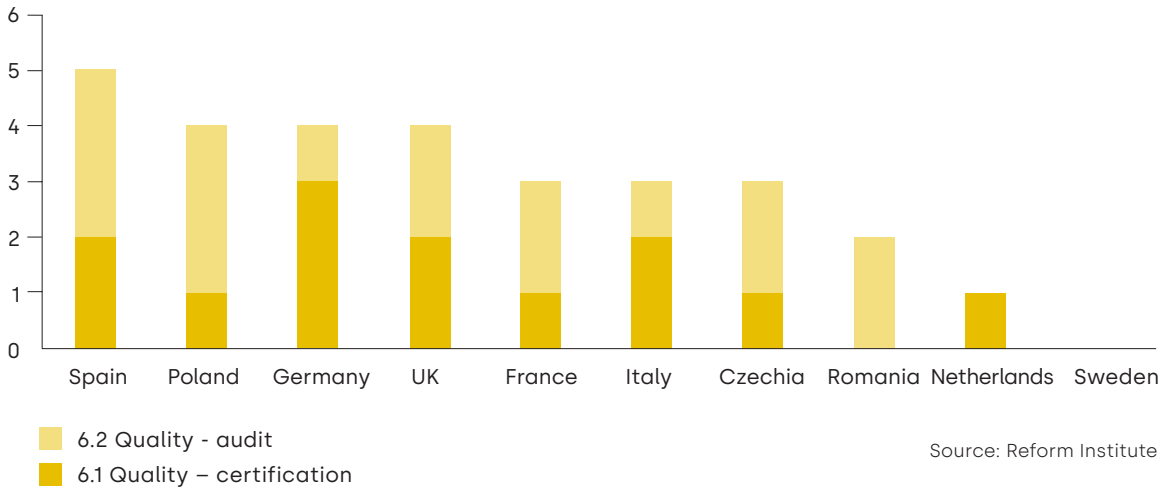
One way to mitigate high energy is by introducing heat pump tariffs. Such tariffs are becoming available in Germany, the UK and Czechia.

11 See more details on the IEA country page.

Reliable quality

The distribution of scores in this category is fairly uneven. Spain scored the highest, with 5 out of 6 points, followed by a group of countries with a score of 4. However, three countries obtained less than half of the total. While the overall result is satisfactory, there is still room for improvement. The two countries that stood out as negative outliers – the Netherlands and Sweden – are the only ones in the sample that do not require energy audits to grant a subsidy.

Figure 10. Reliable quality scores



Source: Reform Institute

Good practice: Recognition of independent quality certificates & requirements to conduct energy audits

Spain, in one of its decrees, explicitly requires a Eurovent certificate or a similar certificate. Additionally, Spain mandates an energy performance certificate for the building both before and after renovation.

Apart from Spain, no single country applies good practice in the area of 'reliable quality'. Although Poland requires both audits and certified heat pumps for subsidies, the controversy surrounding the non-recognition of independent quality certificates such as HP Keymark or EHPA Q undermines this approach. France is noteworthy since it requires energy audits. Although the programme rules do not explicitly mandate installing a certified heat pump, HP Keymark is fully recognised in France[12]. Furthermore, installations must be carried out by certified installers from a specific list. This is a good practice for ensuring the quality of the installation.

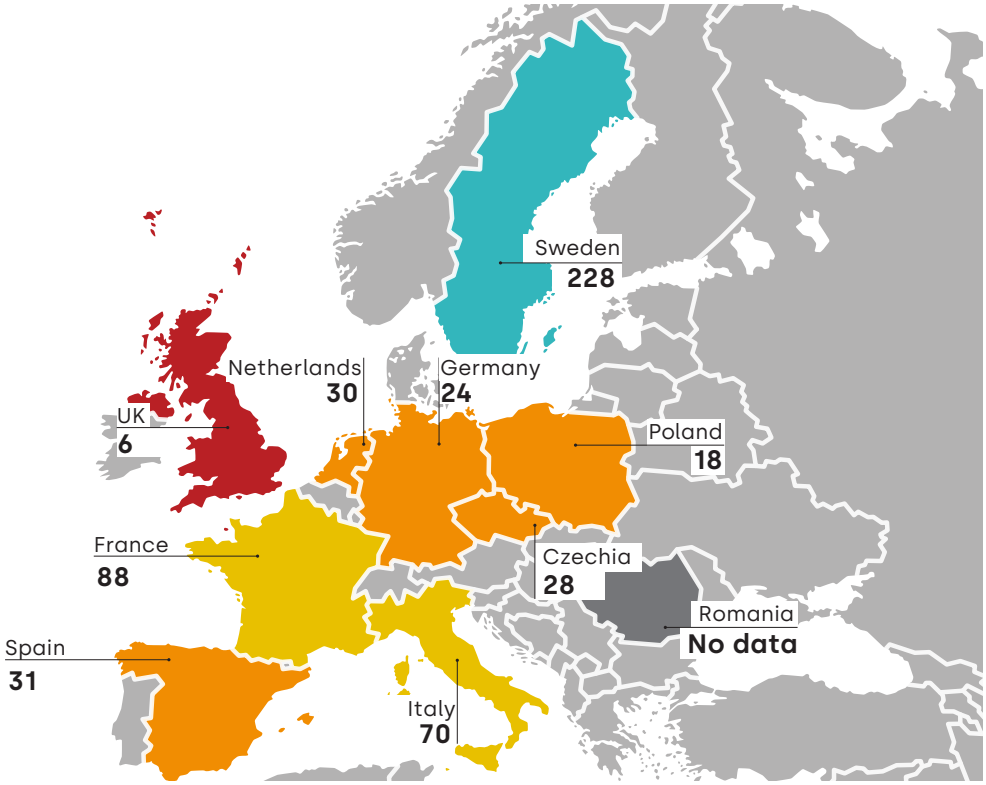
12 See more details on the Keymark website.

3.3 Market impact: How policies affect heat pump uptake

The analysis in this section covers 9 out of the 10 countries in the ranking; consistent data on the heat pump market in Romania is unavailable.

The European Heat Pump Association's (EHPA) latest data paints a bleak picture for heat pump sales in Europe this year. In the first half of 2024 sales fell by 47% compared to the same period last year. Data from 2023 revealed that heat pump market development was rather uneven across the 9 analysed countries. Sweden is a clear leader, with 228 heat pumps per 1000 inhabitants in 2022. France and Italy are the only two other countries where this number also exceeds 70. The UK is a notable outlier, with fewer than 7 heat pumps per 1000 inhabitants. For the remaining countries, this indicator shows no significant differences.

Figure 11. Heat pump stock (units per 1000 inhabitants) in 2023

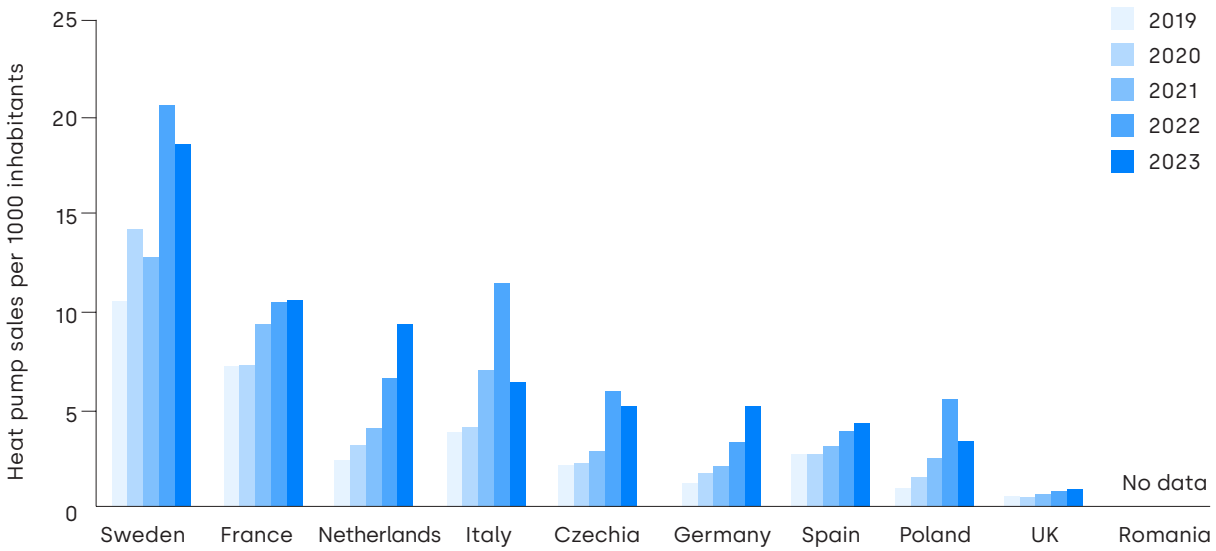


Source: Reform Institute based on EHPA and Eurostat data

The fastest-growing markets between 2019 and 2023 were Germany and the Netherlands, where heat pump sales increased by over 40% annually on average. Poland and Czechia also saw significant growth, with rates of 35% and 24%, respectively. For the rest of the investigated countries, the growth ranged from 10% to 20%. However, it is worth noting that despite these overall positive trends, sales in 5 of the 9 countries declined in 2023 compared to 2022. This drop likely reflects a return to a normal demand after sud-

den spike in 2022, which was driven by the fossil fuel energy crisis following Russia's full-scale invasion on Ukraine. The 47% drop in sales in the first half of 2024 shows the urgent need for sustained and effective policy support for heat pump deployment.

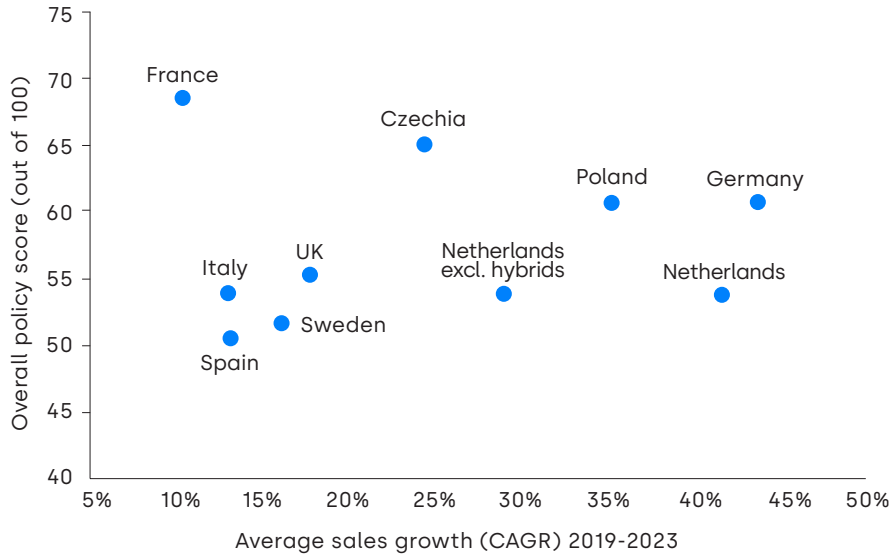
Figure 12. Number of heat pumps sold per 1000 inhabitants in 2019-2023



Source: Reform Institute based on EHPA data.

Comparing the 4-year trend with 2023 sales per capita shows that, despite Sweden's slower growth due to a market saturation, it still had the highest per capita sales. This suggests that even in mature markets, there is still significant potential for further growth in heat pump uptake. The data also proves that the UK market is still in its early stage, highlighting the need for policies that expand coverage and improve access to subsidies. Similar conclusions apply to Poland, Spain, Germany, and Czechia, where even though the market developed relatively fast in the past four years, the potential for further expansion remains substantial.

Figure 13. Overall policy score by country and annual average sales growth (CAGR) between 2019 and 2023

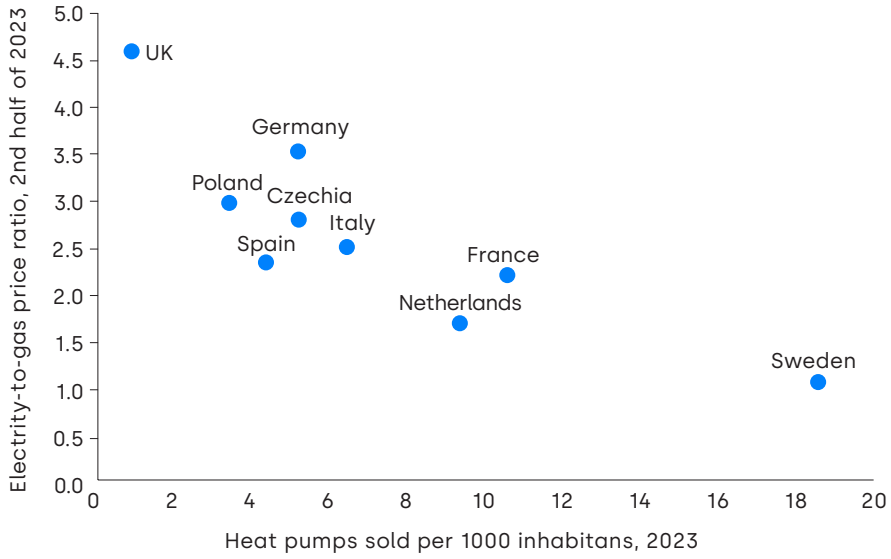


Source: Reform Institute based on own analysis and EHPA data.

Comparing policy scores with market data from 2019 to 2023 shows a moderate correlation between the growth of heat pump sales and the quality of supporting policies. However, two notable outliers are France and the Netherlands. In France, the initial sales levels slowed overall growth dynamics in 2019-2023. In the Dutch case, the rapid growth was largely driven by the adoption of hybrid heat pump installations, which are less popular in other countries.

The number of heat pumps sold per 1000 people is more influenced by energy prices, which still favour fossil fuels due to high electricity taxes in many countries.

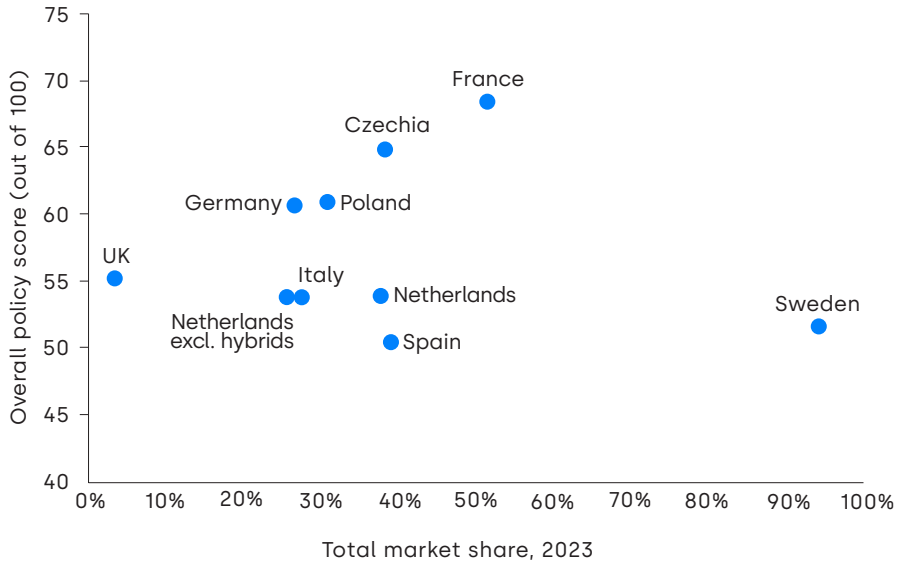
Figure 14. Number of heat pumps sold per 1000 inhabitants in 2023 and electricity-to-gas price ratio in second half of 2023



Source: Reform Institute based on own analysis and EHPA data.

However, there is a strong link between policy scores and market shares. Sweden is an exception in this case, as its mature heat pump market faces less pressure for a significant policy push. In other countries, the top three performers in policy also have the highest heat pump market shares: over 51% in France and more than 38% in Czechia and Spain. Germany, Poland, Italy, and the Netherlands land between 26% and 31%, while the UK lags behind with only 4%.

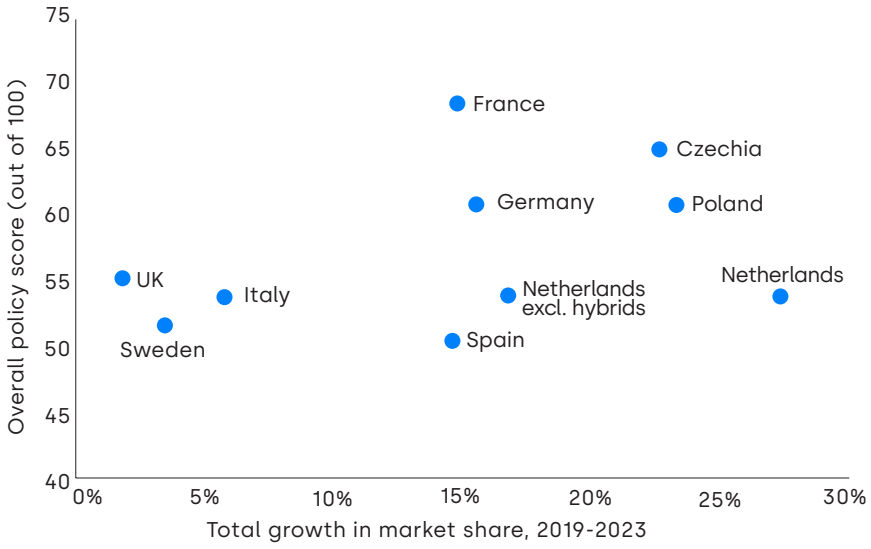
Figure 15. Overall policy score obtained by country and heat pump total market share in 2023



Source: Reform Institute based on own analysis and EHPA data.

Market share gains over the last four years were also linked to policy outcomes. Poland and Czechia showed the strongest growth, driven by their relatively low initial market development.

Figure 16. Overall policy score obtained by country and total growth in percentage points of heat pump market share between 2019 and 2023



Source: Reform Institute based on own analysis and EHPA data.

4. Country results

4.1 GERMANY
Growing fast but facing regulatory challenges

Heat pump stock in 2023	**24 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**437 093** ↗
Policy assessment	**Flawed (61%)**
Three key recommendations	▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high-quality service and installations ▪ Increase the availability of heat pump tariffs

Market overview

Although Germany was one of the fastest growing markets for heat pumps in recent years, the sharp drop in late 2023 shows that there is still much room for improvement.

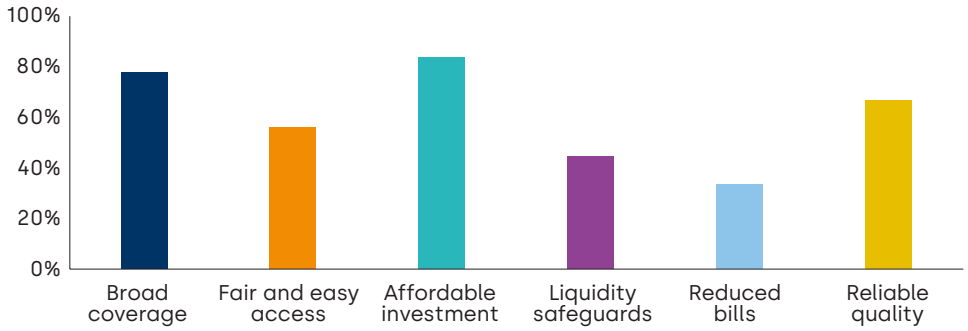
According to EHPA and Eurostat data, Germany had 24 heat pumps per 1000 inhabitants in 2023. That year, 437093 heat pumps were sold, bringing the total to around 2.1 million heat pumps[13].

Despite the strong growth between 2019 and 2023 (nearly 44% per year) and year-on-year increase in sales between 2022 and 2023, the German market experienced a significant setback in the last quarter of 2023. The sharp decline in heat pump sales in Germany at the end of 2023 and into 2024[14] was due to the regulatory turbulence surrounding the introduction of new targets for the installation of climate friendly heating systems under the Buildings Energy Act (Gebäudeenergiegesetz or GEG). The market contraction is a direct consequence of consumer hesitation surrounding the controversial heating law. Moreover, despite the availability of various subsidies and soft loans, several areas still require addressing, as shown in the figure below. Strengthening these policies will be essential to revitalise the market.

13 The EHPA data for Germany refer to space heating (1.7 million HP in stock in 2023 and 355,000 in sales) and water heating (344,000 HP in stock in 2023 and 82,000 in sales) and include HP – air/water for heating only, HP – brine/water for heating only, HP – water/water for heating only and other HP for heating only as well as sanitary hot water HP – exhaust air.

14 According to BWP, sales have been declining since June 2023. The slump in December 2023 was particularly alarming, when sales fell by more than 40% compared to the previous year.

Figure 17. Germany: heat pump policy assessment by category



Source: Reform Institute

Households in Germany can benefit from various funding opportunities for heat pumps, available to all consumer groups, which encourage the adoption of more environmentally friendly heating solutions. One of the most important support programmes is the *Bundesförderung für effiziente Gebäude* – BEG (Federal funding for efficient buildings), which provides both grants and low-interest loans for installing heat pumps in new and existing homes and conducting full renovations. The programme is supported by the *Kreditanstalt für Wiederaufbau* – KfW (Reconstruction Loan Corporation). It is worth mentioning that a combination with regional funding pots is also possible. Additionally, tax relief is also available in Germany. Besides heat pumps, German subsidies support geothermal, solar thermal systems, biomass heating systems, fuel cell heating systems with hydrogen capability (for additional investment costs), and innovative heating technologies based on renewable energies. From 2024 onwards, wherever possible, renewables are to provide 65% of energy for all newly installed heating systems.

Households can also receive financial support for energy consulting, which helps in making decisions to significantly improve the energy efficiency of residential buildings. As part of the consultation, a renovation plan can also be developed and funded.

There are many tools and search engines available to help households find the best funding options for their investments. While the programmes may initially seem intuitive with basic information easily found, locating specific detailed requirements can be more challenging.

Recently, the heat pump market in Germany has been strongly influenced by regulatory changes.

Corinna Fischer
AGORA ENERGIEWENDE

The heat pump market was growing strongly until the last quarter of last year, when it suffered a significant blow due to discussions in Germany about the new building energy law. This legislation requires any replacement heating system to use at least 65% renewable energy. However, it does not force the immediate removal of existing systems. Unfortunately, details of this requirement were leaked before the legislation had been finalised and the support scheme established. This premature disclosure led to an intense media campaign, resulting in considerable anxiety and uncertainty among property owners about potential mandatory changes.

The negative media coverage of heat pumps had a detrimental effect on the market, which fell sharply last year. Manufacturers who had anticipated a transition in the market now find themselves with excess stocks of heat pumps they are unable to sell. However, as the situation stabilises, there is an optimistic view that the market will recover. Once the support schemes are fully operational and public discourse has calmed, there is a good chance that the market will regain its strength.

Recommendations

In light of this experience, communicating effectively on newly introduced regulations is a key recommendation. Good communication is also important for maintaining predictability of policy support, which has recently been uncertain. Beyond this, there is considerable room for improvement. One significant area that requires attention in Germany is the timing of subsidy payments. Good practices are seen in Sweden and the United Kingdom, where the subsidy amount is automatically included in the invoice. According to this scheme, the subsidy could be fully deducted from the cost to the consumer, leaving them to pay only the balance. The subsidy claim to the government should then be made by the heat pump supplier. This allows beneficiaries to benefit from pre-financing at the same time – another factor which needs to be improved in Germany. However, this must not compromise quality or lead to abuse by rogue installers. At the same time, there should be monitoring and certification of installers authorised to carry out installations under the subsidy scheme. This is also the case in the UK.

A challenge identified by national experts is the exclusion of one of the most vulnerable groups of customers – tenants. Good practice in this area, which could be applied in Germany, can be found in France. There, tenants, who represent more than 30% of the population, are indirectly targeted by the policy mix. Housing units with high energy consumption can no longer be rented, which encourages landlords to benefit from renovation subsidies while implementing measures to protect tenants.

Although heat pump tariffs exist in Germany, electricity costs remain high compared to gas prices. Sweden, with its highly decarbonised energy mix, serves as a good example for Germany to follow. Additionally, to ensure the best possible operation of the devices and the quality of the installation, it is beneficial to conduct an energy audit of the building before investing in a heat pump, as is done in Poland.

Scorecard – Germany	
Broad coverage across income levels	
1.1 Coverage – social groups	**2 – Theoretically, the policy mix is designed to cover all of society, but in practice, some groups are left out.** German support schemes are intended to be inclusive, meaning that no private owner of a property in Germany is excluded from support based on social status, wealth, or residence. However, a significant barrier for many tenanted buildings is the reluctance of landlords to apply for heat pump subsidies. This situation is unlikely to resolve itself until municipalities have finalised their heating plans[15]. It is more convenient for landlords to pass on the investment costs to tenants through increased rental fees than navigate the complex and time-consuming process of applying for funding. This creates a social problem, as rising rents disproportionately impact vulnerable social groups. This issue is particularly concerning given that over 50% of households in Germany are renters – the highest share in the EU[16] – and these tenants are usually less wealthy and more vulnerable.
1.2 Coverage – new buildings	**3 – The policy mix supports all kinds of new buildings.** Germany's policy mix provides several preferential loan programmes for those looking to construct climate-friendly buildings. Additionally, from 2024 Germany's Building Energy Act (GEG) will require new heating systems in both new and existing buildings to use at least 65% renewable energy[17]. The policy mix therefore includes both regulatory requirements and supportive incentives.
1.3 Coverage – renovated buildings	**2 – The newest buildings are excluded from financial support.** For existing buildings, the German policy mix covers only those older than 5 years old. As a result, less than 5% of the German residential building stock is ineligible for state support[18].
Fair and easy access	
2.1 Complexity of the application process	**1 – Some measures ease the application process, such as reducing the number of required documents, offering online applications, providing one-stop-shops, free advisory services, and fast track options. However, they are insufficient.** Facilitating tools and initiatives include: a mandatory energy consultant who helps to design investment (funded by a separate support scheme); partner banks that submit loan applications to the KfW (national development bank responsible for distributing funds) and administer them on behalf of beneficiaries; limited information requirements, and a fully digitalised application process for direct subsidies. These features are intended to create a user-friendly approach. However, a major obstacle is the requirement for applicants to have a contract with a service provider before applying. Although this contract can be cancelled or suspended if funding is not granted (or granted belatedly), it still adds uncertainty and discourages some applicants. The application process is complicated which prevents potential beneficiaries from applying, as proven by the fact that about a third of the BEG programme's funding remains unused[19].
2.2 Accessibility of information on the available support	**3 – There is a comprehensive online platform covering the full range of national support programmes, along with additional information tools.** Several tools, provided by the government, the German Heat Pump Association, and the German Development Bank, help users identify the most suitable support scheme for their needs.
2.3 Dedicated outreach channels for the most vulnerable households	**1 – Existing information campaigns are insufficient or inefficient.** Although German support schemes recognise potential low-income beneficiaries and clearly communicate the conditions for supporting vulnerable households, there have been no additional efforts to promote heat pumps subsidies specifically to those in energy poverty.

15 Germany's legislation for municipal heat planning, effective since 01/2024, requires all municipalities to create local heating plans by 2026, or by 2028 for those with fewer than 100,000 inhabitants. The plans assess the local clean energy potentials to achieve climate-neutral heating systems by 2045. There is no obligation for building owners to change the heating systems prior to the above date.

16 See more details on the German Federal Statistical Office website.

17 See more details on the IEA website.

18 See Eurac Research (2021), European Building Stock Analysis.

19 See the analysis by Forum Ökologisch-Soziale Marktwirtschaft.

Affordable investment	
3.1 Amount of available investment subsidies	**3 – The amount of available support for heat pumps is sufficient to meaningfully reduce the costs of heat pump installation.** Given current heat pump prices in the EU, the EUR 30 000 threshold for eligible costs under direct heat pump subsidies is more than adequate to cover the costs of heat pump acquisition and installation.
3.2 Support intensity relative to fossil fuel alternatives	**3 – Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies.** Financial support for natural gas-fired heating boilers has been phased out.
3.3 Predictability and permanence of policy support	**1 – Funding is offered on a rolling basis, but there are significant uncertainties.** Currently, there are no announced end dates for ongoing funding schemes, and submissions are accepted continuously. However, the future financing of the fund that finances the German leading support scheme, *Bundesförderung für effiziente Gebäude* (BEG), is uncertain. A recent Constitutional Court ruling has led to a significant reduction of the fund and there is no governmental agreement on future financing. This creates considerable uncertainty for the BEG programme, which has been reduced by EUR 2 billion for 2024 with no clarity what will happen next[20].
3.4 Support linked to income	**3 – The amount of support is significantly higher for more vulnerable households, which meaningfully reduces the total cost of heat pump investment for them.** Financial support is 30% higher for households with an annual income below EUR 40 000.
3.5 Complex renovations	**2 – Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions for heat pumps alone are not more favourable.** Support for heat pumps can increase twice or even three times when combined with additional renovation work. Up to EUR 90 000 can be counted as eligible costs under *Bundesförderung für effiziente Gebäude*). Moreover, a loan of up to EUR 150 000 is available for complex renovations that include heat pump installation[21]. However, this increased financial support for complex renovations does not result in more favourable financing conditions for heat pumps alone.
3.6 Support linked to the costs of renovation	**3 – The subsidy is offered as a percentage of the total cost of heat pump installation, with a ceiling amount specified.** German support schemes provide funding as a percentage of eligible costs, up to a specified maximum amount.
Liquidity safeguards	
4.1 Timing of the payment	**0 – There is a significant delay (more than 2 months) in receiving the subsidy after the investment.** To receive the grant, one must provide: Evidence of implementation of the project, ▪ Proof of eligible expenditure, ▪ Compliance with the minimum technical requirements, ▪ Proof of improved energy efficiency of the building The grant is paid out after verifying all these documents. One must submit proof of use, including all necessary documents within six months of project completion or no later than six months after the grant period ends. At the beginning of 2024, changes in the administration of the funding system caused delays: the application was not available until 27 February for private users, until 3 May for landlords of multi-occupied dwellings, and longer for private landlords of single-occupied dwellings. However, as of late September 2024 all owners are allowed to apply for funding[22]. Applications submitted in February were not processed until September, and money may not be distributed until the end of the year[23].

20 See more details here and here.

21 See more details on the KfW website.

22 See more details on the KfW website and the thermondo website.

23 See more details here and here.

4.2 Availability of prefinancing	**1 – Prefinancing options exist, but they do not meaningfully ease the cost management of the renovation.** The grant is paid once the investment has been completed and relevant supporting documents have been provided. However, low-interest loans from KfW are available to help with prefinancing.
4.3 Availability of complementary loans	**3 – Complementary loans with flexible instalment payments and favourable financing conditions are available.** A wide range of loans is offered for both new and existing buildings. Easy access to information is provided. The possibility of supplementing the grant with a loan or taking out a separate loan if the grant is not available exists. Examples of loans: ▪ For existing buildings: ▫ ***Kredit Nr. 358, 359 Einzelmaßnahmen Ergänzungskredit – Wohngebäude*** – For individual energy renovation measures in residential buildings that have already been subsidised ▫ ***Kredit Nr. 261 – Wohngebäude – Kredit*** – For house and apartment renovation in an energy-efficient way ▫ ***Kredit Nr. 270 Erneuerbare Energien – Standard*** – The subsidised loan for electricity and heat ▪ For new buildings: ▫ ***Kredit Nr. 297, 298 Klimafreundlicher Neubau – Wohngebäude*** – Building houses and apartments in an energy-efficient and sustainable manner ▫ ***Kredit Nr. 300 Wohneigentum für Familien*** – For families with children who build climate-friendly ▫ ***Kredit Nr. 270 Erneuerbare Energien – Standard*** – The subsidised loan for electricity and heat
Reduced bills	
5.1 Cost-competitive electricity prices	**1 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Germany was 3.51.** According to EHPA, a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can create a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**2 – Special tariffs for heat pumps are available, but not universally accessible.** An intuitive, non-governmental tool from **Verivox** – an energy price comparison engine that lists special tariffs for heat pumps. It includes customer reviews and follows Verivox's tariff quality guidelines. Examples of tariffs include: ▪ **Wärmepumpe Natur12 – Vattenfall,** ▪ **E.ON ÖkoStrom Wärmepumpe ET,** ▪ **GASAG | STROM Wärmepumpe,** ▪ **EMB | STROM Wärmepumpe,** Dynamic tariffs are also available in Germany, such as **ÖkoStrom24 Smart** from Vattenfall. In Germany, there are two types of meters: ▪ Single-tariff meter: an electricity meter that has only one meter. ▪ Dual-tariff meter: records electricity consumption on two separate meters – a high tariff (HT) and a low tariff (NT). With this meter, one can get heat pump electricity and household electricity from two different energy suppliers[24]. Heat pump and dynamic tariffs are only available to those with a dual-tariff meter, which is currently rare.
Reliable quality	
6.1 Heat pump certification	**3 – Heat pump certification is required to obtain support.** For electrically driven heat pumps, certification according to EN 14511/EN 14825 or certification by an accredited testing institute (ISO 17025) must be provided upon request[25]. The BEG EM programme lists eligible heat pumps. They must meet energy consumption, network utility and noise requirements[26]. The programme also support efficiency. An additional bonus of 5 percentage

24 See more details on the E.ON website.

25 See more details on the German Federal Office for Economic Affairs and Export Control website.

26 See more details on the German Federal Office for Economic Affairs and Export Control website.

	points is granted if the heat source is water, soil or wastewater, or if natural refrigerants (e.g. R290 propane, R600a isobutane, R1270 propene, R717 ammonia) are used.
6.2 Energy audit	**1 – An energy audit is advised but does not affect financing conditions.**
	The government provides financial support for energy consulting, which can include creating an individual renovation plan (iSFP). This plan outlines how to upgrade a residential building for energy efficiency over time or how to achieve a government-funded efficiency level through comprehensive renovation. The aim of the iSFP is to help one make the right decision and show all the possible benefits. It also provides a bonus of 5 percentage points on the subsidy, though its implementation is discretionary. The plan must be carried out by an approved energy consultant from the 'List of Energy Efficiency Experts'. The energy consultant is generally required to make an on-site assessment of the current state of the dwelling and confirm the heat pump's quality during the application process, etc.
	OVERALL COUNTRY SCORE 61/100

4.2 FRANCE

Leading the charge, but complexity hinders progress

Heat pump stock in 2023	**88 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**720 076** →
Policy assessment	**Flawed (69%)**
Three key recommendations	▪ Simplify funding programmes ▪ Raise awareness of available funding across the population ▪ Create channels to reach the most vulnerable households

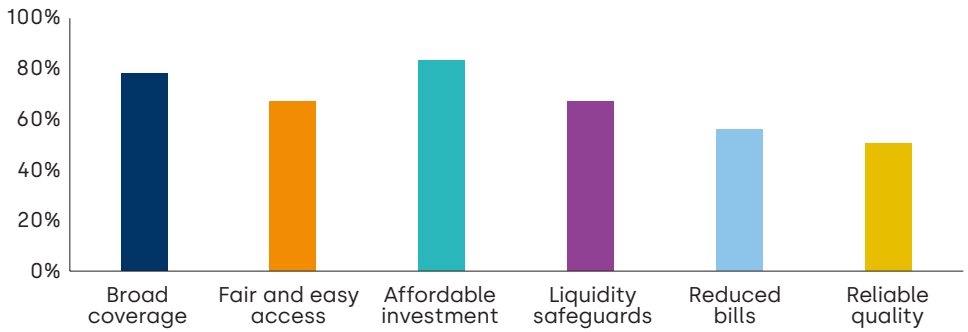
Market overview

France is the Europe's largest heat pump market, both by total sales and 2023 figures. However, last year saw a loss of market momentum and declines in one of the most important heat pump group, which indicates the need to further strengthen the support framework.

According to EHPA and Eurostat data, France had 88 heat pumps per 1000 inhabitants in 2023. That year, 720 076 heat pumps were sold in France, bringing the total to around 6 million heat pumps[27]. Despite the stable annual growth of around 10% between 2019 and 2023, last year's 14% decline in sales for air/water heat pumps – one of the largest and most important product groups – is a concerning signal. This drop was widely reported in the media. Such a decline is not a good sign for the development of the heat pump market.

The market decline in this important group of heat pumps clearly underscores that existing policies need to be improved. While France has effective support systems (the best in terms of results, as indicated by this report), their complexity can discourage investments. Simplifying and stabilising the support system could potentially double the pace of heat pump rollout in France. As shown in the figure below, despite France's top-ranking position, many areas are still in need of improvement.

Figure 18. France: heat pump policy assessment by category



Source: Reform Institute

27 The EHPA data for France refer to space heating (4.7 million HP in stock in 2023 and 543,000 in sales) and water heating (1.3 million HP in stock in 2023 and 177,000 in sales) and include HP – air/water for heating only, HP – brine/water for heating only, HP – direct expansion/water for heating only, hybrid HP, reversible HP – VRF, reversible HP – air/air, reversible HP – air/water, reversible HP – brine/water as well as sanitary hot water HP – exhaust air. It is worth mentioning that EHPA estimates include adjustment for the number of air-to-air heat pumps to reflect their mixed used for both cooling and heating. According to PAC&Clim'Info the number of air/water heat pumps in 2023 was 306,534, a decrease of 14% compared to 2022. The total number of air/air heat pumps sold in 2023 was 910,420.

Households in France can benefit from various financial incentives for acquiring and installing heat pumps. These include tax credits, green interest-free loans, and direct subsidies at both national and regional levels. The main programmes are *MaPrimeRénov'* (a broad programme subsidising household renovations) and *Certificats d'économie d'énergie* (i.e. energy savings obligation scheme subsidising heating boiler replacements in households; hereinafter referred to as CEE). Both programmes cover the entire country and offer direct subsidies for heat pump investments, covering up to 80% of their costs. Besides heat pumps, both programmes provide incentives for other low-emission heating sources: solar and heating boilers. Connection to a heating network is also eligible for funding under *MaPrimeRénov'*.

MaPrimeRénov' is particularly beneficial for households as it is tailored to different income and social groups, facilitating comprehensive renovations. This makes it a flagship programme of French renovation policy.

Despite the robust support, there are some flaws in the schemes. For example, the lack of dedicated electricity tariffs for heat pumps could make investment in heat pumps less attractive in the long term. Additionally, the programmes should be simplified.

Duncan Gibb
REGULATORY ASSISTANCE PROJECT (RAP)

> A main criticism of the French subsidy system is its complexity, which makes it difficult for households to access support. Although there are positive elements, such as targeted support for low-income families, the difficulty of navigating the process remains a significant barrier. At RAP, where we focus on energy poverty, we see that this is particularly evident for low-income households who may lack the time, resources or know-how to navigate the administrative requirements. Even when systems are designed to offer higher subsidies to those in need, complicated application procedures can actually prevent these groups from getting support. The need for simplification is clear, but it is a delicate balance between identifying and helping vulnerable groups, and administering a low-cost and streamlined policy.

Recommendations

At first glance, the French programme seems easy to understand and use. In practice, however, the complexity of the application is a significant barrier. It is therefore recommended to simplify the rules to make the programme more user-friendly, without compromising on quality.

The French policy mix may also be insufficient in promoting available subsidies among the most vulnerable potential beneficiaries. Our review of promotional efforts suggests that there is no coordinated nation-wide information campaign on support offered to heat pump investments. While the topic has gained some public attention, as evidenced by discussions on TV[28], these are isolated examples and do not amount to a comprehensive information campaign. **Therefore, it is strongly recommended to enhance the outreach of French support schemes, particularly to the most vulnerable households. *Espaces Conseil France Rénov* should be widely promoted and more present in both urban and rural areas.**

28 See an example here.

Additionally, French policymakers should also reconsider the current age requirement for buildings eligible for support under *MaPrimeRénov,* which only allows at least 15-year--old buildings to apply. The age limit may exclude relatively younger buildings that are still inefficient in terms of energy performance, especially in the context of comprehensive renovations. However, heating boiler exchanges can still be carried out under the *Certificats d'économie d'énergie* scheme in younger buildings). **Nevertheless, lowering the age limit would be strongly advised.**

Implementing these measures could accelerate the rollout of heat pumps in France and help meet the country's buildings decarbonation objective.

Scorecard – France	
Broad coverage	
1.1 Coverage – social groups	**3 – The policy mix covers the whole of society.**
	French renovation policy, particularly through *MaPrimeRénov'*, a leading support programme, is designed to address all income groups, with the amount of support varying based on income. All kinds of building owners are eligible, except for bare owners who have given *usufruct* rights to their property to someone else, and legal entities. Even tenants, who account for more than 30% of population, are indirectly targeted by the French policy mix. Housing units of the highest energy consumption cannot be rented out any longer[29], and *MaPrimeRénov'* encourages landlords to benefit from renovation subsidies while implementing measures to protect tenants.
1.2 Coverage – new buildings	**2 – Subsidy schemes are not available for new buildings, but there is a low-emission standard for new buildings.**
	Financial support is only available for buildings older than 15 years in metropolitan France and older than 2 years in overseas France. Buildings where an oil-fired heating boiler is being replaced are eligible if they are older than 2 years. *Certificats d'économie d'énergie* provide support for heat pumps regardless of the age of the building, but only if a fossil fuel-based boiler is being replaced with a heat pump. However, new buildings must meet a low-emissions standard and gas-fired boilers are prohibited in new buildings, including blocks of flats (but in the latter case, the ban will be in force from 2025).
1.3 Coverage – renovated buildings	**2 –The newest buildings are excluded from financial support.**
	MaPrimeRénov' policy does not differentiate between different kinds of renovated buildings – both detached houses and apartments, across all energy efficiency classes, are eligible. However, the age requirement for buildings, especially in metropolitan France where buildings must be at least 15-years-old to qualify (with minor exceptions), limits policy coverage. Consequently, around 14%[30] of the French residential building stock is excluded from *MaPrimeRénov'*. Nevertheless, younger buildings can still benefit (if eligible) from other instruments such as *certificats d'économie d'énergie.*
Fair and easy access	
2.1 Complexity of the application process	**1 – The application process includes helpful elements, but remains too complicated.**
	The French policy mix provides several tools which facilitate the application process. Local advisory centres, *Espaces Conseil France Rénov,* offer guidance on renovation projects and available financial support. According to national insights, multichannel communication efforts promoting the *Espace Conseil* service have increased significantly recently with national campaigns. For major renovations (*rénovation d'ampleur*), applicants can be also assisted by a professional advisor (*Mon Accompagnateur Rénov'*), who conducts energy audits, helps with the application process, and supervises the renovation. Applications are submitted through a dedicated online platform, requiring only a few additional details like marital status, age of the building's inhabitants, latest tax return, and email address. Post-works invoices must also be uploaded online.

29 See more details here.

30 See Eurac Research (2021), European Building Stock Analysis.

	Though the programme seems straightforward at first glance, the complexity of the application process is a significant barrier. This opinion is confirmed by national insights[31], showing that the complicated process reduces interest in the programme.
2.2 Accessibility of information on the available support	**3 – A comprehensive online information platform covering the wide range of national support programmes, accompanied by other information tools.**
	France has a dedicated online platform for *MaPrimeRénov'* where all information can be easily accessed. Moreover, the government provides a list of all available support programmes ***(Rénovation énergétique: les aides auxquelles vous pouvez prétendre),*** including local ones, which can be searched using a specialised tool.
2.3 Dedicated outreach channels for the most vulnerable households	**2 – Existing information campaigns are insufficient but they are efficient for those who use them.**
	While the French policy mix includes financial support programmes targeting low-income households, those in economic hardship, and the elderly or disabled, these programmes are not effectively communicated. They are included in a brochure which covers financing opportunities ***(Guide des aides financières)*** and is accessible online. No additional information campaigns have been identified. Moreover, within French subsidy schemes only one tool facilitating accessibility for vulnerable groups has been identified: there is an option for elderly and disabled individuals to submit paper application with assistance. However, there are external indirect efforts supporting vulnerable households. These efforts include ***Slime,*** the programme which identifies households grappling with energy poverty. Moreover, the national housing agency set up a partnership between *Espaces Conseil France Rénov'* and *Maisons France Service* at the end of 2023 to assist vulnerable households with their project and application.
Affordable investment	
3.1 Amount of available investment subsidies	**3 – The available support for heat pumps is sufficient to meaningfully reduce installation costs.**
	Financial support for heat pump acquisition and installation can reach up to EUR 16 000, depending on household income and type of heat pump. The maximum eligible expenditure is EUR 18 000, and combined subsidies cannot exceed 90% of the total renovation cost (including taxes).
3.2 Support intensity relative to fossil fuel alternatives	**3 – Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies.**
	France does not provide financial support for installing fossil fuel-based heating boilers.
3.3 Predictability and permanence of policy support	**2 – Funding is available on a rolling basis, but the rules change relatively frequently.**
	French support programmes are available continuously once launched. Moreover, subsidies for households are enshrined in statutory acts, which ensures stability. However, frequent changes to programme rules negatively impact predictability.
3.4 Support linked to income	**3 – Higher support for more vulnerable households, meaningfully reducing their heat pump investment costs.**
	The French policy mix recognises four income groups, with higher income thresholds for Île-de-France, the wealthiest region in France. The maximum joint subsidy for heat pump acquisition and installation for the most vulnerable households is EUR 16 000 (dependent on heat pump type), which is 220% higher than the support available for the wealthiest households.
3.5 Complex renovations	**3 – Heat pump subsidies can be combined with financing for complex renovations, with more favourable conditions.**
	MaPrimeRénov' allows for tailored renovation plans. Applicants can seek support for subsidies for heat pump acquisition and installation alone, but they can also request financing for major renovations *(rénovation d'ampleur)* that improve energy efficiency by at least two classes. This can include heat pump acquisition and installation. *MaPrimeRénov'* covers up to 80% of the total cost of major renovation (without taxes). This makes heat pump investment more financially feasible when included in larger renovation projects, compared to covering about 50% of the cost for heat pump acquisition alone.

31 Examples can be found here and here.

3.6 Support linked to the costs of renovation	**1 – Funding is mostly offered as a range of values, dependent on partial or total installation costs.** French policy mix provides fixed amounts of support for specific heat pump types within each income group.
Liquidity safeguards	
4.1 Timing of the payment	**1 – The subsidy is paid within 1-2 months of heat pump purchase.** The subsidy payment occurs after the completion of the financed project. Once the renovation work has been completed and the invoice has been sent to *Anah* (*Agence nationale de l'habitat* – French national housing agency), **the subsidy payment usually takes two to three weeks.** The total duration of the procedure depends on the time needed to carry out the work after Anah's approval, plus a minimum period of one month. These are theoretical deadlines that are often exceeded in practice[32].
4.2 Availability of prefinancing	**2 – A subsidised heat pump investment can be prefinanced, and prefinancing conditions help renovation costs to be manageable, but this option is not available to everyone.** Under *MaPrimeRénov'*, households with modest and very modest incomes can benefit from prefinancing of up to 70% of their subsidy amount.
4.3 Availability of complementary loans	**3 – Complementary loans with deferrable instalment payments and favourable financing conditions are available.** *L'éco-prêt à taux zéro* (éco-PTZ) is an interest-free loan available without income testing to finance the remainder of the energy renovation work eligible for *MaPrimeRénov'*.
Reduced bills	
5.1 Cost-competitive electricity prices	**5 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in France was 2.19.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**0 – No special tariffs for heat pumps.** Heat pump users can potentially benefit from the two-zone tariff, where electricity is cheaper during off-peak hours but is more expensive during the 16 remaining peak hours. Another option is the Tempo EDF tariff, which offers varied prices according to the hours and types of days: 300 Blue Days (low electricity demand and low prices), 43 White Days (average prices and demand) and 22 Red Days (high demand and high price). Peak prices on Red Days can be up to three times higher, coinciding with the highest demand for heating. Without an alternative heating source, this option can actually increase electricity bills, despite cheaper energy for most of the year[33]. However, the energy voucher (Le chèque énergie) is available to the most vulnerable groups and can be used annually to reduce electricity bills.
Reliable quality	
6.1 Heat pump certification	**1 – Heat pump certification is recommended but not required to obtain support** There are energy efficiency requirements: heat pumps must have seasonal energy efficiency for heating, calculated with its electric or fossil fuel backup: ▪ ≥ to 126% if they operate at low temperatures; ▪ ≥ 111% if they operate at medium and high temperatures. To qualify for aid under the *Certificats d'économie d'énergie* scheme, the COP (The Co-efficient of performance) must be greater than 2.5 for installations on extracted air and 2.4 in other cases. However, the installer must hold an RGE certificate (*Reconnu Garant de l'Environnement*). This certificate confirms that the installer meets certain quality standards and is authorised to carry out energy efficiency work.

32 See more details here.

33 See more details here.

6.2 Energy audit	**2 – An energy audit is often required, but its effects do not necessarily influence the financing conditions**
	Policies generally require energy audits. *The Diagnostic de Performance Énergétique* (DPE) is a legally required for the sale or rental of a building. Following changes to *MaPrimeRénov'* in early 2024, all applications initially required a DPE or an audit. However, in March 2024, this requirement was simplified to streamline the programme. Currently, for individual projects under *MaPrimeRénov'*, neither an audit nor a DPE is required. This will change again from January 2025, when audits or DPEs will become mandatory. For *MaPrimeRénov's "Parcours accompagné"* programme, which covers large projects, an audit is mandatory, and additional financial support may be available. Applicants must first consult with an adviser to guide them through the necessary steps to renovate the building. *Certificats d'économie* d'énergie do not require an audit.
	OVERALL COUNTRY SCORE 69/100

4.3 THE UK

Struggling to catch up in a nascent market but policy adjustments could accelerate growth

Heat pump stock in 2023	**6 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**60 244** →
Policy assessment	**Deeply flawed (55%)**
Three key recommendations	▪ Shift the tax burden from electricity ▪ Provide funding for comprehensive renovation ▪ Establish credit channels to complete subsidies

Market overview

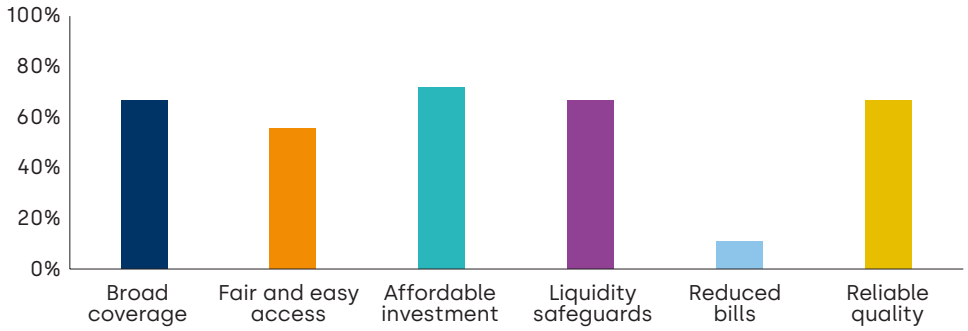
The UK market shows potential for rapid growth with its well-tailored polices but still remains in the early stage of development, underscoring the need for maintaining the policy momentum in support of heat pumps.

According to EHPA and Eurostat data, the UK had 6 heat pumps per 1000 inhabitants in 2023[34]. The compound annual growth rate in the UK between 2019 and 2023 was around 18%, indicating significant growth over the past four years. Despite this progress, British heat pump sales slightly declined in 2023, which signals a need for further policy enhancements.

The UK policy framework provides a robust basis to drive market growth in its early stages. The subsidies available to households offer attractive conditions, and the rules are simple. However, the main and very significant drawback of the UK's policy mix is a lack of policy response to high energy prices. As shown in the chart below, the 'reduced bills' performance was extremely poor, reflecting high electricity costs relative to fossil gas. Addressing high energy prices in comparison to generous subsidies will be crucial for accelerating heat pump market development in the UK. The figure below highlights other key areas that require attention.

34 The EHPA data for United Kingdom refer to space heating (434,000 HP in stock in 2023 and 60,000 in sales) and water heating (976 HP in stock in 2023) and include HP – air/water for heating only, HP – brine/water for heating only and other heat pumps.

Figure 19. The UK: heat pump policy assessment by category



Source: Reform Institute

Households in the UK can benefit from two major programmes supporting heat pump acquisition and installation: the *Boiler Upgrade Scheme* and the *Eco 4 Scheme*[35]. In addition to these leading schemes, other significant programmes include the *Social Housing Decarbonisation Fund*, *Home Energy Scotland Grant and Loan* (targeting Scotland) and *Optimised RetroFit Programme* (targeting Wales). Northern Ireland, however, lacks a subsidy scheme promoting heat pump deployment.

35 E.g., in April 2024 the Boiler Upgrade Scheme and ECO 4 Scheme accounted for 48% and 43% of all state funded heat pump installations, respectively (data from Heat Pump Association).

Boiler Upgrade Scheme is a straightforward policy measure, providing a fixed subsidy amount, regularly updated by the appropriate Secretary of State, for upgrades from boilers to heat pumps or biomass-fired systems. *Boiler Upgrade Scheme* is particularly aimed at households living in existing buildings located in England and Wales, leaving Scotland and Northern Ireland out of scope.

Eco 4 Scheme is ma ore complex support instrument. Eco in the scheme's full name stands for *Energy Company Obligation*, which places a responsibility on medium and large energy suppliers to reduce heating cost for economically vulnerable households. Obligated energy suppliers must therefore financially support energy efficiency measures, including heating systems upgrades, for low-income and fuel-poor households. The programme is administered by the government's Office of Gas and Electricity Markets (Ofgem), but grants are distributed by energy companies to their customers who receive one of the pre-defined state benefits. Each company is allowed to set slightly different financing conditions for the grant.

Another aspect of the *Eco 4 Scheme* is an *Eco 4 Flex Scheme*, which additionally allows local authorities to expand the eligibility criteria, tailoring energy efficiency schemes to their respective area. For example, *Eco 4 Flex Schemes* are observed in Scotland, where the *Boiler Upgrade Scheme* is not available.

The UK policy framework provides a robust basis to drive market growth in its early stages, but does not offer a response to high energy prices

Although the policy mix in the UK appears to be quite comprehensive, there are some drawbacks and limitations. A significant issue is that the amount of funding (at least under the *Boiler Upgrade Scheme*) does not necessarily depend on household income or on heat pump cost, as it is offered as a lump sum. However, the lump sum is quite generous, and given that more vulnerable households occupy smaller properties, requiring less powerful heat pumps, it may still be sufficient to provide substantial support to them. It is also worth noting that the budget reserved for the *Boiler Upgrade Scheme* was expanded in early October 2024. The Secretary of State for Energy Security and Net Zero has authorised Ofgem to increase the allocation of vouchers by up to £50 million in the current financial year, to a maximum of £200 million. This decision ensures that vouchers will be available for the rest of the financial year[36].

36 See more details here.

Olivia Smalley
HEAT PUMP ASSOCIATION (HPA)

The UK has a legal obligation to reach net zero carbons emissions by 2050 and currently, 37% of UK carbon emissions come from heat. In efforts to decarbonise the sector, the government set an ambition to install 600,000 heat pumps annually by 2028. Yet in 2023, UK factory gate heat pumps sales reached just over 60,000 resulting in the need for a tenfold increase in sales to meet the ambition.

One major challenge for heat pump sales in the UK is the high ratio between electricity and gas prices, meaning that even heat pumps with a high efficiency of over 300%, in some instances it can be difficult to achieve running cost at parity with a fossil fuel boiler without high SCOPs or smart tariffs. The UK government should look to consult on possibilities to enhance the affordability of heat pumps by reducing the price of electricity to align with their goals to electrify heat.

Additionally, clarity is required on the possible phase-out of the installation of new fossil fuel boilers in UK homes which has undergone consultation, but no formal policy position or regulation has been confirmed, causing market uncertainty. Other crucial market drivers include the introduction of the Future Homes and Buildings Standard and clarity on the introduction of the Clean Heat Market Mechanism.

Regarding government subsidies, we would like to see the continuation of the Energy Company Obligation which is due to close in March 2026, as well as continued funding under an enhnaced *Boiler Upgrade Scheme.*

Richard Lowes
REGULATORY ASSISTANCE PROJECT (RAP)

Despite the elections in the UK, heat pump policy should avoid any turmoil – the new Labour government is so eager to deliver the current heat pump target (600,000 heat pump installations each year by 2028) that current subsidy levels are unlikely to be reduced, especially since the ongoing support schemes, the *Boiler Upgrade Scheme* in particular, helps to achieve the target. The scheme is generous, it is easy, and last but definitely not least, it is working – it made the market grow by a third in 2023. It is also expensive, but it is funded by taxation. There is a lot of things to like about it. However, a new government must rebalance green levies on electricity bills (compared to those on gas bills, which tend to be lower) in order to incentivise households to switch to heat pumps.

You can now get heat pumps that work well in really inefficient buildings. The main thing is to make sure it is installed properly.

Recommendations

The UK has the greatest electricity-gas price ratio among all the countries examined in this report, which substantially hampers the deployment of electric heat pumps. Therefore, electricity prices should be lower, or at least more equitable compared to gas prices, especially concerning government-imposed levies. A good practice example in this regard can be found in the Netherlands, where the climate agreement mandates a gradual increase in gas taxes and a decrease in electricity taxes by 2026 to encourage a shift away from natural gas.

Access to support programmes in the UK also needs improvement. In particular, the *ECO 4 Schemes* provided by energy companies and local authorities should be better communicated through a single platform (the issue is important as both of national experts interviewed were unable to share any detailed information on the *ECO 4 Scheme*).

Although it is possible to undertake a complex renovation of a building with state subsidies through the *ECO 4 Scheme*, coordinating this with a heat pump installation under the *Boiler Upgrade Scheme* is challenging. To promote and foster energy efficiency improvements in the private buildings sector and reduce future electricity demand by switching to heat pumps these programmes should be linked or unified.

Scorecard – the UK	
Broad coverage	
1.1 Coverage – social groups	**3 – The policy mix covers the whole of society.** Although *Eco 4 Scheme* targets more vulnerable households, *the Boiler Upgrade Scheme* is available to any eligible building. Therefore, the British policy mix can be considered as broadly inclusive, especially since Welsh and Scottish beneficiaries can also benefit from the *Optimised Retrofit Programme* and *Home Energy Scotland Grant and Loan*. Northern Ireland lacks a corresponding subsidy scheme, but given the limited size of this market and the fact that the power to regulate subsidy schemes in this region is conferred to regional authorities, it should remain out of scope of the analysis.
1.2 Coverage – new buildings	**0 – The policy mix does not cover new buildings.** Regarding new buildings, the *Boiler Upgrade Scheme* only includes self-built homes (i.e. homes constructed primarily using labour or resources from the first owner), which represents a minor segment of the overall building stock. The *Eco 4 Scheme* covers buildings erected no later than 2021 or at least occupied before the installation of a heat pump. Moreover, the UK lacks low-emission standards for new buildings, which would prevent the installation of gas boilers in new buildings.
1.3 Coverage – renovated buildings	**3 – The policy mix provides support for all kinds of renovated buildings.** No existing domestic buildings are excluded from support. If a particular type of renovated building is out of scope of a given programme, it is usually covered by another. This is particularly relevant for social housing: the *Boiler Upgrade Scheme* does not target social housing, as the *Eco 4 Scheme* and *Social Housing Decarbonisation Fund* are specifically designed for these properties. Heat pump investments in apartment blocks are also subsidised, as *shared ground loops (i.e. a system where a ground loop is connected to two or more heat pumps) are allowed under the Boiler Upgrade Scheme.*

Fair and easy access	
2.1 Complexity of the application process	**3 – The application process is either digitalised, with sufficient complementary support to effectively ease the paperwork burden, or the heat pump installer is responsible for submitting the application.**
	In the British policy mix, the responsibility of the burden of submitting the application falls on a heat pump installer. Moreover, there are some measurements in place to facilitate the application process, such as a reduced number of required documents, fewer application stages, online applications, one-stop-shops, free advisory services, fast track application process.
2.2 Accessibility of information on the available support	**1 – There are some elements of a dedicated online information policy, but they are largely insufficient.**
	Both the *Boiler Upgrade Scheme* and the *Eco 4 Scheme* have dedicated online platforms (***Boiler Upgrade Scheme*** and ***Eco 4 Scheme***). However, these platforms are not fully informative, particularly the second one. Since the *Eco 4 Scheme* is administrated by energy suppliers and local authorities, with each setting different financing conditions, it is hard to obtain comprehensive information, especially from energy suppliers. Moreover, no centralised platform exists to share this information.
2.3 Dedicated outreach channels for the most vulnerable households	**1 – Existing information campaigns are insufficient or inefficient.**
	Although the *Eco 4 Scheme* targets more vulnerable households, it lacks a dedicated information policy. Some platforms and tools are available, such as: **www.eco4govscheme.co.uk, www.eco4.org.uk.**
Affordable investment	
3.1 Amount of available investment subsidies	**3 – The amount of available support for heat pumps is sufficient to meaningfully reduce installation costs.**
	The *Boiler Upgrade Schemes* provides GBP 7500 (approximately EUR 8800) for heat pump acquisition and installation. Vulnerable households may receive up to 100% of their heat pump costs under the *Eco 4 Scheme*, depending on a supplier of the grant – whether it is an energy supplier or local authority.
3.2 Support intensity relative to fossil fuel alternatives	**2 – Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies, with minor exceptions such as hybrid heat pumps.**
	Although the *Boiler Upgrade Scheme* does not provide finance for fossil fuel alternatives, the *ECO 4 Scheme* allows funding for fossil fuel-based boilers in some cases.
3.3 Predictability and permanence of policy support	**3 – Funding is available on a rolling basis.**
	The Boiler Upgrade Scheme operates on a rolling basis under statutory law, ensuring continuity unless repealed. The Secretary of State can adjust the funding amount at any time. The *Eco 4 Scheme* is also regularly renewed and its current fourth edition will run until 2026.
3.4 Support linked to income	**2 – The amount of support is not directly tied to household income but is indirectly linked to it and it is significantly higher for vulnerable beneficiaries.**
	Although the level of support in the UK is not directly dependent on household income, only those who receive certain pre-defined benefits or are classified as vulnerable by local authorities are eligible for funding under the *Eco 4 Scheme*. As a result, financial support tends to be greater for vulnerable households, even though vulnerability is not necessarily determined by income. Additionally, the subsidy allows those with lower incomes to cover a higher proportion of the investment, as their homes typically require smaller heat pumps.
3.5 Complex renovations	**1 – Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions are not more favourable than separate financing conditions.**
	The *Boiler Upgrade Scheme* does not include financial support for renovation. However, the *Eco 4 Scheme* does include funding for insulation and it can be much greater than the funding available under the *Boiler Upgrade Scheme*. However, the *Eco 4 Scheme* is limited to a small group of beneficiaries.

3.6 Support linked to the costs of renovation	**2 – The funding is offered as a lump sum, but the amount is generous.** The *Boiler Upgrade Scheme*, the primary financial support programme, offers a lump sum of GBP 7500 (approximately EUR 8800). The provisions under the *Eco 4 Scheme* can vary depending on the grant distributor, but the details are not clearly communicated.
Liquidity safeguards	
4.1 Timing of the payment	**3 – Under the BUS programme, the grant is paid directly to the installer, not to the beneficiary.** Therefore, by default, the invoice amount is reduced by the grant. Payments to the installer are made weekly upon approval of the payment request. The specifics of the ECO scheme are set by energy suppliers or local authorities.
4.2 Availability of prefinancing	**3 – In the BUS programme, the grant is not paid into the beneficiary's account but directly into the installer's account. Therefore, by default, the invoice amount should be reduced by the amount of the grant.** The final shape of regulations under the ECO scheme is determined by energy suppliers or local authorities.
4.3 Availability of complementary loans	**0 – There are no complementary loans available to cover the unsubsidised part of the renovation.** British residents must rely on offers from commercial banks as their only option (e.g. Secured Heat Pump Loans from loanable[37] or Renewable energy loans from lendology[38]). There is one national loan available in Scotland, but the terms are not favourable (*Scotland Home Energy Loan*).
Reduced bills	
5.1 Cost-competitive electricity prices	**0 – According to EHPA, the electricity-to-gas price ratio in the UK for 2023 was 4.6 – one of the highest in Europe.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**1 – Special tariffs for heat pumps with no significant impact on the electricity-to-gas price ratio.** In the market, there are special tariffs available for heat pump owners: ▪ EDF's Heat Pump Tracker offers daily off-peak discounts and no peak prices[39]. ▪ OVO's Heat Pump Plus Tariff is specifically for compatible heat pumps[40]. ▪ Octopus Energy's Cosy Octopus provides three cheap rates during 04:00 – 07:00, 13:00 – 16:00, and 22:00 – 00:00 every day[41]. ▪ British Gas offers a heat pump tariff to all British Gas energy customers for the first year, provided they purchase and install a heat pump through them[42]. However, these are currently experimental tariffs, as confirmed by discussions with national experts. Moreover, the extremely high cost of electricity means that they do not significantly improve the attractiveness of heat pumps. It is also worth mentioning, in the UK, the energy price cap sets the maximum amount energy suppliers can charge for each unit of energy and a standing charge if customers are on a standard variable tariff[43]. Some vulnerable recipients during the winter may qualify for additional support such as the Cold Weather Payment, Warm Home Discount Scheme, or Winter Fuel Payment[44].
Reliable quality	
6.1 Heat pump certification	**2 – A certified company must ensure the quality of the equipment used.** Under the BUS programme, an installer must be a registered to access the grant. This means that the installer holds an MCS certification. MCS is a mark of quality, demonstrating that the chosen installer has adhered to recognised industry standards when completing an installation, highlighting quality, competency, and compliance.

37 See more on the loanable website.

38 See more on the lendology website.

39 See more on the EDF website.

40 See more on the OVO Energy website.

41 See more on the Octopus Energy website.

42 See more on the Centrica website.

43 See more details on the Ofgem website.

44 See more details here.

	However, the programme's regulations only specify the required minimum efficiency. Heat pumps must have a seasonal coefficient of performance (SCOP) of at least 2.8[45]. Installers under ECO must be TrustMark accredited and have a registration number[46]. TrustMark is responsible for ensuring compliance with Publicly Available Specification (PAS) and Microgeneration Certification Scheme (MCS) standards, and that appropriate guarantees are in place. The final shape of programme regulations under the ECO scheme is determined by energy suppliers.
6.2 Energy audit	**2 – An Energy Performance Certificate is required to receive financing.** The funding process is managed through the installer certified by MCS. The installer's task also includes assessing whether the building is suitable for heat pump installation and making important calculations. MCS installers must follow a set of rules that ensure the quality of the entire installation. An audit, though not energy-related, is conducted to verify compliance with the programme's requirements. A desk audit or site audit may be conducted to obtain additional information from the property owner or the installer. This audit may require the submission of copies of the MCS certificate (provided by the installer), copies of EPCs, EPC site notes, and total building heat loss calculations (provided by the installer), and building heat loss calculations (provided by the installer). Moreover, MCS undertake their own checks on BUS-funded heating system installations completed by MCS installers. To benefit from ECO, the property must undergo energy efficiency upgrades. The specific measures to achieve this improvement are determined by a retrofit assessment. According to the guidance for suppliers and the broader supply chain[47] , an initial pre-retrofit assessment marks the start of the project's lifecycle. Moreover, projects may also require an updated retrofit assessment after completion. The final shape of the programme's regulations under the ECO scheme is determined by energy suppliers.
	OVERALL COUNTRY SCORE 55/100

45 See more details on the Ofgem website.

46 See more details on ECO on the Ofgem website.

47 See more details on the guidance on the Ofgem website.

4.4 ITALY

Making steady gains but upcoming policy needs to be simplified

Heat pump stock in 2023	**70 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**378 240** ↘
Policy assessment	**Deeply flawed (54%)**
Three key recommendations	▪ Learn from current programmes to design improved new funding schemes ▪ Create channels to support the most vulnerable households ▪ Reduce payment processing time

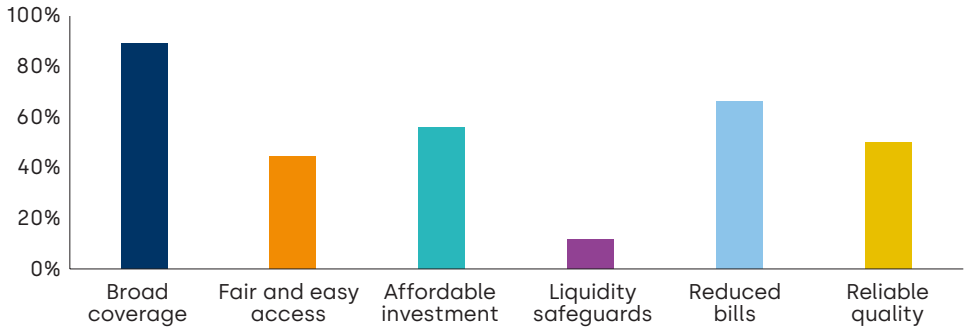
Market overview

Italy has the second-largest heat pump stock in Europe and is the third largest market by sales in 2023, but a decline in units sold last year raises concerns ahead of the upcoming market changes in 2025.

According to EHPA and Eurostat data, Italy had 70 heat pumps per 1000 inhabitants in 2023. That year, 378 240 heat pumps were sold in Italy, bringing the total to around 4 million heat pumps[48], including residential air/air (split), commercial and industrial units working as the only space heating source. Although the Italian heat pump market appeared to steadily grow between 2019 and 2023, with sales increasing by an average of around 13% per year, the decline in heat pump sales in 2023 signals that adjustments to current policies are needed.

Italy's heat pump policy mix is at a turning point. Major changes are expected in 2025 with the introduction of a new support scheme for heat pumps. This is an opportunity to address the shortcomings of the current system. The most pressing issue is in the area of 'liquidity safeguards', as shown in the figure below. Addressing this will be particularly important as the new support system is developed. Current support programmes are well-established and recognised by the public. Since maintaining this familiarity will be crucial, a broad promotional campaign should be organised once the new scheme is launched.

Figure 20. Italy: heat pump policy assessment by category



Source: Reform Institute

48 The EHPA data for Italy refer to space heating (4.1 million HP in stock in 2023 and 378,000 in sales) and water heating (52,000 HP in stock in 2023) and include HP – air/water for heating only, hybrid HP, reversible HP – VRF, reversible HP – air/air, reversible HP – air/water, reversible HP – brine/water as well as sanitary hot water HP – water heaters. However, data disclosed to the authors of this report by Assoclima (Italian heat pump association) demonstrate that in the Italian residential sector as of 2023 there were 2.9 million heat pumps for primary heating, including air-to-air split heat pumps, and hydronic heat pumps.

Households in Italy can benefit from financial support for heat pumps primarily through indirect subsidies, such as tax credits. The main schemes in this area are the *Ecobonus and Bonus Casa*. Until recently, the *Superbonus* scheme, introduced in response to the Covid-19 pandemic, was very popular. It provided a 110% subsidy in the form of a tax credit, but this scheme is now being phased out, and fewer households have access to it.

In addition to tax credits, households can access direct subsidies provided by the state-owned *Gestore dei Servizi Energetici* (Energy Services Manager), particularly through the Conto termico scheme, and regional subsidies (*bandi regionali*), managed and provided by regional administrations.

All nationwide subsidy schemes mentioned above offer financial support not only for heat pump investments but also for solar and biomass boilers as alternative low-emission heating sources.

One limitation of this comprehensive policy mix is that it does not specifically target the most vulnerable households. Although these schemes are not exclusive, there is little effort to make them more inclusive and accessible for less wealthy citizens. Tax credits are more convenient for higher-income households, as they can deduct already incurred costs. More vulnerable households might not have the financial means to incur significant upfront costs and benefit from tax credits later.

Terms for the next generation of incentives, expected in Q1 2025, may differ from those currently available. Once the new support is in place, the existing "bonuses" will be phased out, potentially creating new opportunities for households to benefit from these schemes.

Marco Dall'Ombra
ASSOCLIMA ANIMA CONFINDUSTRIA

> The *Superbonus 110%* (110% tax deduction) as a measure to boost the Italian economy after the COVID-19 pandemic through a massive renovation of buildings was really successful. Within two years, more than EUR 100 billion were spent, compared to an average annual expenditure of around EUR 3 billion in the years before under the *Ecobonus* and *Bonus Casa* schemes. However, due to fiscal reasons, *Superbonus* 110% had to be significantly limited and it should no longer be considered as an available support for heat pumps. Nevertheless, the efforts aimed at designing the best suited scheme are still ongoing. From the first quarter of 2025 a new support programme should be launched which would combine and replace current schemes. Communicating the new programme might be a challenge as the *Ecobonus* and *Bonus Casa* are really well known among Italians – they have been operating for many years and they were widely promoted and explained via newspapers. In Italy rather no one is worried about whether an incentive for a renovation is available; it is only a matter of how much can be received, either under *Ecobonus*, or *Bonus Casa*. Therefore, a new scheme should be implemented and communicated wisely in order not to confuse Italians.

Recommendations

A new programme to support investment in heat pumps in Italy is already on the horizon. It is important to consider the lessons learned from existing programmes to avoid past drawbacks. The new programme should build on the achievements of the current system while ensuring its continuity and broad outreach to all sections of society.

Creating dedicated channels for the most vulnerable and establishing income-related support are particularly recommended. In the Italian context, it may be beneficial to consider providing subsidies in a single lump sum rather than over successive years. Additionally, reintroducing the option to transfer subsidies to installers, as was done in previous programmes, could be considered to prevent unfavourable situations.

Scorecard – Italy	
Broad coverage	
1.1 Coverage – social groups	**3 – The policy mix covers the whole of society.** Although the Italian policy mix is centred around tax credits, it does not fully address lower-income groups. While tax deductions can amount to 65% under the *Ecobonus*, and everyone can benefit from direct subsidies under *Conto termico*, these measures may not sufficiently support those with lower incomes.
1.2 Coverage – new buildings	**2 – The policy mix does not address new buildings, but there is a low-emissions standard.** Italy only provides funding for the replacement of existing heating boilers in buildings already registered in the national cadastre. However, there is a legal requirement for new buildings to use at least 60% renewable energy to meet the heating, cooling, and hot water needs. This target can be met by using heat pumps.
1.3 Coverage – renovated buildings	**3 – The policy mix provides support for all kinds of renovated buildings.** Both single-family homes and multifamily residentials can benefit from national financial support.
Fair and easy access	
2.1 Complexity of the application process	**2 – There are some elements to facilitate the application process.** There are several elements designed to simplify the application process, including reduced documentation requirements, fewer application stages, online applications, one-stop-shops, free advisory services, and fast track options. Additionally, installers can assist with the application process. A potential beneficiary applies for financial support and reports works conducted in a household through dedicated online platform. It is a standard practice for the installation company carrying out the renovation to handle the preparation and submission of the documents to the ENEA web portal. These companies act as a "one-stop shop", whose service is included in the renovation cost. For deep renovations or multi-family buildings, an independent engineer in charge of the project usually performs these tasks. In some cases, under the *Conto termico* scheme, the energy service company applies for funding, simplifying the process for a household. The *Conto termico* scheme also allows for delegation, where another party can act on behalf of the beneficiary through a dedicated online platform.
2.2 Accessibility of information on the available support	**2 – Some online information policies exist but are largely insufficient. However, funding knowledge is widespread.** Navigating the Italian support landscape can be challenging. Although the ***Conto Termico*** webpage is informative, tax credits (such as *Ecobonus, Superbonus*, and *Bonus casa*) are not always communicated effectively.

	For example, guides on public webpages are sometimes outdated. Moreover, there is no single platform that consolidates information on all available funding schemes. In practice, however, the knowledge of available funding is widespread. Information about financing is also available in newspapers.
2.3 Dedicated outreach channels for the most vulnerable households	**0 – Information campaigns targeting the most vulnerable households have not been identified.** There are no deliberate and coordinated efforts specifically aimed at informing the most vulnerable households about funding opportunities. This lack of outreach may be due to the fact that vulnerable individuals or those living in energy poverty are tenants rather than homeowners and therefore cannot make decisions about installing heat pumps. As of 2023, approximately 26% of the Italian population lived in rented properties[49].
Affordable investment	
3.1 Amount of available investment subsidies	**3 – The amount of available support for heat pumps is sufficient to meaningfully reduce heat pump installation costs.** National tax credits and direct subsidies may cover up to 65% of the heat pump acquisition and installation cost on average. Moreover, in some regions one can additionally benefit from regional funding, which can be combined with national subsidies.
3.2 Support intensity relative to fossil fuel alternatives	**0 – There is no difference in the amount offered in heat pump subsidies relative to fossil fuel alternatives.** Under all the existing schemes, condensing gas boilers are eligible for the incentive on the same conditions as heat pumps.
3.3 Predictability and permanence of policy support	**3 – Funding is available on a rolling basis.** The *Conto termico* scheme is available on a rolling basis, whereas tax deductions apply in subsequent fiscal years under slightly different conditions.
3.4 Support linked to income	**0 – The amount of support is not dependent on household income.** The Italian policy mix does not include income thresholds and income-based groups for support.
3.5 Complex renovations	**1 – Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions are not more favourable than separate financing.** Complex renovations are available under the *Ecobonus* and *Bonus casa* programmes, but financing conditions do not differ from those for heat pump acquisition and installation, with up to 65% of costs covered.
3.6 Support linked to the costs of renovation	**3 – The subsidy covers a percentage of heat pump installation costs, up to a maximum amount indicated.** Funding in Italy covers up to 65% of eligible costs, with different maximum amounts specified depending on the subsidy scheme.
Liquidity safeguards	
4.1 Timing of the payment	**0 – There is a significant delay (more than 2 months) in reclaiming the subsidy after investing.** In the *Ecobonus* and *Bonus Casa* programmes, subsidies are paid in instalments over 10 years. In the *Conto Termico* programme, incentives are distributed in annual instalments over 2 to 5 years, depending on the nature and scale of the intervention. If the total approved benefit does not exceed EUR 5,000, the payment is made in a lump sum approximately 2 months after approval.
4.2 Availability of prefinancing	**1 – The subsidised heat pump investment can be prefinanced to some extent.** The *Ecobonus* and *Bonus Casa* programmes do not allow pre-financing. Previously, *Ecobonus* was associated with the possibility of transferring tax credits (*Cessione del Credito*) and an invoice discount (*Sconto in Fattura*). However, decree-law 39/2024 abolished this option[50]. It is now only available for investments initiated before February 17, 2023.

49 See Eurostat data.

50 ee more details here.

	In the *Conto Termico* programme, pre-financing is only available to public administrations and ESCOs (Energy Service Companies) acting on their behalf. Individuals cannot benefit from pre-financing. However, for households, ESCO companies can offer a form of pre-financing by paying for the investment upfront, with the ESCO receiving the subsidy instead of the beneficiary.
4.3 Availability of complementary loans	**0 – Complementary loans to finance the unsubsidised part of the renovation are not available.**
	Previously, *Ecobonus* allowed for the tax credit transfer (*Cessione del Credito*) and invoice discounts (*Sconto in Fattura*). However, decree-law 39/2024 abolished these options[51]. As a result, Italians are now left with commercial bank offers as their only option for financing the unsubsidised part of renovation. The option only remains available for investments initiated before February 17, 2023.
Reduced bills	
5.1 Cost-competitive electricity prices	**5 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Italy was 2.48.**
	According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales. Since July 1, 2024, Italy has been operating in a liberalised energy market. This means that energy suppliers are now free to set their prices as they wish. Assoclima, an Italian organisation that monitors various sources and regularly updates the ratio, estimates that a representative value for the electricity-gas price ratio in Italy should be set at between 3.0 and 3.5.
5.2 Special tariffs for heat pumps	**1 – There are no special tariffs for heat pumps, but owners have a wide range of options.**
	In 2014, Italy introduced an experimental, non-progressive tariff for heat pumps, where the price did not increase with higher consumption. Since 2018, non-progressive tariffs have been implemented nationwide. With the transition to a liberalised energy market as of 1 July 2024, customers can now choose their own electricity suppliers; at the same time, suppliers are free to charge any price they wish. Centralised protection is only provided for vulnerable consumers (e.g., people over the age of 75), among whom heat pump owners are not included. Italy offers an intuitive **comparison tool for selecting energy plans,** allowing users to choose options such as price type (fixed/variable) and consumption allocation (time-of-use/single-rate). However, there is no specific field for heat pump owners. On the positive side, residents who are unsure of their annual energy consumption can select from a list of household devices, including air conditioners and heat pump water heaters.
Reliable quality	
6.1 Heat pump certification	**2 – Heat pump certification is a necessary condition to obtain support.**
	In the *Conto Termico programme*, heat pumps must comply with the requirements set out in the *Decreto Interministeriale* of 16 February, 2016[52]. In the *Ecobonus programme*, heat pumps must meet the standards specified in the *Decreto Requisiti Energetici* of 6 August, 2020[53]. To qualify, heat pumps must achieve the minimum COP (Coefficient of Performance) efficiency specified as outlined in this decree. The performance of the heat pumps must be declared and guaranteed by the manufacturer, based on the tests conducted according to the UNI EN 14511. In addition, the *Conto Termico programme* contains a catalogue of equipment that meets these requirements, which streamlines the process of obtaining subsidies. The next generation of incentives, expected to be introduced in Q1 2025, will refer to seasonal coefficient of performance (SCOP) in accordance with current Ecodesign Regulation.
6.2 Energy audit	**1 – An energy audit is advised, but its results do not influence financing.**
	An energy audit is not mandatory, but in some cases – particularly for major renovations – an energy performance certificate (APE – *Attestato di Prestazione Energetica*) is required, showing the building's energy status either after or both before and after the project.
OVERALL COUNTRY SCORE	**54/100**

51 See more details here.

52 See more details here.

53 See more details here.

4.5 POLAND

Strong growth but quality and support concerns

Heat pump stock in 2023	**18 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**124 000** ↘
Policy assessment	**Flawed (61%)**
Three key recommendations	▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high quality ▪ Review the subsidy scheme rules to reduce the bureaucratic burden on beneficiaries and suppliers

Market overview

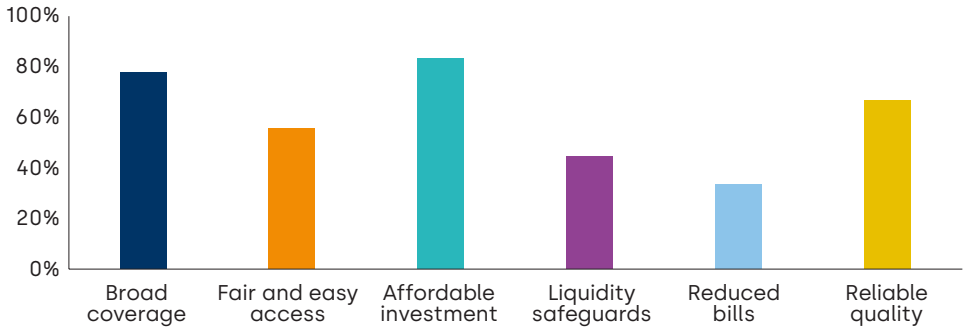
The heat pump market in Poland has developed dynamically in recent years, however subsidy programmes are hampered by shortcomings, while controversies and uncertainties continue to negatively impact the market.

According to EHPA and Eurostat data, Poland had 18 heat pumps per 1000 inhabitants in 2023. That year, more than 124 000 heat pumps were sold in Poland, bringing the total number to around 0.67 million heat pumps[54]. The market in Poland has developed relatively quickly, with a compound annual growth rate of around 35% per year between 2019 and 2023. **However, heat pump sales dropped significantly in 2023.** Data from the largest subsidy programme – *Czyste Powietrze* show that interest in heat pumps continued to fall in 2024, **reaching its lowest point since January 2022.** Conversely, interest in biomass boilers has increased[55] which does not bode well for the heat pump market. This is not a good sign because sustainable biomass is a limited resource that may be needed more in other sectors of the economy than in domestic heating. In addition, biomass boilers are a source of local air pollution. The decline in heat pump market may be attributed to high electricity prices resulting from the energy crisis. The lack of protection for owners of electricity-based heating systems and the relative price advantage of gas and biomass heating options have discouraged investment in heat pumps. Although there have been recent improvements in policies on pricing electricity tariffs significant issues remain in Poland's policy mix. In particular, it is crucial to address the conflicts over quality certification and the subsidy eligibility of devices. The current market confusion means that Poles are uncertain about the quality of heat pumps and their correct installation. The areas for improvement are shown in the figure below.

54 The EHPA data for Poland refer to space heating (560,000 HP in stock in 2023 and 105,000 in sales) and water heating (105,000 HP in stock in 2023 and 5530 in sales) and include exhaust air HP – air/water, HP – air/water for heating only, HP – brine/water for heating only, HP – direct expansion/water for heating only, HP – water/water for heating only, reversible HP – air/water, reversible HP – brine/water as well as sanitary hot water HP – water heaters.

55 See more details on the programme website.

Figure 21. Poland: heat pump policy assessment by category



Source: Reform Institute

Current electricity and gas tariff policies and the absence of dedicated heat pumps tariffs do not incentivise the electrification of heating

Households in Poland have access to a wide range of subsidies that have supported the growth of the heat pump market in recent years, despite starting from a very low base. However, market development partially reversed in 2023, highlighting the need to further improve the framework conditions, particularly by providing predictable and affordable electricity tariffs and better liquidity safeguards. The recent downturn in the Polish heat pump market has been widely reported in the national media. Nevertheless, the longer-term trend remains encouraging, as policies are continuously adapting to the evolving market situation. Thus, the policymakers in Poland should not view recent efforts to promote heat pumps as a failure but should focus on further improving the policy mix. Given that existing programmes already provide broad coverage and significant investment support, key improvements should prioritise better fund management and energy market reforms, rather than increasing public spending beyond current levels.

Polish families can benefit from three main programmes that provide financial support for heat pumps. The *Czyste Powietrze* (Clean Air) programme is designed for buildings undergoing modernisation, allowing for the replacement of solid fuel boilers with heat pumps or other devices, such as gas or biomass boilers. *Moje Ciepło* (My Heat) targets new buildings with improved energy performance that are equipped with a heat pump. Additionally, the energy renovation ("thermomodernisation") tax credit covers, among other things, heat pump investments. Households can also access smaller grant programmes operated by energy companies as part of implementation of the Energy Efficiency Directive in Poland. The Energy Regulatory Office (ERO) provides a list of companies implementing these programmes, most of which are territorially limited, with their own set of rules[56].

Households in apartments with standalone heat sources in multi-family buildings can benefit from the *Ciepłe Mieszkanie* (Warm Home) programme. Heat pumps are also eligible for investment under the TERMO programme for multi-family buildings, although they currently represent a minor portion of the investments financed by this programme.

56 See more details on the Polish ERO website.

From a heat pump deployment perspective, Poland's support programmes and policy mix have many strengths. The programmes reach a wide range of beneficiaries, including the most vulnerable. A variety of funding options are available, often based on income, and subsidy amounts are generally in line with the cost of heat pumps.

However, the heat pump market in Poland has recently experienced turbulence, leading to a decline in sales. Running costs are a major concern for households. High electricity prices relative to other fuels, coupled with fears of further price increases, have discouraged many households from purchasing heat pumps. As a result, many potential investors have stuck with traditional fuel-burning solutions or have opted for biomass boilers. In addition, difficulties in balancing the need for improved quality control with predictability for suppliers have further complicated the heat pump market in Poland.

Paweł Lachman
POLISH ORGANIZATION OF HEAT PUMP TECHNOLOGY DEVELOPMENT (PORT PC)

> Currently, almost half of the funds in the *Czyste Powietrze* Programme are allocated to the lowest income beneficiaries, a group eligible for up to a 100% subsidy (excluding VAT), with pre-financing available directly to the installer. Unfortunately, this approach has negatively impacted the market, as some dishonest companies have taken advantage of these rules and customers' lack of knowledge to sell low quality devices with very high margins. To address this problem, the government decided to only allow devices on the "green devices and materials" (ZUM) list, on the programme. However, the way in which this quality control measure is implemented creates its own problems. Heat pumps that have been thoroughly tested and certified by Eurovent, EHPA Q or HP Keymark can only remain on this list until the end of 2024. After that, manufacturers will have to retest dozens of products, even though their quality is confirmed by independent certifications recognised across Europe and in compliance with relevant EU law. Additionally, due to procedural issues, many certified heat pumps have still not been registered on the ZUM list, as their manufacturers face many obstacles in doing this. The list of heat pumps eligible for funding is already very limited.

Recommendations

Poland performs well in the categories of 'Broad coverage', 'Fair and easy access', and 'Affordable investment', but the policy mix still has some drawbacks for households interested in installing heat pumps. For example, the main subsidy programme, *Czyste Powietrze*, only supports heat pumps on the condition they replace a solid fuel boiler. In contrast, countries like France, Italy, Czechia and Sweden offer support for replacing all kinds of fossil fuel heating in renovated buildings, which could serve as a model for Poland. Additionally, Poland needs to enhance its outreach to the most vulnerable households. While there is no universally applicable good practice in this area in other countries covered in this report, Poland could learn from approaches used in France and Czechia.

Although subsidies for coal boilers are no longer available in Poland, the subsidies for heat pumps are not sufficiently higher than those for gas boilers. Moreover, current electricity and gas tariff policies, the absence of dedicated heat pumps tariffs, and the more

favourable price freezes for gas compared to electricity following the 2022 crisis, do not incentivise the electrification of heating. Nevertheless, as the price controls giving an advantage to gas over electricity are gradually lifted (most recently in July 2024), the gas-to-electricity price ratio in Poland is likely to improve. Germany and the UK provide good examples in this respect, offering significantly higher support for heat pumps to fossil fuels, along with dedicated heat pump tariffs.

In Poland, the subsidy payment process needs improvement. While there are no straightforward practices to follow in this area, increasing the number of staff processing applications is recommended. Sweden and the UK's high scores in this area are driven by the fact that the subsidy is not paid directly. Instead, the installer invoices a lower amount, reflecting the subsidy. A similar pre-financing solution in Poland has unfortunately led to issues with dishonest contractors. Therefore, enhancing quality control is recommended, for example by establishing a list of companies that meet the programme's requirements. This approach is used in France and the United Kingdom. At the same time, when introducing additional quality requirements, the government should learn from recent challenges with the ZUM list and ensure sufficient time and transparent consultations with market operators. Quality assurance measures for equipment should be widely available and should not be an additional bureaucratic burden. The ZUM list in its current form is a significant burden because its scope is too narrow and does not realistically ensure quality, while creating confusion among manufacturers. A tool that assures those investing in a heat pump that it is good quality is needed, but it must not favour particular heat pump manufacturers.

Scorecard – Poland	
Broad coverage across income levels	
1.1 Coverage – social groups	**3 – The policy mix covers the whole of society.** Although high-income households are ineligible for financial support from *Czyste Powietrze*, they can still apply for funding from *Moje Ciepło*, which does not have an income cap for potential beneficiaries but is limited to new buildings. Moreover, wealthy households can benefit from the thermal modernisation tax credit.
1.2 Coverage – new buildings	**2 – The policy mix supports the most common kinds of new buildings.** *Moje Ciepło* provides financial support for the acquisition and installation of a heat pump in new buildings, but only for single-family homes (including detached, semi-detached, and terraced houses). Conversely, *Czyste Powietrze* only supports investments in existing buildings.
1.3 Coverage – renovated buildings	**2 – The policy mix supports all kinds of renovated buildings, but some important aspects are missing.** The *Czyste Powietrze* scheme, which is aimed at renovated buildings, only offers support for single-family homes and separate housing units within single-family homes. Moreover, it only allows the replacement of low-performance solid fuel boilers with heat pumps under this instrument. All Polish citizens can benefit from the thermal modernisation tax credit. There are also grant options offered by energy companies. For multi-family buildings, there are less popular programmes like *Ciepłe Mieszkanie* and the TERMO.
Fair and easy access	
2.1 Complexity of the application process	**2 – There are several elements designed to facilitate the application process, but some are insufficient.** Applications can be submitted online, and some further assistance is provided, including local contact points and energy advisors. However, the submission may require a substantial (even over a dozen) number of attachments.

2.2 Accessibility of information on the available support	**2 – Dedicated online information policies have some shortcomings.** *Czyste Powietrze* offers useful information tools, such as a subsidy calculator. However, there is no single online platform that consolidates information on all available financing opportunities. Separate platforms exist for *Czyste Powietrze* and *Moje Ciepło* schemes, these initiatives are also communicated independently.
2.3 Dedicated outreach channels for the most vulnerable households	**1 – Existing information campaigns are insufficient or inefficient.** Wider outreach channels like TV ad campaigns, have been explored, especially for *Czyste Powietrze*. However, communication efforts are not adequately focused on vulnerable households.
Affordable investment	
3.1 Amount of available investment subsidies	**3 – the amount of available support for heat pumps is sufficient to meaningfully reduce the heat pump installation cost.** The *Moje Ciepło* scheme offers financial support amounting to 45% of eligible costs for ground source heat pumps (which are the most expensive). However, there is a maximum support limit of PLN 21 000. Overall, these quotas might not significantly reduce heat pump installation costs given current prices. However, the *Czyste Powietrze* scheme covers 100% of heat pump costs for the lowest-income households, up to PLN 51 000 for ground heat pumps. This indicates that the available support is designed to match the financial capacity of different income groups in managing heat pump installation costs.
3.2 Support intensity relative to fossil fuel alternatives	**1 – The amount of heat pump subsidy offered is higher than for fossil fuel alternatives, but the difference is not significant.** The *Moje Ciepło* scheme excludes fossil fuel-based heating sources from financing. The *Czyste Powietrze* programme, however, supports gas boilers, with a subsidy difference of approximately 30% in favour of heat pumps to gas-fired heating sources.
3.3 Predictability and permanence of policy support	**2 – Funding is available on a rolling basis, but there are some flaws.** The *Czyste Powietrze* has been operational since 2019 and accepts applications on a rolling basis, although the programme is subject to regular updates and is set to phase out in 2029. The *Moje Ciepło* scheme will continue on a rolling basis until 2027, unless the allocated funds are exhausted earlier. Recently, the *Mój Prąd* (My Electricity) programme offered subsidies for heat pumps to complement photovoltaic (PV) installations, regardless of income. However, the upcoming edition of the programme, starting in September, will no longer include heat pumps. Frequent changes in the *Czyste Powietrze* programme can lead to uncertainty among beneficiaries, particularly concerning certification issues for heat pumps.
3.4 Support linked to income	**3 – The amount of support offered is significantly higher for more vulnerable households, meaningfully reducing the total cost of the heat pump investment.** The *Czyste Powietrze* scheme provides greater subsidies for the most vulnerable households. It recognizes three income groups, with the most vulnerable receiving subsidies that are 50% greater than those for the least vulnerable.
3.5 Complex renovations	**3 – Heat pump subsidies can be combined with financing for complex renovations, and the financing conditions are more favourable in such cases.** The *Czyste Powietrze* scheme supports both complex renovations and heat pump installation, offering nearly twice the subsidies compared to those for heat pump installation alone.
3.6 Support linked to the costs of renovation	**3 – Subsidies are offered as a percentage of the total cost of heat pump installation, with a ceiling amount indicated.** Both *Czyste Powietrze* and *Moje Ciepło* schemes provide subsidies as a percentage of eligible costs, with a specified maximum amount.

Liquidity safeguards	
4.1 Timing of the payment	**0 – There is a significant delay (more than 2 months) in reclaiming the subsidy after investing.** In general, under the *Moje Ciepło* and *Czyste Powietrze* programmes, the subsidy is paid after the investment has been made, specifically after the heat pump has been installed. According to the programme rules, the processing time for applications should be less than two months, but in practice, there have been delays. Arrears in the *Czyste Powietrze* programme appeared in December 2023 and, although they were systematically reduced, they persisted until at least April 2024[57]. The thermal modernisation tax credit is paid after the end of the tax year.
4.2 Availability of prefinancing	**2 – The subsidised heat pump investment can be pre-financed, which helps manage the renovation cost effectively.** Once the income requirements of *Czyste Powietrze* are met, it is possible to apply for pre-financing. In this case, part of the grant is paid into the installer's account before the investment is made, with the second part paid after the project is completed. Unfortunately, this practice has led to abuses by dishonest installers who sell low-quality devices at high margins.
4.3 Availability of complementary loans	**2 – Complementary loans with deferrable instalment payments and favourable financing conditions are available, though this is not a widely popular solution in the country.** *Czyste Powietrze* offers the option to obtain a loan from a partnered bank, with the grant provided by the programme partially repaying this loan. The programme lists participating banks along with links to their dedicated offers. *Moje Ciepło* does not offer a loan option, though some banks in Poland provide loans for renewable energy sources with slightly more favourable terms.
Reduced bills	
5.1 Cost-competitive electricity prices	**3 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Poland was 2.96.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales. The unfreezing of gas prices from July 2024 will positively affect the costs of heating with a heat pump compared to heating with a gas boiler, as the gas price has been artificially low in recent months.
5.2 Special tariffs for heat pumps	**1 – No special tariffs for heat pumps, but zone tariffs are available.** Currently, heat pump users can potentially take advantage of the two-zone tariff (G12), which divides prices into day, night and weekend (G12w). One of the distribution system operators offers the "G13" tariff, where the hours of cheaper energy vary depending on the heating season. There is also a public debate regarding the implementation of special tariffs for heat pumps[58]. Unfortunately, there is a lack of easily accessible information regarding available electricity tariffs in Poland.
Reliable quality	
6.1 Heat pump certification	**1 – Heat pump certification is a necessary condition to obtain heat pump support in many important programmes, but there are significant drawbacks.** From 14 June 2024, subsidies for heat pumps under the *Czyste Powietrze* programme will only be granted if the appliance is listed in a special register of green appliances and materials[59]. This new rule is designed to protect applicants and curb dishonest practices, including the sale of inefficient devices. According to current regulations, the requirements for heat pumps must be confirmed by tests carried out by a laboratory located in the EU or EFTA and accredited according to ISO/IEC 17025, using test methods compliant with EN 14511, EN 14825, EN 12102 standards. It is controversial that recognised European quality labels with higher requirements than those specified in the regulations (such as EHPA Q, HP Keymark, and Eurovent) will not be sufficient to obtain funding for heat pumps after 2025. This will impose significant costs on manufacturers, who will have to test numerous high-quality units.

57 See more details here.

58 See more details here.

59 See more details here.

	For the *Moje Ciepło* programme, heat pumps must have a minimum A++ class (except for air-to-air heat pumps, which require at least an A+ class), as indicated by the product card and energy label. As part of the non-refundable grant programmes for households, energy classes for devices have been predetermined[60].
6.2 Energy audit	**3 – An energy audit is required in the most important cases, and its effects influence the financing conditions.** Energy audits are mandatory to a significant extent. The *Moje Ciepło* programme requires that new houses eligible for subsidy have an improved energy standard and do not exceed a primary energy indicator of 55 kWh/ (m2 x year). This condition is confirmed by the energy performance of the building included in the building project or by an energy performance certificate for the building. In the *Czyste Powietrze* programme, the installation of a heat pump must be preceded by a mandatory energy audit, which verifies that it is appropriate for the given building. The *Czyste Powietrze* also requires an audit to receive a higher level of co-financing for the so-called comprehensive thermal modernisation (*kompleksowa termomodernizacja*). Confirmation is provided by an energy audit summary – a document prepared by the auditor and attached to the payment application. The audit is also eligible if all its requirements are met. The thermal modernisation tax credit and the non-refundable grant programmes do not require an audit.
	OVERALL COUNTRY SCORE 61/100

60 See more details here.

4.6 SPAIN

Stable growth hampered by a fragmented market

Heat pump stock in 2023	**31 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**209 679** →
Policy assessment	**Deeply flawed (51%)**
Key recommendations	▪ Increase the amount of subsidy available to households and the overall pot designated by the government for the sector. ▪ Improve the consumer experience with better information and predictability of funding schemes. ▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high quality

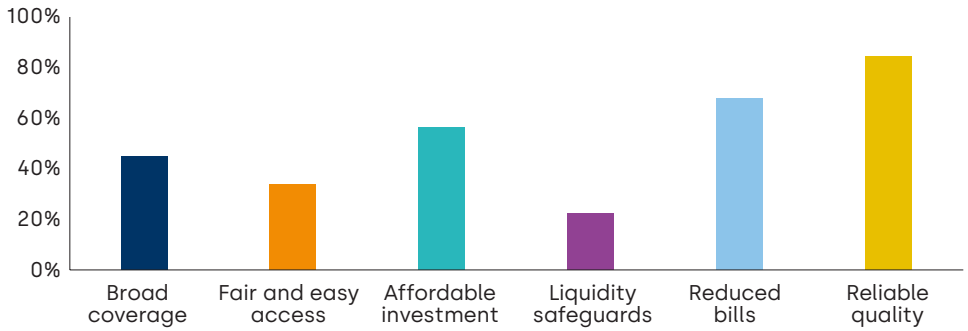
Market overview

Although the Spanish heat pump market is growing steadily, inconsistent subsidy rules across the country are hampering a balanced development.

According to EHPA and Eurostat data, Spain had 31 heat pumps per 1000 inhabitants in 2023. That year, 209 679 heat pumps were sold in Spain, bringing the total number to around 1.5 million heat pumps[61].

While the Spanish heat pump market grew steadily at 13% annually from 2019 to 2023, the fragmented subsidy system for heat pumps across autonomous communities complicates the market. The varying support schemes, influenced by regional political ideologies and different levels of accessibility and information, make the Spanish policy mix for heat pumps inconsistent and difficult to navigate. Several areas that require improvement are detailed in the figure below.

Figure 22. Spain: heat pump policy assessment by category



Source: Reform Institute

61 The EHPA data for Spain refer to space heating (1.4 million HP in stock in 2023 and 186,000 in sales) and water heating (103,000 HP in stock in 2023 and 24,000 in sales) and include industrial HP - ground source, reversible HP - air/air, reversible HP - air/water, reversible HP - brine/water as well as sanitary hot water HP- water heaters.

The high degree of decentralisation in Spain's policy mix supporting heat pump investments is unique amongst the countries studied in this report. While policies are established at the national level, autonomous communities have the flexibility to define the specific details and conditions of subsidy schemes (with the exception of tax deductions).

In Spain, several support schemes are available for individual households, financing not only heat pumps but also other low-emission alternatives, such as solar-based and biomass-based heating sources:

- *Programa de rehabilitación energética para edificios existentes en municipios de reto demográfico* (PREE 5000), governed by Royal Decrees 691/2021 and 1178/2023;
- *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021;
- *Programa de ayuda a las actuaciones de rehabilitación a nivel de edificio* governed by the Royal Decree 853/2021;
- *Programa de ayuda a las actuaciones de mejora de la eficiencia energética en viviendas*, governed by the Royal Decree 853/2021;
- income tax deductions, governed by the Law 10/2022.

There is no single long-term programme, which creates confusion among the public

While these schemes are available nationwide, the *Programa de rehabilitación energética para edificios existentes en municipios de reto demográfico* (PREE 5000) specifically targets municipalities with populations up to 5,000 inhabitants, which represent about **14%** of Spain's total population. Although this programme is relevant, it alone does not constitute an extensive subsidy scheme for a large number of citizens. However, considering other subsidy schemes, no household is excluded from the Spanish policy mix due to geographical location.

Moreover, the Spanish national development bank, ICO, offers loans to cover the subsidised costs prior to the payment of the grant. This is particularly beneficial for less wealthy households that may struggle to manage these costs before the subsidy is disbursed.

The Spanish policy mix is commendable for recognising tenants as potential beneficiaries of subsidy schemes, which is uncommon in Europe. Lower income individuals who live in rental homes often face significant barriers to accessing support for energy-efficient renovations, including heat pump subsidies[62].

Despite these efforts, the OECD reports that in Spain, the poorest 20% of households receive only 12% of total state aid, while the wealthiest 20% receive over 30%, nearly three times as much. Spain ranks as the fourth most regressive country in the OECD in terms of income policies, with only Italy, Greece, and Luxembourg experiencing greater inequality. From this perspective, it is problematic that tenants are not eligible for tax deductions under the Law 10/2022, as these benefits are reserved for the property owners who invested in refurbishments.

62 See CAN Europe (2024), Making Renewable Heating Accessible and Affordable.

Francisco Zuloaga
ECODES

> If Spain wants to keep on being a leader in the energy transition, it needs to put support for clean heating and cooling, and for heat pumps in particular, at the core of its agenda. The Government needs to simplify support schemes, making them easier to understand and stable over time. It needs to better inform citizens of available support and provide support throughout the application process. It also needs to ensure subsidies reach citizens, particularly the most vulnerable, without any upfront payments. You do that, and you have a market that grows.

Recommendations

At first glance, the Spanish government's efforts focused on promoting renewable heat in households should be better coordinated. While it may be challenging to achieve this due to the significant power granted to autonomous communities – which allows them to tweak nationwide programmes to reflect regional characteristics – the central government could a lot more to improve support programmes. There are numerous national programmes supporting heat pump deployment, each with different timelines. There is no single long-term programme, which creates confusion among the public about which programme they can benefit from and on what terms. Therefore, either the national policy should be unified and maintained in the long term, or society should be better informed about all available funding schemes. Spain already has an example to build on: funding programmes governed by the Royal decree 853/2021 are effectively communicated through a highly informative online platform[63], which could be extended to cover other programmes.

63 See more details here.

The main reason for the inefficiency of the Spanish policy mix, however, is the low level of budgetary implementation of the available funds. Official and up-to-date statistics show that the funds already distributed by autonomous communities amount to 38% (for PREE 5000) and 60% (for the scheme governed by the Royal Decree 477/2021) of the total allocation provided to autonomous communities under national schemes, despite the high demand from the public[64]. These programmes are nearly phased out.

64 See more detailed data here.

One of the recommendations that would go a long way to reducing the waiting time for subsidy payment is to include it automatically in the installation invoice. The subsidy could be fully deducted from the cost to the consumer, leaving them only the balance to pay. The subsidy claim to the government should then be made by the heat pump supplier.

This is the solution successfully used in the UK and Sweden. However, this must not compromise quality or lead to abuse by rogue installers. At the same time, there should be monitoring and certification of installers authorised to carry out installations under the subsidy scheme. This is also the case in the UK.

Policies targeting new buildings are also recommended, including low-emission standards, and financial support, as well as the launch of complementary loan programmes.

Scorecard – Spain	
Broad coverage across income levels	
1.1 Coverage – social groups	**1 – the policy mix is addressed to the majority of the population, but some of key social groups are excluded (e.g. support only in the form of tax incentives excludes low-income groups, income caps on all instruments do not provide incentives for high-income groups).** Spanish support schemes are inclusive of all social groups, with no income thresholds. Tenants, who are among the most vulnerable beneficiaries, can also receive funding under certain conditions, such as having the permission to conduct refurbishment works in their rental agreement, as specified in article 15(1)(d) of the Royal Decree 691/2021). This is particularly important because many vulnerable people in Spain who suffer from energy poverty usually live in rental homes. Nevertheless, the geographical coverage of Spanish subsidies is very limited, PREE5000, reaches only 14% of the Spanish population. For this reason, the score needs to be significantly lowered. It is however worth remembering that schemes governed by Royal Decrees 477,2021 and 853/2021, and income tax deductions, though of limited amount, are not constrained geographically.
1.2 Coverage – new buildings	**1 – The policy mix provides support for a predefined group of new buildings, or the support is limited or unclear.** The Spanish policy mix focus on existing buildings. No tax deductions are available for new buildings and direct subsidy schemes provide limited funding for this building class. The PREE 5000 scheme, for instance, sets an age threshold for eligible buildings (they must have been erected no later than 2006) and explicitly excludes new constructions in the decree (article 17(6)(a))[65]. However, the *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021, provides funding for renewable heating installations in residential buildings without specifying any eligibility requirements for the buildings' age. Likewise, the Royal Decree 853/2021 does not seem to introduce any age thresholds for buildings in the scope of the subsidy scheme.
1.3 Coverage – renovated buildings	**2 – The policy mix provides support for all kinds of renovated buildings, but some may be excluded.** Buildings constructed in 2007 or later are not eligible for the PREE 5000 subsidy. Moreover, it is not clear whether investments in residential units within multifamily residentials are always eligible for financial support. PREE 5000 allows autonomous communities to include these properties in regional calls, while flats are generally covered by the *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021. However, it is difficult to determine if programmes under Royal Decree 853/2021 cover separate housing units in apartment blocks.
Fair and easy access	
2.1 Complexity of the application process	**1 – There are some elements which aim to facilitate the application process (reduced amount of necessary application documents and application stages, online application, one-stop-shops, free advisory services, fast track application), but they are insufficient.** The Royal Decree 853/2021 envisions support for establishing regional and local one-stop-shops (*ventanilla única*, for detail see article 21 of the Royal Decree) that assist with implementing household renovation measures[66]. However, these one-stop-shops only offer information about subsidies for renovation and not on subsidies for heat pumps. Therefore, it is necessary that these one-stop shops provide unified information on support schemes (for household renovation, promotion of heat pumps) and legislation at local, regional and state level. Although regulations require numerous documents to be submitted with the application, autonomous communities are permitted to provide digital solutions that could reduce the burden on beneficiaries. This means that some information might be automatically verified by the community rather than requiring a specific document to be submitted (for details, see Royal Decree 691/2021, article 21(3)). Unfortunately, detailed information about which communities have developed such solutions and their extent is lacking. Another positive aspect is the option to transfer the management of the submission to professionals, particularly under schemes governed by Royal Decrees 691/2021 and 477/2021. The costs associated with managing the submission are eligible for coverage by theses subsidy schemes.

65 See the full text of decree here.

66 See the full text of decree here.

2.2 Accessibility of information on the available support	**1 – Some information on policies is available online, but it is largely insufficient.** Some platforms are dedicated to specific schemes. For example, the one for schemes governed by Royal Decree 853/2021 is particularly useful, as it answers important questions and provides tools, such as a map providing details on schemes adopted in various autonomous communities[67]. However, there is no single website that gathers information on all available funding in one place. Moreover, *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021 seems to lack any information platform. The decentralisation of funding schemes may contribute to public confusion about the details of support instruments.
2.3 Dedicated outreach channels for the most vulnerable households	**1 – Existing information campaigns are insufficient or inefficient.** Some efforts have been identified, such as the website on schemes governed by the Royal Decree 853/2021[68], which addresses issues important to vulnerable beneficiaries (e.g., what to do if one cannot afford the renovation). However, this is not an example of a large-scale and coordinated outreach. Schemes governed by the Royal Decrees 477/2021 and 691/2021 lack such information policies, despite the fact that PREE 5000 targets vulnerable beneficiaries in smaller municipalities affected by demographic challenges. This may represent a missed opportunity, given that the Royal Decree 853/2021 provides funding for promoting subsidy schemes (article 23(2)(d)).
Affordable investment	
3.1 Amount of available investment subsidies	**1 – The amount of available support for heat pumps is mostly insufficient to meaningfully improve the management of costs of heat pump installation.** A potential beneficiary can receive up to 90% of eligible costs (under PREE 5000), EUR 13 500 (under *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021), and 100% of eligible costs (under schemes governed by the Royal Decree 853/2021). These are however maximum values and, according to national insights, in the majority of cases beneficiaries receive limited amounts of funding.
3.2 Support intensity relative to fossil fuel alternatives	**3 – Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies.** Spanish subsidy schemes do not recognise funds for fossil fuel-based heating solutions as eligible costs (see: Royal Decree 691/2021, Appendix IV and Royal Decree 853/2021, Article 3).
3.3 Predictability and permanence of policy support	**0 – Funding is offered in rounds, and their timing is not predictable.** Funding is distributed through uncoordinated calls announced by individual autonomous communities. These calls have an expiry date but can also be terminated once the allocation has been fully distributed. Although Spain has implemented several energy efficiency schemes sequentially (e.g., PREE 5000 followed PREE, which was preceded by PAREER II, etc.), their timing is not predictable. Currently, PREE 5000 and *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021 have expired and it is uncertain whether they will be continued.
3.4 Support linked to income	**2 – The amount of support offered is usually higher for more vulnerable households, but subsidy schemes do not reach vulnerable households for particular reasons.** In general, households in economic hardship receive greater funding: within PREE 5000, support was increased by 10% for ground source heat pumps, which was a modest boost. However, under the schemes governed by Royal Decree 853/2021, a vulnerable beneficiary can receive a subsidy covering 100% of eligible costs. The scheme governed by Royal Decree 477/2021 does not outline any favourable conditions for the most vulnerable beneficiaries. Nevertheless, due to the limited geographical coverage of PREE 5000, a Spanish major subsidy scheme, it cannot be said that support reaches vulnerable households across the whole country.
3.5 Complex renovations	**2 – Heat pump subsidies can be combined with financing for complex renovations, and the financing conditions are more favourable in this case, but this applies only to a part of the policy mix.** Under PREE 5000, when a complex renovation is combined with heat pump acquisition and installation, the beneficiary receives a 20% increase in the subsidy, which translates to a 20% increase in the amount of financial support for the heat pump. This does not apply to other subsidy schemes.

67 The platform is available here.

68 See the previous footnote.

3.6 Support linked to the costs of renovation	**2 – The subsidy is offered as a percentage of the total cost of heat pump installation (possibly with a ceiling amount indicated), but this applies only to a part of the policy mix** PREE 5000 covers a percentage of the total cost of heat pump installation without specifying a ceiling amount (only the decree refers to the maximum funding amount that can be given in accordance with state aid rules). *Programa de incentivos 6: realización de instalaciones de energías renovables térmicas en el sector residencial*, governed by the Royal Decree 477/2021, provides funding as a range of values depending on the heat pump's power in kW, with a fixed but generous ceiling amount for one residential unit. Schemes governed by Royal Decree 853/2021 define a percentage of total renovation costs that can be covered by a subsidy (depending on energy efficiency improvements), with a ceiling amount also indicated for a residential unit. Overall, while the Spanish policy mix tends toward good practice, some limitations are observed.
Liquidity safeguards	
4.1 Timing of the payment	**0 – There is a significant delay (more than 2 months) in reclaiming the subsidy after investing.** The division into Autonomous Communities makes it difficult to determine the general time frame for payment.
4.2 Availability of prefinancing	**2 – The subsidised heat pump investment can be pre-financed.** According to Decreto 691/2021 (Article 14, p.17) for the PREE 500 Programme, the Autonomous Communities may include the option of granting advances to final beneficiaries who request them, provided certain conditions are met. These advances may not exceed one hundred percent of the total amount of aid to be granted. Decreto 1124/2021 (Article 15, p.20) follows the same rules[69]. Moreover, the Spanish national development bank, ICO, offers a loan that covers investment costs prior to the payment of the subsidy.
4.3 Availability of complementary loans	**0 – Complementary loans to finance the unsubsidised part of the renovation are not available.** Only commercial loans are available.
Reduced bills	
5.1 Cost-competitive electricity prices	**5 – According to Eurostat data for the second half of 2023, the electricity-to-gas price ratio in Spain was 2.32.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**1 – No special tariffs for heat pumps, but access to a wide range of offers.** Spaniards can choose between free and regulated market offers. For the regulated price (PVPC – *Precio Voluntario para el Pequeño Consumidor* – Voluntary Price for the Small Consumer), the energy price varies hourly based on the wholesale electricity market and is published by Red Eléctrica de España the day before for each of the 24 hours of the following day. To contract the regulated price, one must contact a reference supplier of the PVPC. Holders of low-voltage supply points with a contracted power of 10 kW or less are entitled to the PVPC. On the open market, there are various options, including fixed-price offers, variable-price offers in three periods (off-peak, mid-peak, and peak), and offers where customers can choose when to benefit from cheaper energy. Electricity suppliers also offer tariffs for electric cars, with cheaper energy between 1:00 and 7:00.
Reliable quality	
6.1 Heat pump certification	**2 – Heat pump certification is often a necessary condition to obtain the heat pump support.** In the PREE 5000 programme, heat pumps must have certification from EUROVENT or a similar organisation – Decreto 691/2021[70], ANNEX IV, p. 44. However, not all programmes have this requirement.

69 See the full text of decree here.

70 See the full text of decree here.

6.2 Energy audit	**3 – An energy audit is required, and its results influence the financing conditions.**
	For all aid applications, the measures for which aid is requested must achieve and justify a reduction in non-renewable primary energy consumption of 30% compared to the baseline situation. This must be evidenced by the energy performance certificate of the existing building in its current state and the energy performance certificate of the building after renovation. If the building falls under Article 17.12(b), this shall be demonstrated by means of a supporting report. – Decreto 691/2021, Article 17, p. 20.
	OVERALL COUNTRY SCORE 51/100

4.7 THE NETHERLANDS
Growing strong, but with a fossil flaw

Heat pump stock in 2023	**30 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**166 523** ↗
Policy assessment	**Deeply flawed (54%)**
Three key recommendations	▪ Enhance focus on the quality of the devices and the installations ▪ Establish requirements or support for heat pumps in new buildings ▪ Create channels to reach the most vulnerable households

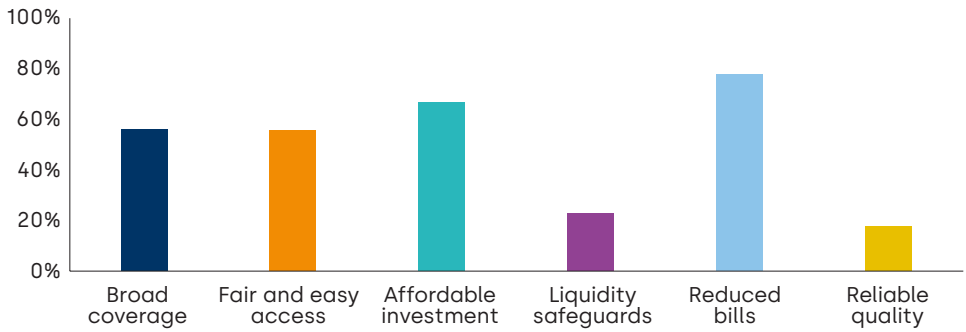
Market overview

The Dutch heat pump market is growing rapidly, but this growth is largely driven by sales of hybrid heat pumps, which use both electricity and fossil gas. It is concerning given the need to achieve fully climate neutral heating in the future: overreliance on hybrid solutions generates the risk of sunk costs and increased total costs of transition.

According to EHPA and Eurostat data, the Netherlands had 30 heat pumps per 1000 inhabitants in 2023. That year, 166 523 heat pumps were sold in the Netherlands, bringing the total number to around 0.5 million heat pumps[71]. The Netherlands was one of the fastest-growing markets, with average annual sales rising to over 45% from 2019 to 2023. It is also one of the few countries where heat pump sales did not decline in 2023. However, a large share of these sales were hybrid heat pumps. Their sale was second only to air-to-water heat pumps, according to the EHPA. This trend is concerning since it suggests a setback in climate policy goals, particularly the shift away from fossil fuels. Meanwhile, the increase in hybrid heat pump sales persists despite policies that have led to higher fossil gas prices relative to electricity.

Dutch households benefit from a single, straightforward subsidy programme and national soft loans. Despite its simplicity, the Dutch system has areas for improvement, particularly in 'Reliable quality' and 'Liquidity safeguards', as highlighted in the figure below.

Figure 23. The Netherlands: heat pump policy assessment by category



Source: Reform Institute

71 The EHPA data for the Netherlands refer to space heating (503,000 HP in stock in 2023 and 159,000 in sales) and water heating (25,000 HP in stock in 2023 and 7618 in sales) and include exhaust air HP – air/water, HP – air/water for heating only, HP – brine/water for heating only, HP – water/water for heating only, hybrid HP as well as sanitary hot water HP – water heaters.

Households in the Netherlands can benefit from the *Investeringssubsidie duurzame energie en energiebesparing* – ISDE (Investment Subsidy for Renewable Energy and Energy Saving) programme, which provides funding for heat pumps. The ISDE scheme also supports insulation measures, solar boilers, connection to heating networks, and electric cooking appliances. Run by the *Rijksdienst voor Ondernemend Nederland* (Netherlands Enterprise Agency), this straightforward programme does not require extensive paperwork or bureaucracy.

A significant advantage of the ISDE scheme is the availability of an online chat service, which allows households to ask a consultant (a real person, not an automated bot) questions about funding and receive answers within seconds. Additionally, the programme features useful grant search engines, like ***Energiesubsidiewijzer,*** which helps households find available grants and loans in their region. The ***Aanbieders van leningen*** tool assists in locating loan providers, considering both national and municipality-specific programmes and loans.

Households can also benefit from soft loans provided by the Nationaal Warmtefonds (National Heat Fund). Tax relief is available in the Netherlands[72], where interest and finance charges on loans can be deducted. Furthermore, electricity suppliers such as **GREENCHOICE** and **Eneco** offer discounts on heat pumps.

72 See more details here.

Although there are no special tariffs for heat pumps, households in the Netherlands benefit from a favourable ratio between electricity and gas prices, largely due to deliberate tax policy. The climate agreement (Klimaatakkoord) stipulated that between 2020 and 2026, the gas tax would be gradually increased by a total of EUR 0.10 per cubic metre, while the electricity tax would be reduced by EUR 0.05 per kWh. For an average household, this change is expected to result in an annual increase in gas tax of EUR 124 and a reduction in electricity tax of EUR 137 by 2026. This strategy aims to encourage households and businesses to switch from natural gas. A study on the effectiveness of Dutch energy taxation found that taxes are effective in promoting energy savings among households and small commercial consumers. It is estimated that total gas consumption would be about 9% higher without energy taxes[73]. Despite the policy of phasing out gas, hybrid heat pumps are eligible for funding under the instruments described above. These devices represent a significant market share.

73 CE Delft (2022), The natural gas phase-out in the Netherlands.

Katja Kruit,
CE DELFT

> The popularity of hybrid heat pumps in the Netherlands is due to several factors. First of all, despite the policy of moving away from gas, the Dutch gas network is very well developed. Currently, more than 90% of Dutch households use natural gas for heating and cooking. Hybrid heat pumps are seen as a short to medium term solution to reduce emissions. Hybrid heat pumps use electricity for heating most of the time and gas only on very cold days or for domestic water. For households, this is a cost-effective investment because hybrid heat pumps provide high operating temperatures, so they can be used with the building's existing radiators and insulation. They also take up less space than two separate heat sources. A requirement for energy companies to blend natural gas with renewable gas is also being developed, although the availability of renewable gas is currently limited. Since July 2018, all new homes have to be built without a gas connection, which also increases the popularity of electric heat pumps.

Recommendations

The simplicity of the Dutch system facilitates easy access to funding, but it also results in the exclusion of some vulnerable groups. The support amount is not linked to income levels, and even the most vulnerable cannot benefit from pre-financing.

Additionally, despite the relatively short processing time after application, there can be delays of more than two months between paying for the device and receiving the grant money. Therefore, a stronger focus on vulnerable groups and the development of dedicated solutions for them is recommended. Given the simplicity of the Dutch scheme, it may be beneficial to consider approaches from Sweden and the UK, where subsidies are transferred directly to the installer. Aligning with practices in France and Poland, greater emphasis could be placed on assessing the energy efficiency of a building before installing a heat pump. This would address the need for improvement in 'support linked to the cost of renovation'.

Scorecard – the Netherlands	
Broad coverage across income levels	
1.1 Coverage – social groups	**3 – The policy mix covers the whole of society.** Any property owner is eligible for funding.
1.2 Coverage – new buildings	**0 – The policy mix is not addressed to new buildings.** The support scheme applies only to buildings constructed before 1 January 2019, or to those for which an environmental permit was requested before 1 July 1.
1.3 Coverage – renovated buildings	**2 – The policy mix provides support for a predefined group of renovated buildings, with only a limited group excluded.** The support scheme is available for buildings constructed before 1 January 2019, or those for which an environmental permit was requested before 1 July 2018. This excludes buildings erected in 2019 and later.
Fair and easy access	
2.1 Complexity of the application process	**2 – The application process is fully digitalised, and complementary support measures are nearly sufficient to ease the paperwork burden.** There is a user-friendly **platform with a FAQ section,** and only a few documents need to be submitted. Moreover, potential beneficiaries can use a subsidy calculator and an online chat to ask a consultant (a real person, not a chatbot) questions and receive answers about funding within seconds. However, limited technical support is offered at the preliminary stage when selecting the appropriate heat pump for a household.
2.2 Accessibility of information on the available support	**3 – There is a comprehensive and informative online information platform covering all national support programmes, accompanied by other information tools.** In the Netherlands there is a **platform outlining available policy instruments.** Additionally, there are search engines and energy subsidy guides that help individuals find available grants and loans.
2.3 Dedicated outreach channels for the most vulnerable households	**0 – No information campaigns targeting the most vulnerable households have been identified.**

Affordable investment	
3.1 Amount of available investment subsidies	**3 – The support amount for heat pumps is sufficient to meaningfully improve the management of costs of heat pump installation.** In the Netherlands, individuals receive a fixed amount of funding based on the type of heat pump. While it is hard to assess overall sufficiency, support for certain types of heat pumps exceeds EUR 13 000, which is substantial given current heat pump prices in the European Union.
3.2 Support intensity relative to fossil fuel alternatives	**2 – Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies, with minor exceptions for hybrid heat pumps.** Hybrid heat pumps are eligible for funding in the Netherlands.
3.3 Predictability and permanence of policy support	**3 – Funding is available on a rolling basis.** Dutch support policy operates continuously once the programme is launched.
3.4 Support linked to income	**0 – The support amount is not dependent on household income.** Support amounts are based on the type of heat pump installed, not household income.
3.5 Complex renovations	**3 – Heat pump subsidies can be combined with financing for complex renovations, and the financing conditions are more favourable in such cases.** In the Netherlands, if more than one sustainable measure is installed (e.g. alongside heat pump installation), the subsidy amount for insulation doubles.
3.6 Support linked to the costs of renovation	**1 – Funding is offered mostly as a range of values.** Since funding amounts vastly differ depending on heat pump type, financial support should be considered as offered as a range of values.
Liquidity safeguards	
4.1 Timing of the payment	**1 – It is possible to receive the subsidy within 2 months after investing.** The beneficiary must apply for the grant within 24 months of installing the heat pump. The application is processed within 8 weeks. If it takes longer, an extension letter will be sent. Although the processing time is relatively short, it can take more than two months from paying for the device to receiving the grant money. However, it is sometimes possible to receive the subsidy earlier.
4.2 Availability of prefinancing	**0 – The subsidised heat pump investment cannot be prefinanced.** The grant is only paid once the investment has been made and the application has been submitted.
4.3 Availability of complementary loans	**1 – Loans with deferrable instalment payments and favourable financing conditions are available but are not fully complementary.** Soft loans from the *Nationale Warmtefonds* (National Heat Fund) are available and can be combined with an ISDE grant. However, it is important to ensure that borrowing does not exceed the grant amount, since the grant is given after the loan[74]. The financing conditions are favourable. The ***Energiebespaarlening*** (Energy Savings Loan) offers an interest rate of 0% for owner-occupiers with a total annual income of less than EUR 60,000. There is also the ***Energiebespaarlening met een combinatielening*** (Energy Saving Loan) for people with insufficient borrowing capacity, which allows for repayment suspension for the first 5 years. However, these loans are not part of the ISDE scheme but are a separate option. This makes it difficult to find information on their availability and combination with other solutions. It is also possible to obtain financing for sustainability from banks or other commercial providers[75].
Reduced bills	
5.1 Cost-competitive electricity prices	**6 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Netherlands was 1.68 – one of the lowest in Europe.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.

74 See more details here.

75 See the list here.

5.2 Special tariffs for heat pumps	**1 – No special tariffs for heat pumps, but the price ratio of gas and electricity makes this less essential. Moreover, the Dutch have access to dynamic tariffs.** For energy consumption, small consumers pay a rate per kilowatt-hour (kWh) of electricity. This rate can remain the same or changes continuously, within three main options: ▪ Fixed rate with a fixed contract: Remains the same until the end date of the contract; ▪ Variable rate with a variable contract: Changes occasionally, usually twice a year; ▪ Dynamic rate with a dynamic contract: Changes per hour. If the rate is unreasonable for small consumers, the *Autoriteit Consument & Markt* (ACM) – The Netherlands Authority for Consumers & Markets – can ask the energy supplier to lower the price. If this does not happen, ACM can set a maximum rate for the supplier. There is no official electricity price comparison site in the Netherlands. However, several reliable independent portals, such as **Energievergelijken.nl,** allow consumers to compare offers from different energy suppliers.
Reliable quality	
6.1 Heat pump certification	**1 – Heat pump certification is advised, but not necessary to obtain the support.** To be eligible, the heat pump must be new and have an energy class of at least A++. The heat pump should be included in a list of eligible appliances to which manufacturers attach an energy label, product fiche, and the calculation of the technical data in accordance with EU 811/2013, EU 812/2013, EU 813/2013 and EU 814/2013 or a complete ErP (Energy related Products) test report according to EN-14825 or EN16147+A1. If the chosen heat pump is not on the list, it is still possible to apply for a subsidy by including the product description and technical documentation with the grant application.
6.2 Energy audit	**0 – An energy audit is not required to receive financing.** Neither the ISDE scheme nor loans from the National Warmth Fund require an energy audit or an energy performance certificate for the building. However, it is possible to obtain energy advice to help select the right solutions for the building and identify potential sources of funding. The **energy desks in municipalities** usually offers free advice. Customised advice from a professional is chargeable and includes the preparation of a detailed report[75].
OVERALL COUNTRY SCORE	**54/100**

76 See more details here.

4.8 ROMANIA
Lagging behind with very limited support

Heat pump stock in 2023	**No data**
Heat pump sales in 2023 and change vs. 2022	**No data available**
Policy assessment	**Absent (21%)**
Three key recommendations	▪ Establish a stable support programme for heat pumps ▪ Simplify the application process ▪ Implement more favourable electricity tariff policies for heat pumps

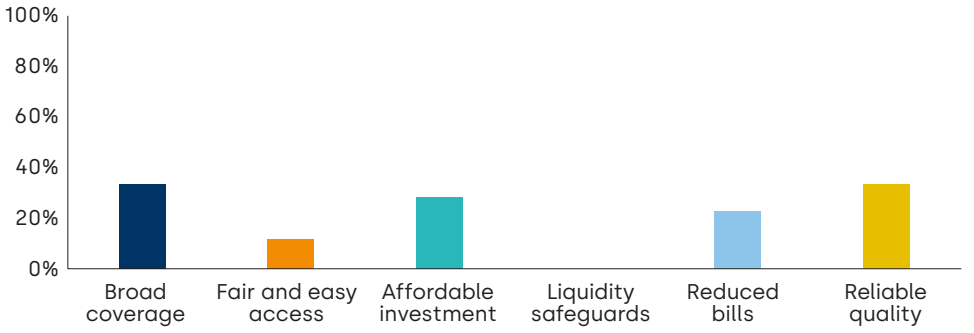
Market overview

The Romanian heat pump market is an outlier compared to other countries. Heating systems in Romania are carbon intensive, using mostly fossil and solid fuels. In general, Romania is missing out with its slow growing market and lack of drivers for positive growth. There are no subsidies or low electricity prices to encourage development.

Romania's heat pump market is relatively small compared to other countries and was not included in the EHPA report. Romstal (the largest retailer) estimates that approximately 20 000 heat pumps were sold in Romania in 2022. Currently, there is no nationwide support scheme for heat pumps. Previous support initiatives have not significantly boosted the market. Hence, a key recommendation for Romania is to establish a support programme for heat pumps that effectively stimulates market growth.

The following assessment relates to a funding programme that is not currently active. However, it has not been formally closed and the application process may be reopened.

Figure 24. Romania: heat pump policy assessment by category



Source: Reform Institute

Households in Romania currently face limited support for heat pumps compared to other countries. The major programme supporting investments in heat pumps, *Casa Verde Clasic*[77], ended in 2017. At present, there are no ongoing programmes subsidising the purchase of heat pumps for individuals. Support is only granted for improving energy efficiency in public buildings under the *Eficiență Energetică În Clădiri Publice* program-

77 See more details on Casa Verde Clasic here.

me. However, the *Casa Eficientă Energetic*[78] (Energy Efficient House) programme's application process was launched in February 2024, with results announced in March 2024. Only six beneficiaries were approved[79], but since the programme was initially launched on 15 September 2020, with no set end date, it is possible that the application process may be reopened.

Currently, some electricity suppliers offer discounts on the purchase of certain brands of heat pumps, providing an alternative form of support for households. For example, ENGIE offers discounts on Ariston heat pumps[80], while E.ON provides discounts on NIBE heat pumps[81].

The biggest drawback for households is the current lack of nationwide support specifically dedicated to heat pumps and the lack of transparency regarding the continuity of subsidy programmes. Additionally, high electricity prices without discounts for heat pump owners pose a challenge. Furthermore, from January 2024, Romania increased the VAT rate from 5% to 9% for the supply, installation, and repair of heat pumps and other high-efficiency, low-emission heating systems for both individuals and legal entities[82].

78 See more details on Casa Eficientă Energetic here.

79 See more details here.

80 See more details on the Engie website.

81 See more details on the E.ON website.

82 See more details here.

Mihnea Catuti,
THE ENERGY POLICY GROUP (EPG)

> Heat pumps have appeared in support programmes in Romania, but until 2016 there was no specific support programme for heat pumps. Therefore, most of the heat pumps installed today are private investments. The Romanian heat pump market is underdeveloped. A very important problem is the lack of skilled labour to install, maintain and service the existing units. As a result, there are concerns in Romania about investing in heat pumps, which are more advanced devices than gas boilers. The high price of electricity compared to other energy sources and the lack of special solutions for heat pump owners also discourage investment.
>
> The complexity funding programmes implemented in Romania is also an issue. The amount of documentation required and staff shortages result in the need to outsource the processing of applications, which further complicates the processes.

Recommendations

In the case of Romania, the main recommendations are to launch dedicated support for heat pumps and enhance the qualifications of installers. Romania should consider adopting funding programme models from other countries. Specifically, it is important to simplify the application process. The recommendation includes establishing both an advisory centre and a dedicated online platform. Given the current lack of access to a qualified workforce, we do not recommend implementing an installer application process at this time. Access to information about heat pumps and available funding should be improved to ensure Romanian residents are aware of potential financial support. Information centres and energy advisory services would be beneficial. Additionally, the quality of the solutions offered should be closely monitored. Therefore, the heat pumps should be certified, and an energy audit of the building should be conducted before installation.

Romania must introduce a programme to support heat pumps to meet the targets set in the National Energy and Climate Plan (NECP). According to the NECP, 25% of the final energy demand in buildings should be met by heat pumps by 2030. As it stands, achieving this target is unlikely without such a programme. Romania could follow the example of Poland or Czechia, which have faced similar problems in the past and may offer comparable market insights.

Scorecard – Romania	
Broad coverage across income levels	
1.1 Coverage – social groups	**2 – The policy mix covers the of whole society, but the programme is not currently open for registration.**
	Romanian measures supporting energy efficiency investments do not differentiate between social groups. Subsidies are available to any individual residing in Romania who owns or co-owns a building.
1.2 Coverage – new buildings	**0 – The policy mix does not address new buildings.**
	Support is not granted for buildings which are under construction, only for existing dwellings.
1.3 Coverage – renovated buildings	**1 – The policy mix provides support for a predefined group of renovated buildings.**
	Only existing single-family buildings can benefit from financial support provided by the Romanian state.
Fair and easy access	
2.1 Complexity of the application process	**0 – Available policy tools do not facilitate the application process.**
	Although the application process is partially digitalised (the applicant registers on an online platform and submits personal identification data), the final application must be completed by hand and delivered to the Administration of the Environmental Fund's headquarters, possibly by post. Moreover, numerous attachments are required (up to 9, including 3 tax certificates).
2.2 Accessibility of information on the available support	**1 – Some information about the policy is available online, but it is largely insufficient.**
	There is a dedicated online platform **(https://casaeficienta.com/)** with some useful information, such as an overview of available heat pumps and their prices.
2.3 Dedicated outreach channels for the most vulnerable households	**0 – No information campaigns targeting the most vulnerable households have been identified.**
	No such campaigns have been identified, possibly because the Romanian policy mix does not specifically target the most vulnerable households.
Affordable investment	
3.1 Amount of available investment subsidies	**2 – The subsidy amount is sufficient to meaningfully improve the management of costs of heat pump installation, but the programme is not currently open for registration.**
	Under Romanian financial support policy, one can receive a non-reimbursable grant covering up to 60% of the total eligible investment costs (up to RON 70 000, i.e. EUR 14 000).
3.2 Support intensity relative to fossil fuel alternatives	**0 – There is no difference in the amount of heat pump subsidy offered relative to the fossil fuel alternatives.**
	Romanian policy allows for energy efficiency improvements with heat pumps or micro-cogeneration systems based on natural gas. No deductions in funding are assumed in such cases.
3.3 Predictability and permanence of a policy support	**0 – Funding is offered in rounds, and their timing is not predictable.**
	The Casa Eficienta Energetic programme, the only one currently providing funds for heat pumps, seems to operate on a rolling basis. However, access through the online platform is currently limited. Therefore, it is unclear whether financial support is available.

3.4 Support linked to income	**0 – The amount of support does not depend on household income.** *The Casa Eficienta Energetic* regulations do not include provisions making the amount of support dependent on household income.
3.5 Complex renovations	**1 – Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions are not more favourable in this case than for separate financing.** Within energy efficiency improvements financed by the Romanian state, one can choose from a list of eligible works, including complex renovation along with a heat pump installation. However, financing conditions remain the same – up to 60% of the total eligible investment costs.
3.6 Support linked to the costs of renovation	**2 – the subsidy is offered as a percentage of the total cost of heat pump installation (with a ceiling amount indicated), but the programme is not currently open for registration.** The subsidy covers up to 60% of the total cost of heat pump acquisition and installation, with a maximum of RON 70 000 (EUR 14 000).
Liquidity safeguards	
4.1 Timing of the payment	**0 – There is a significant delay (more than 2 months) in reclaiming the subsidy after investing.** The regulations do not specify the waiting period for the grant payment, but the complexity of the procedures suggests a potentially long wait. Moreover, the programme is not currently open for registration.
4.2 Availability of prefinancing	**0 – The subsidised heat pump investment cannot be pre-financed.** Article 23 of the *Casa Eficientă Energetic* programme regulations states that advance payments are not granted, and beneficiaries must submit a single payment claim at the end of the project. Moreover, the programme is not currently open for registration.
4.3 Availability of complementary loans	**0 – Complementary loans to finance the unsubsidised part of the renovation are not available.** Information on complementary loans could not be found. The programme is not currently open for registration. Some commercial banks offer eco-friendly device loans, such as *EXPRESSO VERDE* from BRD[83], but these are not complementary to the grant programme.
Reduced bills	
5.1 Cost-competitive electricity prices	**2 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Romania was 3.42.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**0 – No special tariffs for heat pumps.** Since 1 January 2021, household electricity prices are no longer regulated by the national energy authority – *Autoritatea Națională de Reglementare în domeniul Energiei* (ANRE), but are set freely, reflecting market conditions. Since November 2021, Romania has implemented frozen maximum energy prices[84], which will remain in force until 31 March 2025[85]. Energy price caps are set for monthly energy consumption levels[86]. However, there are no discounts for heat pump owners, whose higher energy consumption falls into the highest price bracket of 1.3 lei/kWh, including VAT. Some energy suppliers offer dynamic tariffs (e.g. E.ON and Electrica Furnizare), but without specific conditions for heat pump owners. A positive aspect is the availability of a publicly accessible price comparison tool on the ANRE website[87], which shows some suppliers offering lower energy prices, especially if the energy is from renewable sources. The comparison tool allows users to choose options such as price type (Fixed/Variable), and consumption allocation (Time-of-use/Single-rate), but there is no specific selection field for heat pump owners, nor can users estimate consumption by energy-intensive devices.

83 See more details here.

84 See more details here.

85 See more details on the Engie website.

86 See more details on the Engie website.

87 See the tool here.

Reliable quality	
6.1 Heat pump certification	**0 – Heat pump certification is not taken into account in the support schemes.** Information on heat pumps certification and required efficiency classes could not be found. The only requirement is that equipment purchased under the project must be new. The regulations require submitting certificates of quality and warranty, along with declarations of conformity for the purchased equipment. However, the exact practical implications are unclear.
6.2 Energy audit	**2 – An energy audit is required, and its effects influence financing conditions, although the programme is not currently open for registration.** An energy audit, not older than 6 months, must be conducted by a certified auditor. This is one of the requirements of the *Casa Eficientă Energetic* programme. Subsidies are also available for the audit.
OVERALL COUNTRY SCORE	**21/100**

4.9 CZECHIA
Speedy progress with major obstacles ahead

Heat pump stock in 2023	**28 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**55 620** ↘
Policy assessment	**Flawed (65%)**
Three key recommendations	▪ Increase the level of subsidies ▪ Implement a system where subsidies are directly deducted from the upfront cost ▪ Monitor installers to ensure high quality. Simplify rules and reduce the number of attachments required

Market overview

The Czech heat pump market has developed steadily in recent years. Although it may seem to be on a good path, the 2023 sales decline indicate substantial room for improvement.

According to EHPA and Eurostat data, Czechia had 28 heat pumps per 1000 inhabitants in 2022. That year, 55 620 heat pumps were sold in Czechia, bringing the total to around 0.3 million heat pumps[88].

Although the Czech heat pump market has been one of the fastest growing between 2019 and 2023, with an annual increase of around 25-30%, sales declined in 2023. This drop likely reflects the stabilisation of demand following a surge in 2022 due to the fossil fuel energy crisis triggered by Russia's full-scale invasion of Ukraine.

While the Czech system shows promise, national experts suggest several areas for enhancement.

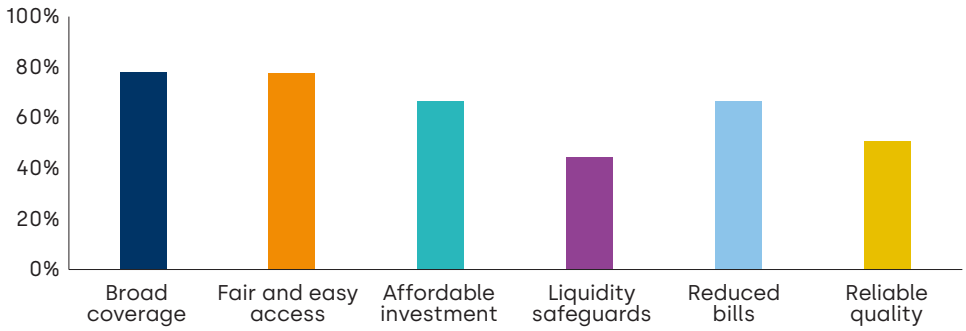
Michaela Valentová
CZECH TECHNICAL UNIVERSITY IN PRAGUE

> Support for residential heat pumps in Czechia is part of a long-term system of subsidies within the New Green Savings programme. The continuity of the programme is one of the key strengths driving heat pump expansion. The challenges that remain include the gas to electricity price ratio, focus on vulnerable households to overcome the financing constraints, and the need to strengthen the outreach of consultation services and technical assistance to incorporate heat pumps in high quality renovation projects.

Some shortcomings of the policy mix can also be seen in the figure below.

88 The EHPA data for Czechia refer to space heating (294,000 HP in stock in 2023 and 56,000 in sales) and water heating (3814 HP in stock in 2023) and include exhaust air HP – air/water, HP – air/water for heating only, HP – brine/water for heating only, HP – water/water for heating only as well as sanitary hot water HP – water heaters.

Figure 25. Czechia: heat pump policy assessment by category



Source: Reform Institute

Households in Czechia can benefit from one funding programme for heat pumps: *Nová zelená úsporám* (New Green Savings Programme) which comprises several sub-programmes dedicated to particular building classes and groups of beneficiaries (e.g. *Nová zelená úsporám Light* for vulnerable beneficiaries, i.e. pensioners, people with disabilities and individuals receiving housing or child allowance).

The Nová zelená úsporám programme has broad coverage, as anyone who owns a residential unit in Czechia is eligible for support.

One branch of the New Green Savings Programme is *Oprav dům po babičce* (Fix Up Your Grandma's House). Under this programme, households can receive substantial funding for comprehensive insulation and other energy-saving measures, including replacing an old, inefficient, fossil fuel-fired heating source with a heat pump. A notable feature of this programme is that the entire subsidy is given in advance, making it very beneficiary-friendly, especially for vulnerable households. The subsidy can also be supplemented by a low-interest loan to cover the remainder of the financing.

Nová zelená úsporám provide financing for heat pumps and biomass boilers as a low-emission alternative. Solar-based water heating systems are also eligible for funding.

In Czechia, households can easily access information on public funding for heat pumps, including lists of eligible heat pumps, and receive support in planning and carrying out the investment. This is highly commendable. However, the application process can be somewhat burdensome, requiring detailed photographs of the current heating system, which is uncommon in the European Union. Nevertheless, the subsidy application is often handled as a service by the installation company.

Regarding the climate impact of the Czech policy mix, its major drawback is that hybrid heat pumps (natural gas-based heat pumps) are eligible for financing under the instruments described above.

Recommendations

The Czech support system for heat pumps has many strengths. However, there are several areas that need improvement. The most significant weakness is the long delay in paying the subsidy after the investment has been made, which in practice exceeds two

months. One of the recommendations that would go a long way to reducing the waiting time for subsidy payment is to include it automatically in the installation invoice. The subsidy could be fully deducted from the cost to the consumer, leaving them to pay the balance only. The subsidy claim to the government should then be made by the heat pump supplier. This is the solution successfully used in the UK and Sweden. However, this must not compromise quality or lead to abuse by rogue installers. At the same time, there should be monitoring and the certification of installers authorised to carry out installations under the subsidy scheme. This is also the case in the UK. This approach could also help to simplify the application process. Additionally, the staff handling payment processing could be strengthened. Another recommendation is to increase the subsidy amount to better align with the cost of the heat pump and installation. Finally, linking the subsidy amount with income levels is worth considering.

Scorecard – Czechia	
Broad coverage across income levels	
1.1 Coverage – social groups	**3 – The policy mix covers the whole of society.** No social groups are excluded from financial support. Czech funding programmes particularly target retirees and people with disabilities. Additionally, the financing conditions and forms of subsidies do not limit the coverage of the Czech policy mix.
1.2 Coverage – new buildings	**1 – The policy mix does not address heat pumps in new buildings, but subsidies are available for passive houses where heat pumps can be installed.** Czechia primarily supports the replacements of inefficient fossil fuel-fired heating boilers, which generally excludes newly constructed buildings from financial support. However, under the *Nová zelená úsporám*, the construction and acquisition of low-energy houses is supported, and this funding might cover heat pump equipment and installation. However, buildings designed "for family recreation" are not eligible for this support.
1.3 Coverage – renovated buildings	**3 – The policy mix provides support for all kinds of renovated buildings.** There are no age thresholds for renovated buildings, and no building type is excluded from the scope of the Czech policy mix. Detached single-family homes, housing units in multifamily residences, terraced houses, and even holiday homes are eligible for financial aid provided by the Czech government.
Fair and easy access	
2.1 Complexity of the application process	**2 – The application process is fully digitalised, and complementary forms of support ease the paperwork burden to a large extent.** Applications can be submitted online, and local assistance services are provided, but the list of required attachments is quite extensive.
2.2 Accessibility of information on the available support	**3 – There is a comprehensive and informative online information platform covering the whole landscape of national support programmes, accompanied by other information tools.** In Czechia, a governmental platform provides **information on all available funding programmes.** It is also worth noting that the Ministry of the Environment is planning a major communication campaign and a new website to centralise information on savings and subsidies. Additionally, efforts are underway to significantly strengthen free advice through one-stop shops.
2.3 Dedicated outreach channels for the most vulnerable households	**2 – Existing information campaigns are insufficient but show potential for improved efficiency.** Although no massive efforts to promote Czech support schemes have been observed, certain elements of the information policy suggest that the Czech policy mix could become more efficient with broader communication. These elements include subprogrammes dedicated to particular vulnerable groups and catchy, informative names like *Oprav dům po babičce.*

Affordable investment	
3.1 Amount of available investment subsidies	**1 – The support amount for heat pumps is generally insufficient to meaningfully improve the cost management of heat pump installation.** With a maximum of CZK 180 000 (approximately EUR 5 500) available for heat pump acquisition and installation (and only for vulnerable beneficiaries), the funding provided in Czechia does not meaningfully offset the current heat pump installation cost, which can reach up to EUR 20 000 in the European Union for ground heat pumps.
3.2 Support intensity relative to fossil fuel alternatives	**3 – Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies.** Since 1 September 2024, no funding for fossil fuel-based heating boilers has been made available for households, even for vulnerable ones which could finance hybrid heat pumps (powered by natural gas) under the Kotlíkové dotace scheme (which has already expired).Roma
3.3 Predictability and permanence of policy support	**3 – Funding is available on a rolling basis.** According to information provided on the Czech support programme webpages, submissions are accepted at any time once the programmes are launched.
3.4 Support linked to income	**1 – The support amount offered is higher for more vulnerable households, but not to a sufficient extent, or household vulnerability is not determined directly by income.** Financial support in Czechia is only a bit higher for more vulnerable households, and vulnerability is not determined by income. Instead, it is based on other state benefits or a specific status recognised by the state (e.g., retirement or incapability to work). While these groups are socially vulnerable, this does not necessarily translate into energy poverty or a lack of resources for heat pump investment.
3.5 Complex renovations	**1 – Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions are not more favourable in this case compared to separate financing.** Generally, only heating boiler replacements are financed within Czech support instruments. However, the *Nová zelená úsporám* programme's branch, Oprav dům po babičce, provides funds for complex renovations, up to CZK 1 000 000. Despite this, the financing conditions do not offer additional incentives for heat pump investments.
3.6 Support linked to the costs of renovation	**3 – The subsidy is offered as a percentage of the total heat pump installation cost, with a ceiling amount indicated.** In Czechia, beneficiaries receive funding as a percentage of eligible costs of heat pump equipment and installation, up to the predefined amount. This principle applies to all Czech support schemes.
Liquidity safeguards	
4.1 Timing of the payment	**0 – There is a significant delay (more than 2 months) in reclaiming the subsidy after investing.** Under the *Nová zelená úsporám* programme, various sources report a waiting time after installation of 8 weeks[89], 9 weeks[90] , or 2-3 months[91], which is still more than 2 months.
4.2 Availability of prefinancing	**2 – Subsidised heat pump investment can be prefinanced in key cases, and prefinancing conditions meaningfully improve the management of renovation costs.** Prefinancing is available under the *'Nová zelená úsporám RODINNÉ DOMY – Oprav dům po babičce' programme*, which requires the building to be insulated. Heat pumps can also be financed under this programme.
4.3 Availability of complementary loans	**2 – Complementary loans with deferrable instalment payments and favourable financing conditions are available for key cases.** Complementary loans are available under the *'Nová zelená úsporám RODINNÉ DOMY – Oprav dům po babičce' programme*. Subsidy recipients have the option of obtaining a preferential loan from building societies and banks to cover the difference between eligible costs and the subsidy provided. The advantage includes a lower interest rate, with the maximum APR set at 3.5% for this year. Compared to a mortgage, it is an unsecured loan without collateral,

89 See more details here.

90 See more details on the programme's website.

91 See more details here.

	making the loan process simpler and less expensive. The interest rate is fixed for a minimum of five years. Additionally, compared to a consumer loan, the repayments are significantly lower due to a longer maturity period. The loan amount can reach up to twice the subsidy provided. An overview of banks and building societies that provide subsidised advice and loans under the Oprav dům po babičce is available on the **programme's website.**
Reduced bills	
5.1 Cost-competitive electricity prices	**4 – According to Eurostat data for the second half of 2023, the electricity-to-gas price ratio in Czechia was 2.8.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**2 – Special tariffs for heat pumps with some impact on electricity-to-gas price ratio, ensuring operating savings are achieved by heat pump owners** Two tariffs are available specifically for heat pumps: D 56d and D 57d. The D 56d tariff applies to heat pumps installed before 31 March 2016. Both tariffs are two-zone, intended for heating with an electric appliance. They offer a low tariff for 20 hours in D 57d and 22 hours in D 56d[92]. However, the prices for heat pump tariffs are similar to regular tariffs, with the main difference being slightly lower distribution services' costs per kWh. Additionally, Czechia offers one-zone tariffs for low and medium consumption, as well as two-zone tariffs with 8 or 16 hours of low-tariff operation, such as those for electric cars. A weekend tariff is also available. The **official price comparison tool** provided by the Energetický regulační úřad (Energy Regulatory Office) allows consumers to compare offers from different suppliers with their current bill.
Reliable quality	
6.1 Heat pump certification	**1 – Heat pump certification is advised, but not mandatory to obtain heat pump support.** Under the following programmes: ▪ *Nová zelená úsporám RODINNÉ DOMY* ▪ *Nová zelená úsporám RODINNÉ DOMY – Oprav dům po babičce* ▪ *Nová zelená úsporám BYTOVÉ DOMY* the regulations specify the following conditions: ▪ for air-water, ground-water and water-water heat pumps: an energy class of at least A++ for low-temperature or medium-temperature heating applications according to (EU) No. 811/2013, compliance with selected regulations EU 813/2013 ▪ for air-air heat pumps: A++ in heating mode (EU) 626/2011 for an average air-to-air heating period, SCOP performance≥4.60 for an average period of time, compliance with selected regulations EU 206/2012 **A list of eligible devices** is available. Heat pumps can be listed on the basis of documents such as technical fiches, declaration of conformity, energy labels, and operating instructions. Devices can also be marked with the EHPA Q or HP Key Mark certificates. For equipment that is not on the list, compliance with the programme's conditions must be proven at the time of final settlement of the grant.
6.2 Energy audit	**2 – Some form of energy assessment is often required to obtain funding.** In general, under the *Nová zelená úsporám* programme for new construction and insulation projects, a detailed expert report is required. The report consists of two parts: design documentation and an energy assessment of the building. Under the *Oprav dům po babičce* programme, support for heat sources is only available as an additional measure to building insulation. Furthermore, an expert opinion serves as a basis for determining the maximum amount of support. For the *RODINNÉ DOMY* section of the programme, which includes measures such as heating replacement, the required documentation is simpler.

92 See more details here.

	Under the following programmes: ■ *Nová zelená úsporám RODINNÉ DOMY* ■ *Nová zelená úsporám RODINNÉ DOMY* – Oprav dům po babičce ■ *Nová zelená úsporám BYTOVÉ DOMY* in certain cases in C1 areas (which concern heating replacement) the following documents are required: ■ Certificate of energy performance of the building (PENB) including the protocol, valid for construction procedures. This is required if the measures C.1 to C.4 for buildings were or will be implemented less than 3 years after their completion. ■ Document proving compliance with the classification of the average coefficient of heat transmission through the building envelope according to Decree No. 264/2020 Coll. or 78/2013 Coll. This document is required for applications in subarea C.1 for support related to the replacement of a gas boiler (or gas heaters).
OVERALL COUNTRY SCORE	**65/100**

4.10 SWEDEN

Mature market but vulnerable households left behind

Heat pump stock in 2023	**228 units per 1000 inhabitants**
Heat pump sales in 2023 and change vs. 2022	**195 552** ↘
Policy assessment	**Deeply flawed (65%)**
Three key recommendations	▪ Enhance outreach to the most vulnerable consumers and address market gaps ▪ Improve the quality of appliances ▪ Increase support for heat pumps compared to other appliances

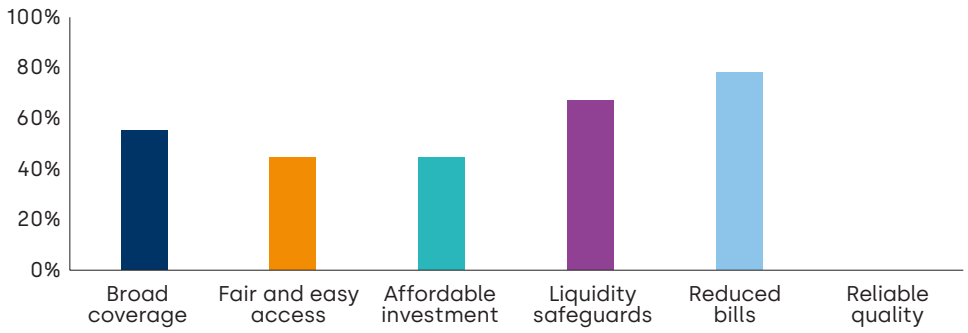
Market overview

The Swedish heat pump market is among the most developed and one of the largest in Europe, with a high market share in heating (above 90% for many years). However, Sweden lacks well-tailored policies for the most vulnerable.

According to EHPA and Eurostat data, Sweden had 228 heat pumps per 1000 inhabitants in 2023. That year 195 552 heat pumps were sold in Sweden, bringing the total to around 2.4 million heat pumps[99].

While Sweden's mature market benefits from a supportive policy mix and low energy prices (less than 1% of Sweden's electricity is generated from fossil fuels[94]), the Swedish policy mix for heat pumps does have drawbacks. Quality issues persist and the system falls short in effectively reaching the most vulnerable. Although the market is mature and heat pumps are popular, the Swedish system still struggles to eliminate oil boilers used by the most vulnerable consumers. The remaining areas for improvement are shown in the figure below.

Figure 26. Sweden: heat pump policy assessment by category



Source: Reform Institute

Households in Sweden can benefit from a tax deduction for labour costs under the tax credit programme ROT (Renovation, Conversion, Extension. This deduction applies to the heat pump installation as well as other appliances, such as wood-burning stoves, boilers, and solar heating systems. Under the scheme, the company claims the deduction

93 The EHPA data for Sweden refer to space heating (2.4 million HP in stock in 2023 and 196,000 in sales) and include exhaust air HP – air/water, HP – air/water for heating only, HP – brine/water for heating only, HP – water/water for heating only and reversible HP – air/air.

94 See more details on the IEA country page.

on behalf of the householder. The company can deduct a maximum of 30% of the labour costs from the invoice and must indicate this amount on the invoice. The deduction is capped at SEK 75,000 per person per year. A private individual can receive a total of SEK 150,000 in tax relief. If a person has already utilised part or all of the deduction, the company can apply for a payment for another household member who also owns the home.

This solution alleviates much of the paperwork for households and is straightforward in design. However, it does not address the needs of the most vulnerable. Currently, only about 50,000 households still use oil-fired boilers, these are the most vulnerable households. Unfortunately, the likelihood of changing policy regarding heat pumps in Sweden is almost zero, as existing policies are already in place, though not targeted at the most vulnerable. This is the biggest flaw in the system and should be addressed.

Recommendations

The Swedish heat pump market demonstrates that low energy prices, high system efficiency, and widespread popularity, combined with access to installers and maintenance services, are sufficient for a well-developed market. Large subsidies are not necessary. However, the lack of targeted solutions for the poorest prevents these individuals from investing in heat pumps. A dedicated support channel for the most vulnerable is therefore recommended. Additionally, Sweden could learn from the experience of many countries, including Poland and Germany. Sweden should also pay more attention to assessing the energy efficiency of buildings with heat pumps installed, and to requiring the use of certified devices. This would significantly improve quality.

Scorecard – Sweden	
Broad coverage across income levels	
1.1 Coverage – social groups	**1 – The policy mix addresses the majority of the population, but some key social groups are excluded (e.g. support only in the form of tax incentives excludes low-income groups, and income caps on all instruments does not provide incentives for high-income individuals)**
	Since the Swedish policy mix relies on tax credits, financial aid might be less available for lower-income groups.
1.2 Coverage – new buildings	**1 – The policy mix provides support for a predefined group of new buildings.**
	The rules of the tax credit programme ROT (Renovation, Conversion, Extension) state that the works eligible for tax deductions must be carried out in an existing building recorded with the Swedish Tax Agency (Skatteverket) or the Land Survey of Sweden (Lantmäteriet). Therefore, heat pump installation in buildings under construction cannot benefit from tax credits. However, this does not apply to newly erected buildings already recorded in the register, as the Swedish Tax Agency acknowledges that one might wish to renovate a newly acquired property.
1.3 Coverage – renovated buildings	**3 – The policy mix provides support for all kinds of renovated buildings.**
	Works carried out in any dwelling can benefit from ROT tax credits provided that the owner occupies this dwelling. Consequently, a potential beneficiary does not receive a ROT deduction for work performed in rented, leased, or co-operative protected tenancies.

Fair and easy access	
2.1 Complexity of the application process	**1 – There are some elements designed to facilitate the application process (e.g., reduced documentation and application stages, online application, one-stop-shops, free advisory services, and fast track options), but they are insufficient.**
	Applications for tax deduction can be submitted via an online platform, possibly using a Swedish e-ID. Although the process is fairly intuitive, no prior assistance is provided for planning and carrying out the works.
2.2 Accessibility of information on the available support	**3 – There is a comprehensive and informative online information platform covering all national support programmes, accompanied by other information tools.**
	The Swedish Tax Agency (Skatteverket) provides a comprehensive, user-friendly platform on ROT tax credits.
2.3 Dedicated outreach channels for the most vulnerable households	**0 – No information campaigns targeting the most vulnerable households has been identified.**
	No such efforts have been identified, likely because tax credits do not specifically target vulnerable households.
Affordable investment	
3.1 Amount of available investment subsidies	**1 – The support amount for heat pumps is mostly insufficient to meaningfully improve the management of heat pump installation costs.**
	One can receive up to 30% tax rebate on labour costs related to heat pump installation. Equipment costs, however, are not eligible for tax benefits. Consequently, fiscal aid from the Swedish state does not cover a substantial portion of heat pump investment and does not meaningfully improve the management of total costs.
3.2 Support intensity relative to fossil fuel alternatives	**0 – There is no difference in the amount of heat pump subsidy offered compared to fossil fuel alternatives.**
	Gas and oil boilers can also benefit from ROT tax rebate, at the same amount as heat pumps.
3.3 Predictability and permanence of a policy support	**3 – Funding is available on a rolling basis**
	The ROT tax credits programme has been in operation since 2008 and is enshrined in law passed by the Swedish parliament.
3.4 Support linked to income	**0 – The amount of support does not depend on household income.**
	The amount of tax deduction is not related to household income.
3.5 Complex renovations	**1 – Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions aren't more favourable in this case than with separate financing.**
	A potential beneficiary can submit any works for tax deduction, including complex renovations. However, this does not affect the financing conditions.
3.6 Support linked to the costs of renovation	**3 – The subsidy is offered as a percentage of the total heat pump installation cost (possibly with a ceiling amount indicated).**
	The ROT tax deduction covers up to 30% of labour costs and provides a rebate of no more than SEK 75 000 (approximately EUR 6 500) annually.
Liquidity safeguards	
4.1 Timing of the payment	**3 – The subsidy is paid instantly – and included in the invoice.**
	Under ROT, the installer's invoice is reduced by the cost of the work, and the installer then applies to the Swedish Tax Agency for a refund.
4.2 Availability of prefinancing	**3 – The subsidised heat pump investment can be prefinanced, and the prefinancing conditions meaningfully improve the management of renovation costs.**
	Under ROT, the installer's invoice is reduced by the cost of the work, and the installer then applies to the Swedish Tax Agency for a refund.

4.3 Availability of complementary loans	**0 – Complementary loans to finance the unsubsidised part of the renovation are not available.** The Swedish Tax Agency does not mention complementary loans in its ROT programme. However, it does not prohibit taking a credit for an investment. Beneficiaries must provide evidence of the credit agreement if requested by the Swedish Tax Agency. Examples: ▪ **SEB – Heat pump loan** ▪ **Wasa Kredit** ▪ **Svea Bank**
Reduced bills	
5.1 Cost-competitive electricity prices	**6 – According to Eurostat data for the second half of 2023, the electricity-gas price ratio in Sweden was 1.05 – one of the lowest in Europe.** According to EHPA a price ratio greater than the heat pump's seasonal efficiency factor (SPF) removes the technology's efficiency advantage. If the ratio is higher than 2.5, this can lead to a fundamental economic challenge for heat pump sales.
5.2 Special tariffs for heat pumps	**1 – No special tariffs for heat pumps are available, but dynamic tariffs are offered.** Fixed or variable energy prices are available in Sweden. A fixed electricity price remains constant for the contract period, usually up to 5 years[95]. Variable electricity prices follow the fluctuations on the Nordic electricity exchange (Nordpool), generally higher in winter and lower in summer. Consumers get a variable price based on the previous month's average price on Nordpool. Hourly price agreements are also available, allowing users adjust their consumption based on next day prices. Historically, variable electricity prices have been cheaper over time than fixed prices[96]. An official independent electricity price comparison engine run by a government agency is available – **Elpriskollen.**
Reliable quality	
6.1 Heat pump certification	**0 – Heat pump certification is not considered in the support schemes.** No information is provided about the heat pumps certification requirements. However, installing a heat pump may require a permit, for example in Stockholm.
6.2 Energy audit	**0 – An energy audit is not required to receive financing.** Among the requirements for buildings (e.g., the house must not be new), there is no information on the need for an energy audit or energy performance certificate.
OVERALL COUNTRY SCORE	**52/100**

95 See more details here.

96 See more details here.

5. Conclusions and recommendations

Towards effective heat pump support in Europe

Evolving the policy mix

Scaling up the heat pump market is a complex task that requires balancing different dynamics such as quality, supply (e.g. skills) and demand. It involves an iterative approach and strong and consistent leadership: 1) **kick-starting the market,** as seen in the UK, 2) **maintaining momentum** through iterative improvements, as demonstrated in Poland, and 3) **establishing heat pumps as a market norm,** exemplified by Sweden.

At the early stage of market development, the focus should be on implementing policy that may not be perfect but could stimulate market growth. The concept of "learning by doing" is essential. As heat pump markets mature, emphasis should shift to quality management but without overcomplicating rules that discourage people from applying. Finding the right balance is key.

Additionally, **affordable electricity prices are important but not the only factor in shaping effective heat pump policies.** Our analysis shows that for market dynamics, subsidy programmes and regulations are equally important. In general, data indicates that countries that have initiated policy changes are experiencing higher market growth rates. While the affordability of electricity is a crucial driver for the current level of heat pump market development, well-crafted policies are essential for dynamics, i.e. scaling up the market. This is vital for meeting 2030 targets and ensuring a timely transition to net zero.

Balancing simplicity and complexity

Identifying a single effective policy for the development of heat pumps is challenging and dependent on the market's level of maturity. Nevertheless, finding the right balance between complexity and simplicity is achievable. Straightforward programmes do not require extensive paperwork from participants, which encourages investment. But at the same time, quality issues and vulnerabilities should not be overlooked.

Simple programmes exist in both the UK and Sweden, but they affect the market differently due to their varying stages of development. In the UK's emerging heat pump market, simple rules and generous subsidies drive growth, while in Sweden's mature market, this simplicity poses challenges. This country fails to support the tens of thousands vulnerable households using oil boilers.

In contrast, France – the leader in the ranking and the country with the highest number of installed heat pumps – implements more complex policies to reach the poorer segments, differentiating income levels, and focusing on quality. For example, the French national programme engages guides and maintains a list of certified installers to ensure high-quality implementation. However, there are also challenges with this approach as more complex policies create barriers right from the start of the application process. Despite well-defined objectives, the market develops slowly due to the level of complexity and detail, which creates obstacles in obtaining funding. This highlights the need for **tailoring subsidy programmes to country-specific situations and the need to accept trade-offs.**

Following good practices

The study did reveal several good practices which can serve as an inspiration for strengthening the policy support for heat pumps across Europe.

- **Low-emission standards in new buildings:** Although subsidies for heat pumps in new buildings are rare, some countries have introduced low emission building standards (e.g. Italy, France, Germany), leading to more investments in heat pumps in new houses.
- **Official soft loans:** Germany and the Netherlands offer nationwide, official and non-commercial loans, which can complement subsidies.
- **Focus on quality:** Spain ensures both device certification and building audits before and after building renovation in its subsidy programmes. France and the UK only allow funding through certified installers.
- **Online chat an information tool:** The Netherlands and Poland provide a chat service where consultants can answer questions about subsidy programs.
- **Including the subsidy amount on the installer's invoice:** This practice, used in Sweden and the UK, increases liquidity in receiving the subsidy.
- **Low energy prices:** Sweden's access to cheap and clean energy makes heat pumps even more economical. The Netherlands is using the gradual increase in gas taxes and the decrease in electricity taxes until 2026 to encourage a shift away from natural gas.
- **Facilitating the application process:** online platforms, installer assistance, or energy consultancy make it easier to apply for subsidies.

Avoiding the "seven deadly sins"

The diversity of countries means that no single ideal policy mix can be developed. However, the European market needs immediate action to remove major obstacles. Action should start with eliminating the "seven deadly sins", which the report highlights as common issues across the assessed countries. These include:

1. **Long payment delays** – beneficiaries of public subsidies usually have to wait months for payment, which has a negative impact on their household budgets and creates uncertainty.
2. **High electricity prices and lack of energy tariffs for heat pumps** – high electricity costs reduce the cost-effectiveness of using heat pumps which discourages investment, especially when gas heating costs are lower.
3. **Inadequate outreach to the most vulnerable** – lack of dedicated channels reaching the lowest income beneficiaries.
4. **Lack of complementary loans** to cover the remaining amount due after receiving the grant. In such cases, beneficiaries often have to use less favourable commercial offers or their savings.
5. **Complicated application process** – large number of annexes, complex documentation and lack of official support discourage people from applying for funding.
6. **Insufficient linkage to income levels,** which makes it easier for the high-income households to receive funding than for the most vulnerable, for whom the cost of investment is more significant but the investment itself is often more urgently needed.
7. **Insufficient attention to equipment quality** – equipment quality certificates are rarely required or not recognised. This encourages the spread of low-quality heat pumps in European markets.

Working together – the European Heat Pump Action Plan

Each country has its own shortcomings to be addressed and good practices to be shared. These recommendations should be implemented not only in the assessed countries but also across Europe to create a strong and unified market for heat pumps. This underscores the need for an EU-wide **Heat Pump Action Plan** – an essential initiative awaiting implementation, which the European Commission must not overlook or abandon. The collaborative plan will help get Europe back on track to reach 60 million heat pumps by 2030 and avoid the current delays that could mean only 45 million heat pumps installed in 2030. National experiences provide valuable lessons for creating effective policies. Therefore, the Heat Pump Action Plan should be published without further delay as a key part of a revised EU heating and cooling strategy which should focus on:

- Establishing confidence in the long-term vision for heat pumps, making it clear at EU and national government level that they are a key technology for a climate neutral Europe.
- Accelerating the phase-out of fossil fuel boilers by 2040 and ending subsidies for fossil fuel heating by 2025, through the robust implementation of the Energy Performance of Buildings Directive (EPBD).
- Discouraging the sale of new fossil fuel boilers through the implementation of eco-design rules and also a redesign of the energy label for heating appliances to give greater visibility to the best-performing products and solutions.
- Introducing a Clean Heat Standard with quantitative targets for market actors (such as energy network companies, energy suppliers or heating equipment manufacturers) to encourage the removal of existing boilers from homes before they reach the end of their life, and to support the scaling up of clean heat supply chains in line with the EU's energy security and climate goals.
- Monitoring Member States' development of clear clean heating and cooling targets and action plans and including them in the National Energy and Climate Plans (NECPs) and National Building Renovation Plans.
- Ensuring a swift and equitable implementation of the Emissions Trading Scheme (ETS 2), with social safeguards to mitigate its impact on vulnerable and low-income households, and ensuring that the Social Climate Fund supports these groups in the green transition through building renovations and switching to clean heating solutions.
- Supporting and developing European heat pump manufacturing as an essential element of a new industrial strategy that can deliver more and quality jobs and prosperity. Europe is currently a global leader in the green industry sector, and it must retain its edge against competition from China or the US.

Cooperation between the EU Member States is crucial to creating a high-quality European heat pump market. Once the current shortcomings are addressed, the heat pump market will develop, many more households will benefit from clean heat and the sector's significant climate impact will fall.

This report also highlights the importance of consistent data collection on heat pumps. Currently available reports do not provide a realistic picture of the European market for heat pumps. Therefore, an important recommendation for the Heat Pump Action Plan is to develop a standardised methodology for data collection in each country, enabling accurate market comparisons.

Annex: Detailed assessment criteria

Category and criteria		
Broad coverage across income levels		
1.1 Coverage – social groups	**0**	The policy mix is addressed only to a very narrow group of potential beneficiaries.
	1	The policy mix is addressed to the majority of the population, but some of key social groups are excluded (e.g. support only in the form of tax incentives excludes low-income groups, income caps on all instruments does not provide incentives for high-income ones).
	2	Theoretically, the policy mix covers the whole of society, but in practice part of the society is missed out or the programme is not currently open for registration.
	3	The policy mix covers the whole of society.
1.2 Coverage – new buildings	**0**	The policy mix does not cover new buildings.
	1	The policy mix provides support for a predefined group of new buildings.
	2	Subsidy schemes do not cover new buildings, but there is a low-emission standard for new buildings.
	3	The policy mix provides support for all kinds of new buildings.
1.3 Coverage – renovated buildings	**0**	The policy mix does not cover renovated buildings.
	1	The policy mix provides support for a predefined group of renovated buildings.
	2	The newest buildings are excluded from financial support or other important issues are missing.
	3	The policy mix provides support for all kinds of renovated buildings.
Fair and easy access		
2.1 Complexity of the application process	**0**	Available policy tools do not aim to facilitate the application process.
	1	There are some elements which aim to facilitate the application process (reduced amount of necessary application documents and application stages, online application, one-stop-shops, free advisory services, fast track application), but they are insufficient.
	2	There are some elements which aim to facilitate the application process (reduced amount of necessary application documents and application stages, online application, one-stop-shops, free advisory services, fast track application) and the installers also can help in the application process.
	3	Either the application process is fully digitalised, and complementary forms of support in the application process are sufficient to effectively ease the paperwork burden, or the heat pump installer is responsible for submitting the application.

2.2 Accessibility of information on the available support	**0**	There is no easily accessible information platform dedicated to the available support schemes.
	1	There are some elements of dedicated online information policy, but they are largely insufficient.
	2	There are some elements of dedicated online information policy. They are largely insufficient, but in practice, knowledge of funding is widespread.
	3	There is a comprehensive and informative online information platform covering the whole landscape of national support programmes, accompanied by other information tools.
2.3 Dedicated outreach channels for the most vulnerable households	**0**	No information campaigns targeting the most vulnerable households were identified.
	1	Existing information campaigns are insufficient or inefficient.
	2	Existing information campaigns are insufficient but prospective in terms of efficiency.
	3	The information campaigns targeting the most vulnerable households are both sufficient and efficient.
Affordable investment		
3.1 Amount of available investment subsidies	**0**	No heat pump subsidies are offered.
	1	The amount of available support for heat pumps is mostly insufficient to meaningfully improve the management of costs of heat pump installation.
	2	The subsidy amount is sufficient to meaningfully improve the management of costs of heat pump installation, but the programme is not currently open for registration.
	3	The amount of available support for heat pumps is sufficient to meaningfully improve the management of costs of heat pump installation.
3.2 Support intensity relative to fossil fuel alternatives	**0**	There is no difference in the amount of heat pump subsidy offered relative to fossil fuel alternatives.
	1	The amount of heat pump subsidy offered is higher than fossil fuel alternatives, but the difference is not significant enough.
	2	Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies with minor exceptions, including hybrid heat pumps.
	3	Heat pump subsidy schemes are accompanied by the elimination of fossil fuel subsidies.
3.3 Predictability and permanence of policy support	**0**	The funding is offered in rounds, and their timing is not predictable
	1	The funding is offered in rounds and the programmes are renewed regularly or there are significant uncertainties even if subsidy schemes are operating on a rolling basis.
	2	The funding is available on a rolling basis, but the rules change relatively frequently.
	3	The funding is available on a rolling basis.
3.4 Support linked to income	**0**	The amount of support is not dependent on household income.
	1	The amount of support offered is higher for more vulnerable households, but not to a sufficient extent.
	2	The amount of support offered is usually higher for more vulnerable households, but subsidy schemes do not reach vulnerable households for particular reasons.
	3	The amount of support offered is significantly higher for more vulnerable households, meaningfully reducing the total cost of the heat pump investment for them.

3.5 Complex renovations	**0**	There is no possibility to combine heat pump subsidies with financing for complex renovations.
	1	Heat pump subsidies can be combined with financing for complex renovations, but the financing conditions are not more favourable in this case as in the case of separate financing.
	2	Heat pump subsidies can be combined with financing for complex renovations, and the financial support is significantly greater when it comes to a complex renovation, but financing conditions for heat pumps only are not more favourable in this case.
	3	Heat pump subsidies can be combined with financing for complex renovations, and the financing conditions are more favourable in this case.
3.6 Support linked to the costs of renovation	**0**	The funding is offered as a lump sum.
	1	The funding is offered mostly as a range of values.
	2	The funding is offered as a lump sum/range of values which are, however, generous and regularly updated or the programme is not currently open for registration.
	3	The subsidy is offered as a percentage of the total cost of heat pump installation (possibly with a ceiling amount indicated).
Liquidity safeguards		
4.1 Timing of the payment	**0**	There is a significant delay (more than 2 months) in reclaiming the subsidy after investing.
	1	The subsidy is paid within 1-2 months of the heat pump purchase.
	2	The subsidy is paid within 1 month after the investment.
	3	The subsidy is paid immediately after the investment.
4.2 Availability of prefinancing	**0**	The subsidised heat pump investment cannot be prefinanced.
	1	The subsidised heat pump investment can be prefinanced, but the prefinancing conditions do not meaningfully improve the management of costs of the renovation.
	2	The subsidised heat pump investment can be prefinanced, and the pre-financing conditions can improve the management of the renovation costs to some extent, but not fully.
	3	The subsidised heat pump investment can be prefinanced, and the prefinancing conditions meaningfully improve the management of costs of the renovation.
4.3 Availability of complementary loans	**0**	Complementary loans to finance the unsubsidised part of the renovation are not available.
	1	Complementary loans are available, but instalment payments cannot be deferred and the financing conditions are not favourable.
	2	complementary loans are available, but the financing conditions are not favourable enough.
	3	Complementary loans with deferrable instalment payments and favourable financing conditions are available.
Reduced bills		
5.1 Cost-competitive electricity prices	**0**	Electricity to gas price ratio above 4.
	6	Electricity to gas price ratio below 2. The remaining scores (1-5) are assigned proportionally to the electricity to gas price ratio.

5.2 Special tariffs for heat pumps	**0**	No special tariffs for heat pumps.
	1	Special tariffs for heat pumps with a small impact on the electricity to gas price ratio.
	2	Special tariffs for heat pumps with some impact on the electricity to gas price ratio.
	3	Special tariffs for heat pumps with significant impact on the electricity to gas price ratio, ensuring operating savings are achieved by heat pump owners.
Reliable quality		
6.1 Heat pump certification	**0**	Heat pump certification is not taken into account in the support schemes.
	1	Heat pump certification is advised, but is not a necessary condition to obtain heat pump support.
	2	Heat pump certification is often an important condition to obtain heat pump support.
	3	Heat pump certification is a necessary condition for obtaining heat pump support.
6.2 Energy audit	**0**	An energy audit is not required to receive financing.
	1	An energy audit is advised, but its effects do not have any influence on the financing conditions.
	2	An energy audit is often required, but its effects do not necessarily influence the financing conditions.
	3	An energy audit is required, and its effects have an influence on the financing conditions