LCPDelta

Green heat for all 3

APRIL 2025

Introduction

Green heat for all 3

This report builds on a previous report in 2023, the 'Green Heat for All 2' report. Since the last report the most significant change to the decarbonisation of buildings landscape is the European Union's expansion of its carbon pricing efforts with the introduction of a second Emissions Trading System (ETS2), aimed at reducing emissions in sectors not covered by the original ETS1. ETS2 will be an important step in driving the acceleration of decarbonisation.

However, while carbon pricing is expected to be an efficient decarbonisation policy it can have regressive effects, including putting an unintended burden on consumers, particularly vulnerable consumers.

To mitigate some of the social impact of rising energy costs, the EU has established a Social Climate Fund to support vulnerable populations during the transition.

This study analyses the current funding and incentives in Member States to explore the current gap in funding for heat pumps that would need to be paid by households. It then models four policy scenarios for allocating SCF and ETS2 funds through subsidies and zero-interest loans to promote heat pump adoption. The scenarios assess how different funding mixes could impact installation rates, aiming to make heat pumps more financially accessible for households. These scenarios provide a comparison across Member States and highlights where there may be a funding gap. In reality, there will be a range of options for how to use the SCF and ETS2 funding pot and Member States will be able to design their use of the funding according to the characteristics and need of their population.

Report produced for the European Environmental Bureau by LCP Delta.

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Brief for policy makers (1/2)

Foreword from the EEB

Next year will be a make-or-break year for heating and cooling policies.

The availability of the Social Climate Fund (SCF) ahead of the Emissions Trading System for heating and transport (ETS2) will create a unique opportunity for Member States—particularly those with high levels of heating and transport costs, such as Central and Eastern European countries—to set up coherent, mid-term support schemes. These schemes, starting with the most vulnerable households, will enable the decarbonisation of the heating and cooling sector, achieving climate, economic, and geostrategic objectives simultaneously.

We have identified heat pumps as a key solution that can be quickly deployed in advance of ETS2. If properly introduced, considering financial feasibility, demand-side flexibility, suitability for renovations, high efficiency and future-proof refrigerants, heat pumps can become a win-win-win solution within the SCF timeframe. In this analysis, air-to-water heat pumps are considered the standard technology for most EU countries, except in the south, where a combination of solar thermal and air-to-air systems are generally more appropriate.

The report by LCP Delta, on behalf of the European Environmental Bureau and presented by the Coolproducts.eu campaign, assumes that approximately 34% of the funds will be dedicated to heating and cooling grants and loans. The report focuses on vulnerable households using individual fossil heating technologies, such as coal, oil, or gas boilers.

Through a simplified but robust model, the report concludes that, building on existing support schemes, the SCF alone could fund heat-pump installations for all vulnerable households in 10 member states (EI, FR, DE, FI, SE, SL, AT, LT, CY, and PL), though a mix of grants and zero-interest loans.

In 13 more states, it could do the job if complemented with ETS2 funds. Only in the four remaining countries would this financial support need to be supplemented by other policies, such as increased national funding and/or lower electricity costs.

Looking at the broader EU picture, the SCF and ETS2 could, in theory, fully fund the rollout of heat pumps for almost all energy-poor households across the EU. The SCF alone would be sufficient for up to 25 million heat pump installations. However, the combination of SCF and ETS2 would allow us to far exceed the RePower EU target of 60 million installed heat pumps.

Moreover, Europe would surpass its renewable energy target for heating and cooling, with most member states reaching their national targets using heat pumps alone.

These countries could also contribute to cutting 357 TWh of gas consumption, roughly 11% of the total gas consumption in 2024, thus enhancing the EU's energy independence.

From this analysis, it is clear that the SCF and ETS2 are critical and necessary resources to achieve the decarbonisation of heating and cooling, shield citizens from fossil fuel price fluctuations, and improve the EU's energy independence and economic resilience.

Brief for policy makers (2/2)

EEB's policy recommendations

Building on these figures we call on member states and the EU commission, which is called to analyse and revise the National Social Climate Plans to incorporate the following policies:

1. Ensure accessibility of support schemes: Make existing support schemes accessible to vulnerable households. Often, these schemes are underfunded, difficult to access, or based on tax refunds and reimbursements, leaving behind those without jobs, funds, or credit access.

2. Prioritise measures that cover the upfront cost: many cannot afford to top up a partial subsidy or access loans to do so. No matter how convenient the switch is, for these households no investment is possible without full coverage of the installation cost.

3. Integrate heat pumps in holistic renovation: Heat pumps should be installed as part of a broader renovation, especially in poorly insulated buildings. If immediate action is needed, they should be the first step in a comprehensive renovation to lower energy consumption. The priority should be to shield vulnerable households before ETS2 is implemented.

4. Multiply effect by combining grants with loans: Use zero-interest loans guaranteed by public authorities to reach more vulnerable families. Examples include all-in-one commercial propositions that clear upfront costs and integrate state support, as seen in the UK. Social leasing and heat-as-a-service are other viable options.

5. Combine investments with direct payments: Direct payments can support households which are not strictly vulnerable but still affected by higher heating prices. These payments could be integrated into reimbursement schemes for leasing, loans or energy service companies (E.S.Co.).

6. Promote renewable energy combinations: Combining heat pumps with solar thermal, photovoltaics, solar hybrids, geothermal energy, and energy storage can lower running costs, help shave peaks and enable savings. These combinations can render quicker payback than heat pumps alone.

7. Prevent ETS2 costs arising: Reducing consumption is a good way to shield vulnerable families from ETS2. Switching to renewable heating is a definitive solution, provided the system's efficiency reduces overall energy consumption.

8. Focus on future-proof heat pumps: Prioritise high-efficiency, natural refrigerant-based heat pumps that can be serviced and maintained long-term. This prevents them from becoming stranded assets and burdens for consumers, especially vulnerable households.

9. Standardise technical and financial solutions: While all buildings must undergo a feasibility check before installing a heat pump, standardised solutions and streamlined financial measures can speed up deployment, even if they are not always optimal. Modern heat pumps using natural refrigerants can match the flow temperature of oil or gas boilers, serving as a first step in a holistic renovation.

10. Create incentives for owners of rented accommodation: Higher fuel costs unfortunately do not incentivize owners to decarbonize. Solutions include preventing rent increases (as it happened in Belgium), distributing ETS2 costs based on insulation standards (Germany), or banning rentals for poorly insulated homes (as suggested in France). These measures are crucial for successful NSCPs.

Executive summary

Executive summary (1/3)

Varying subsidy support exists across member states, with households of some member states needing significant additional support, whilst others can be supported with just a loan, that could be funded through SCF and ETS2

The SCF and ETS2 funding could be used to cover the additional grants and loans required to fully subsidise the cost for energy poor households.

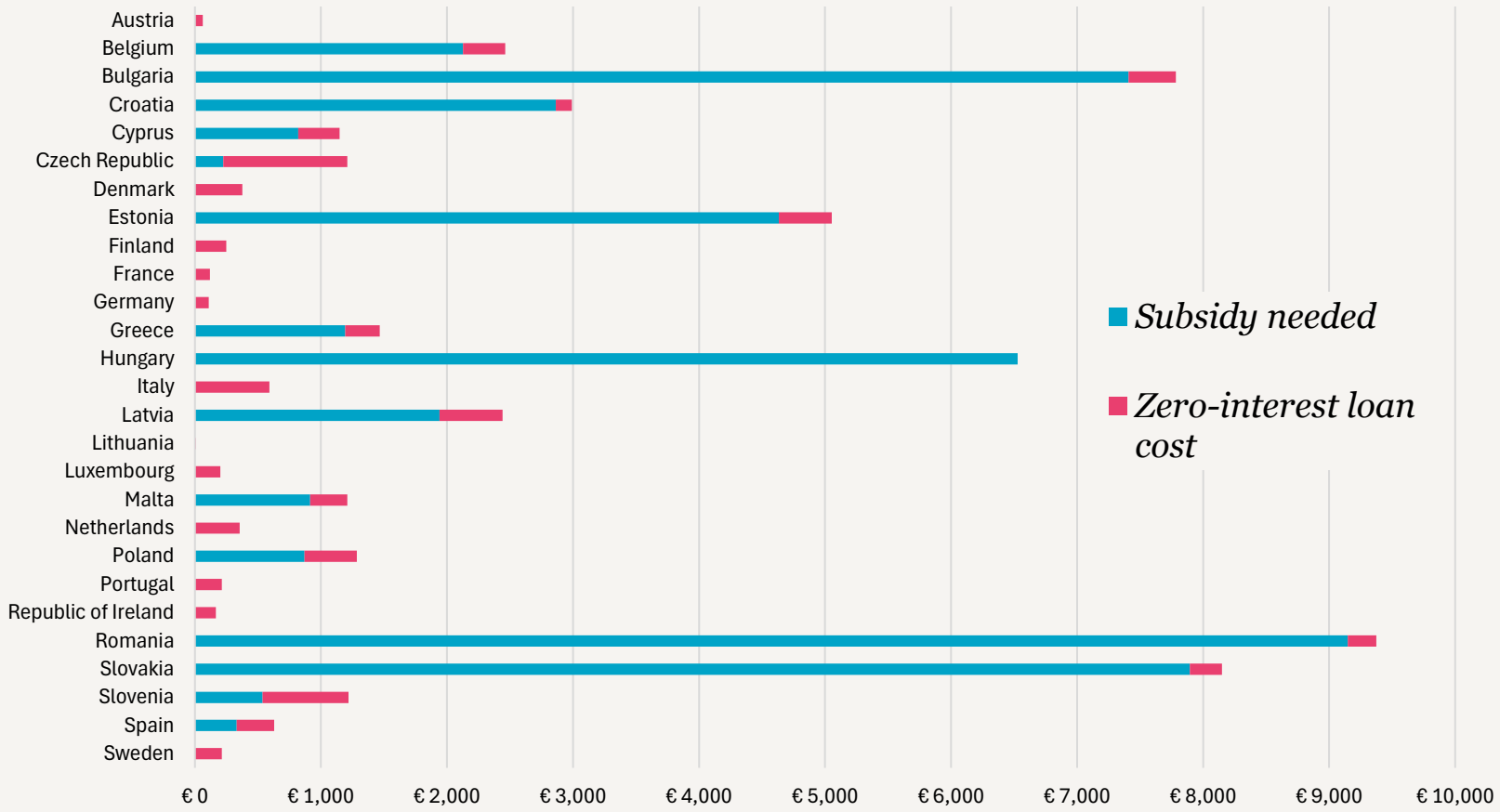
In 2024, there were a range of support schemes in place to subsidise the cost of a heat pump for households in the EU. These range from grants of around €7,500 in some Member States to no, or very little, funding available in others.

This creates a large range in investment households need to make to switch to a heat pump, with some only requiring to fund a gap of a few hundred euros and three Member States needing to cover over €7,000.

In member states when the payback is under 7 years, a 0% interest loan can support households with the upfront cost, especially when these households can't easily access credit.

In other Member States with longer payback periods, subsidies will be needed to cover the additional cost as savings from the heat pump will not cover the loan repayments.

Support gaps in the EU for each household to payback a heat pump* within 7 years



* The technologies are consistent with the Green Heat for 2 report, which assumes air-to-water heat pumps for all countries except Malta, Cyprus, Portugal and Spain. For these countries, air-to-air heat pumps are the chosen technology.

Executive summary (2/3)

The introduction of ETS2 by 2027 will generate revenues that can be used to support energy poor and vulnerable households transition to clean heating.

The second Emissions Trading Scheme (ETS2) is set to become fully operational by 2027, with revenues available to shield energy poor homes and accelerate decarbonisation.

Targeted use of ETS2 and the Social Climate Fund could fully fund heat pump access for almost all vulnerable households and accelerate progress towards REPowerEU 2030 targets.

However, factors at a Member State level, including allocation of funding, the nature of current support schemes and gas and electricity prices, could mean the level of funding is not sufficient to support all energy poor households to cover the full additional cost of a heat pump.

While the SCF distributes more revenues to countries with higher prevalence of energy poverty there is still expected to be variation at the Member State level in the ability of the fund to support all energy poor households, hence more complementary measures may be needed. This is demonstrated by the map on the following page.

65%

of energy poor homes in the EU could be shielded from gas price rises with a subsidised heat pump using the Social Climate Fund

100%

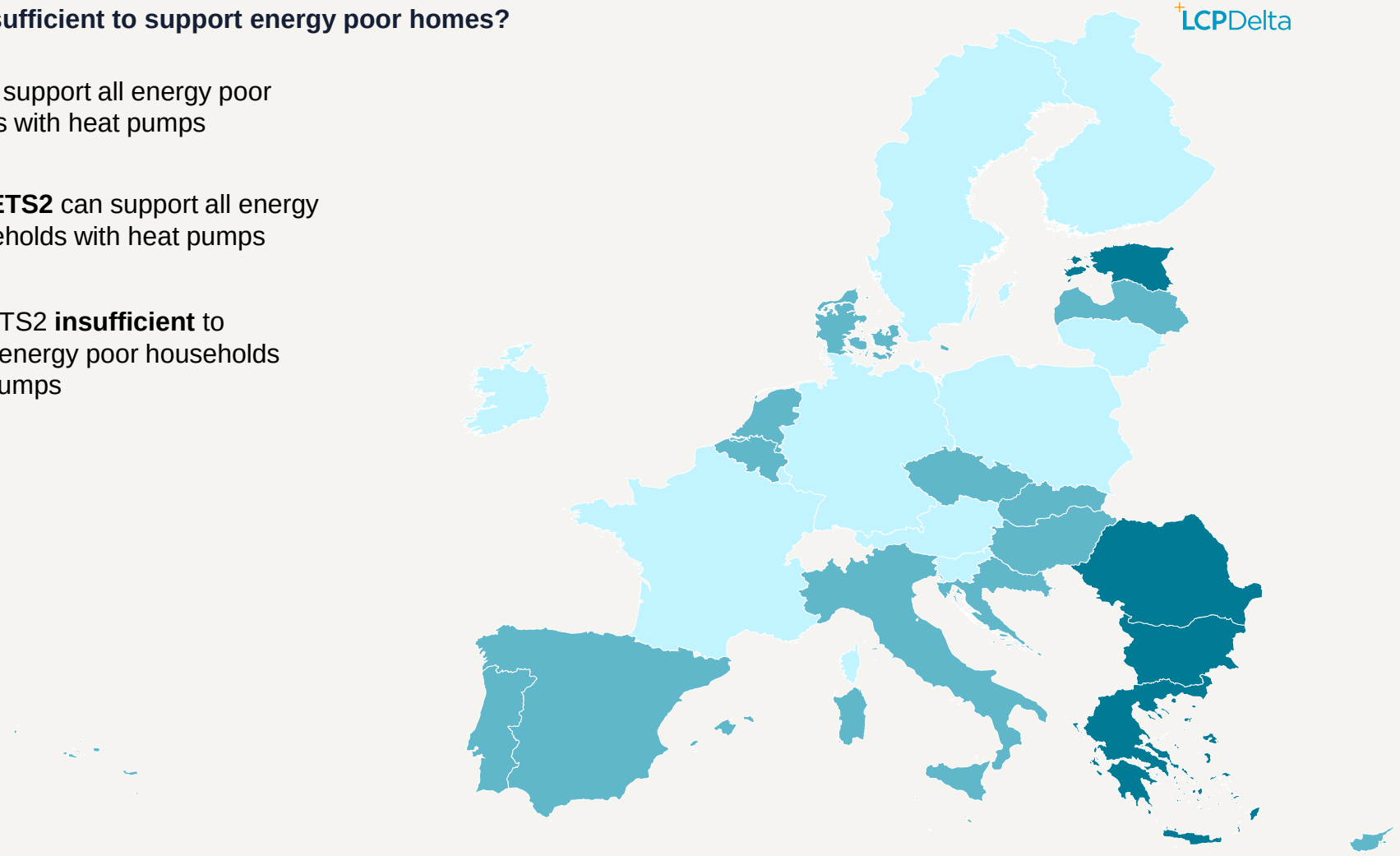
of energy poor of homes in the EU could be shielded from gas price rises with a subsidised heat pump using SCF and ETS2. As shown on the next page, when the funds are split by Member State it leads to some Member States not having a sufficient allocation for the energy poor homes.

Executive summary (3/3)

The extent to which the SCF and ETS2 funding can support energy poor households varies across member states.

Where is SCF sufficient to support energy poor homes?

- **SCF** could support all energy poor households with heat pumps
- **SCF and ETS2** can support all energy poor households with heat pumps
- SCF and ETS2 **insufficient** to support all energy poor households with heat pumps



1. Social Climate Fund (SCF) and Emissions Trading System 2 (ETS2)

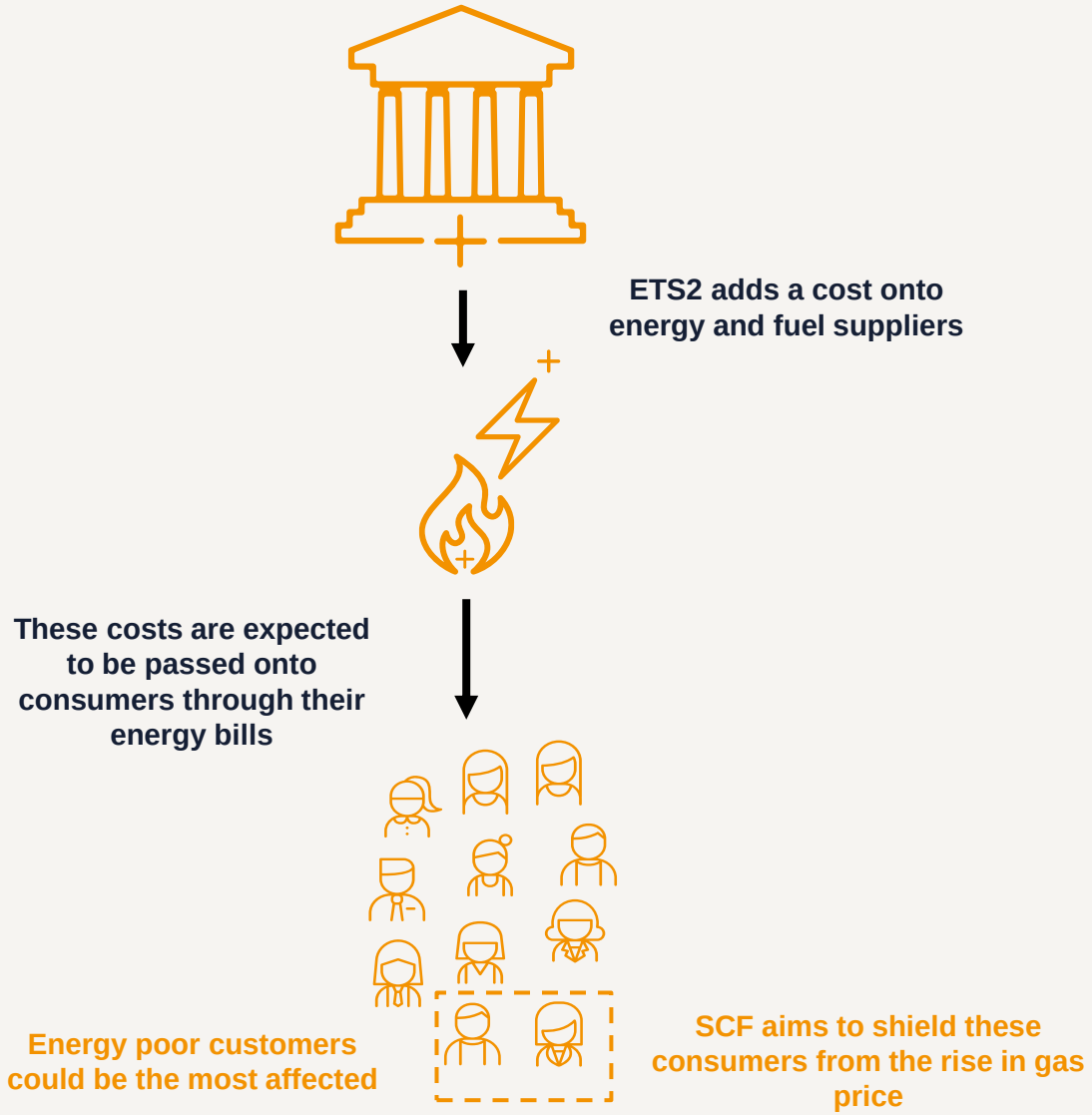
What are ETS2 and SCF?

(1/3)

The European Union's Emissions Trading System (ETS) is a key policy instrument for reducing greenhouse gas emissions through market-based pricing of carbon.

A second, expanded system—ETS2—is being introduced to complement the original scheme (ETS1) by covering additional sectors, particularly those with high emissions outside the scope of ETS1. To address the social impacts of this extension, the Social Climate Fund (SCF) has been established to support vulnerable consumers, including small business, during the transition to a low-carbon economy.

ETS2 will cover at minimum the built environment, road transport, and industrial sectors not included under ETS1. Member States may voluntarily include additional (sub)sectors. Fuels such as natural gas, petrol, diesel, coal, heavy fuel oil, LPG, and kerosene fall within ETS2's scope when supplied to regulated sectors. As a result, energy and fuel costs are expected to rise, with suppliers likely passing ETS2-related costs on to consumers.



What are ETS2 and SCF?

(2/3)

Allowances will be auctioned, with companies paying to emit carbon

Companies subject to ETS2 can purchase allowances via public auctions, where a surplus of permits is available. Beginning in 2026, a portion of ETS1 auction revenues must be allocated to the Social Climate Fund (SCF), with ETS2 revenues contributing from 2027 onward.

The SCF aims to support vulnerable households and small and medium enterprises (SMEs) in the transition to net zero.

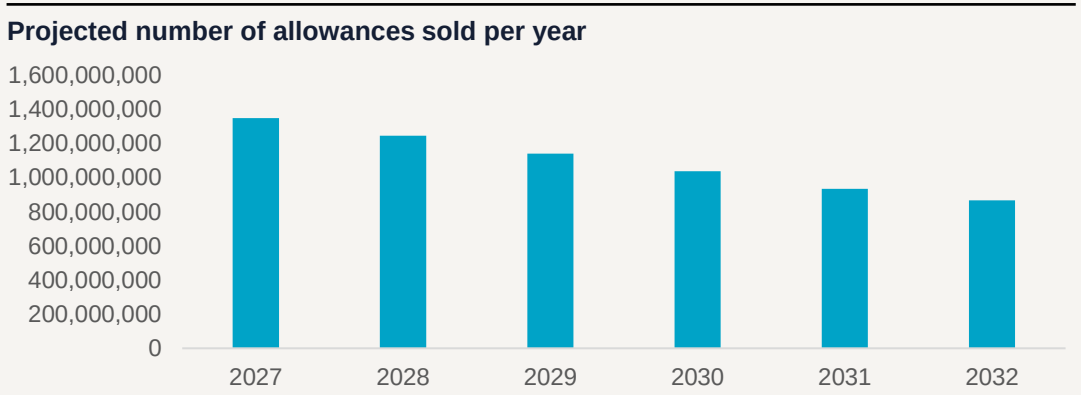
The SCF will pool revenues from the auctioning of allowances from the ETS2, as well as some allowances from ETS1, and a 25% co-financing contribution from Member States to their Social Climate Plans - mobilising up to an estimated €86.7 billion during 2026–2032.

While the EU will manage the fund, Member States must submit Social Climate Plans by June 2025, detailing investments and measures to mitigate the social impacts of carbon pricing. Eligible uses include building renovation, clean transport, and direct income support for vulnerable households (up to 37.5% of funds). Disbursement of funds will depend on achieving the targets and milestones outlined in these plans.

At the end of 2024, the European Commission confirmed the **ETS2 cap for 2027**, which will slightly exceed **1 billion allowances**. To help ensure price stability at market launch, a **frontloading mechanism** will be applied, increasing the 2027 auction volume by **30%**, resulting in approximately **1.347 billion allowances** available in the first year.

To compensate for this early increase:

- **Auction volumes will be reduced by 103.6 million allowances per year** from 2029 to 2031.
- The 2028 cap will be set later based on emissions data from 2024–2026.
- From **2028 onward**, a **linear reduction factor (LRF) of 5.38%** will apply, reducing supply by approximately 67.4 million allowances per year.



What are ETS2 and SCF?

(3/3)

Timeline

ETS2 regulated entities required to hold a permit
1 January 2025

Trading starts for ETS2
1 January 2027

2026 – 2032
Social Climate Fund

June 2025
Member states required to submit their Social Climate Plans, outlining the planned measures to support vulnerable households

Allocation of funds

The Social Climate Fund will make €65 billion available over 2026-2032 from ETS1 and ETS2 revenue. Member States are also required to contribute at least 25% of the cost of their Social Climate Plans (SCPs), meaning that the SCF should mobilise at least €86.7 billion. The fund needs to be used to support vulnerable households, vulnerable small businesses and vulnerable transport users.

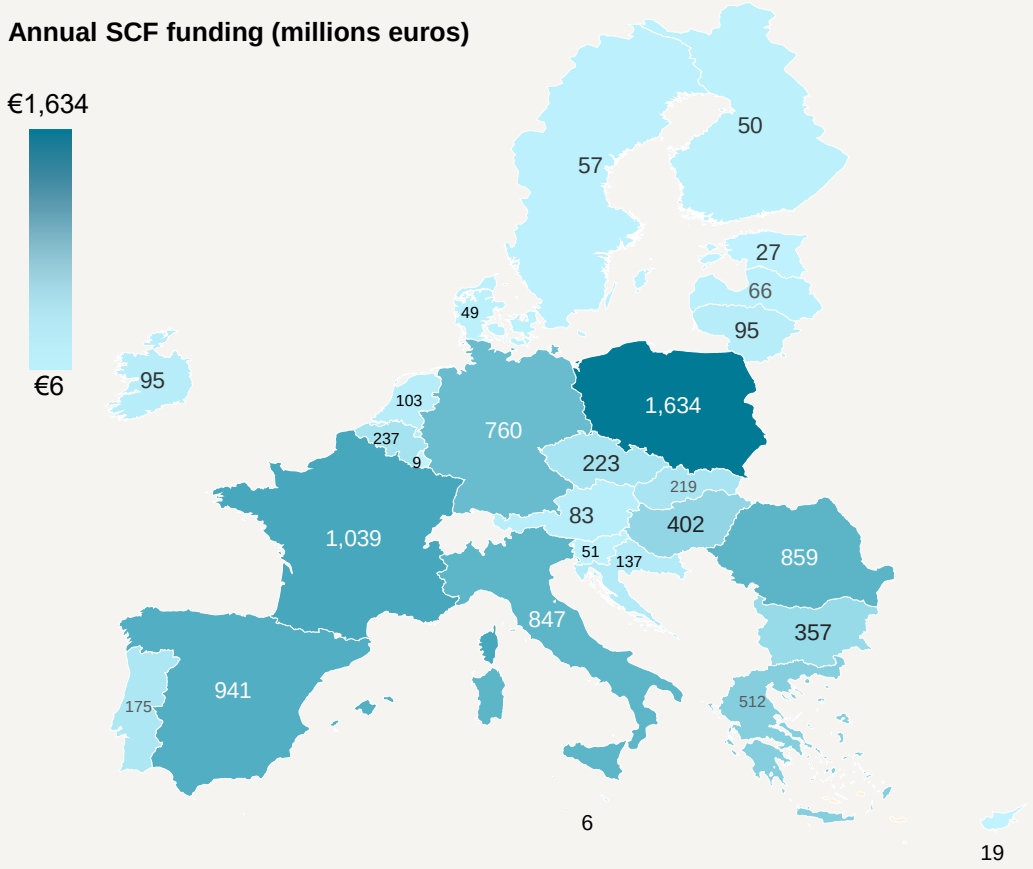
In addition, Member States are required to use ETS2 revenues to support specific climate action and energy transformation purposes. This can include:

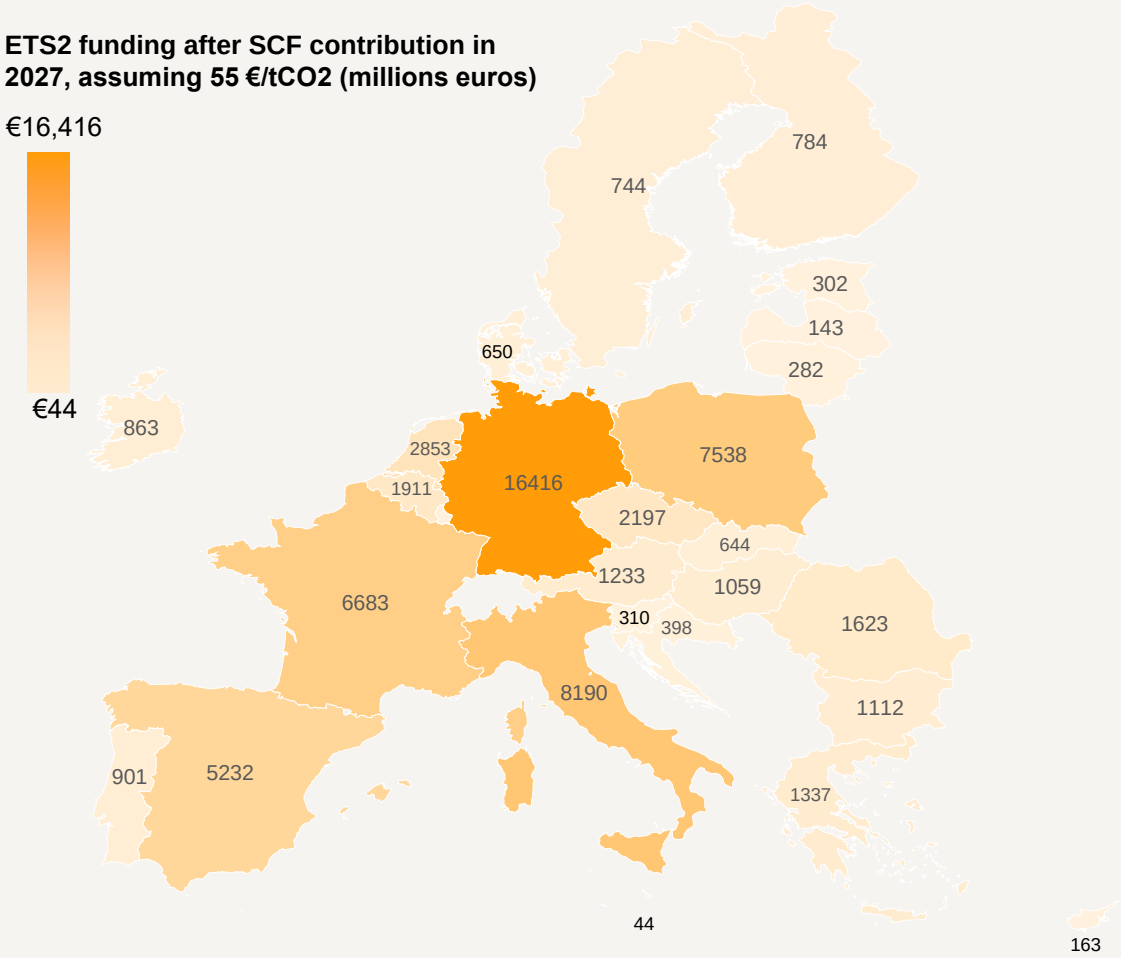
- Energy transformation
- Clean technology technologies
- Industrial decarbonisation
- Adaptation to climate change
- Decarbonisation of the transport sector
- Actions for just transition

Therefore, Member States can choose to propose to use the SCF and the ETS2 funding for a number of purposes. The installation of heat pumps will be one key use of the funds, alongside the installation of insulation, rollout of electric vehicles and implementation of district heating networks.

Allocation of SCF and ETS2 per member state

SCF will be allocated based on socioeconomic factors including income and energy poverty, whilst ETS2 is likely to be allocated according to greenhouse gas contributions.





A detailed breakdown of funding allocation can be found in Annex 2

2. What does ETS2 mean for energy poverty and what is the role of heat pumps?

Energy poverty

Percentage of households unable to adequately keep their home warm and/or that are in arrears on their utility bills

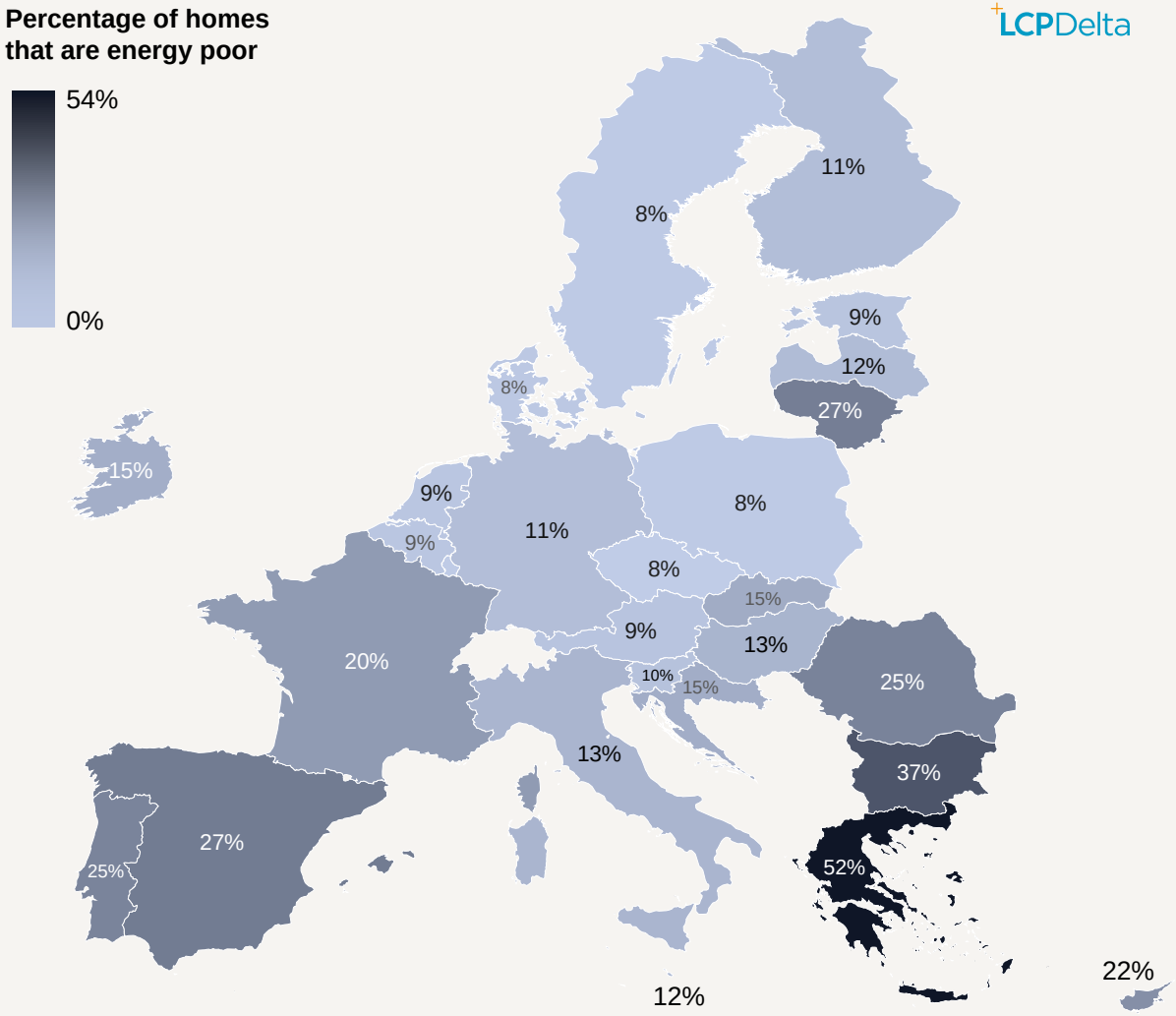
It is estimated that there are around 32 million* households in the EU that are energy poor.

There is an acknowledgment with the introduction of ETS2 that steps must be taken to protect the most vulnerable EU citizens. Without these steps, ETS2 will have a higher impact on low-income households – as their share of expenditure on heating and cooling is relatively higher.

There are a number of different metrics to define energy poverty, with definitions and effects varying across countries. EU Commission provides guidance on the interpretation of energy poverty indicators. Member States can further disaggregate some of the indicators to deepen the analysis of potential drivers of energy poverty at an EU level.

Though definition and effects differ from country to country, the map on the right provides an indication of breakdown of the energy poverty by member state, using a combination of two key metrics:

- Percentage of households unable to adequately keep their home warm
- Percentage of households that are in arrears on their utility bills



*Based on the indicators detailed above. Data available at Energy Poverty Advisory Hub (EPAH) and Eurostat – EU-SILC

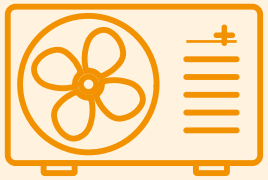
Impact of ETS2 on energy poverty and options to mitigate

ETS2 has the potential to significantly impact energy poor consumers – heat pumps provide one solution

The ETS2 covers fossil fuels, including gas and oil, which is currently used to heat a large proportion of homes across the EU. The cost of these fuels will rise as a result of the introduction of ETS2.

Low-income households are disproportionately affected as they:

- Spend a higher share of their income on energy
- Often live in less energy-efficient homes
- Have less capital flexibility to invest in clean alternatives (e.g. switching their gas boiler to a heat pump).



The Social Climate Fund aims to cushion the impact on vulnerable households. **The installation of a heat pump into a vulnerable household has the potential to shield vulnerable consumers from this increase in oil and gas prices, whilst contributing to decarbonisation targets**. There is also a requirement to spend ETS2 revenue on climate and energy-related purposes, which could include the installation of heat pumps.

The cost competitiveness of heat pumps relative to other heating technologies is influenced by several factors, including upfront capital costs, operating and maintenance expenses (notably electricity prices), system longevity and the availability of financial incentives to all households. While heat pumps typically entail higher initial investment than conventional fossil fuel systems (e.g., oil or gas boilers), they can offer lower lifetime operating costs due to their superior energy efficiency.

To incentivise people to install a heat pump, the upfront and running costs of a heat pump needs to be competitive. Whilst heat pumps have higher energy efficiency than fossil fuel boilers, electricity prices can mean that consumers do not get a significant return on investment when switching. In addition, the upfront cost remains a barrier – both in terms of the heating system itself and the potential need to make upgrades to the property alongside a heat pump (e.g. replacing radiators or improving building fabric)

There will not be an efficient one size fits all approach. A combination of support measures, including grants and loans, will be required to encourage consumers to purchase heat pumps.

Installing heat pumps also supports the **REPowerEU Plan to phase out Russian fossil fuel imports**. To meet REPowerEU targets by 2027 it is estimated that renewable energy in heating and cooling should expand **at least 2.3 percentage points annually**.

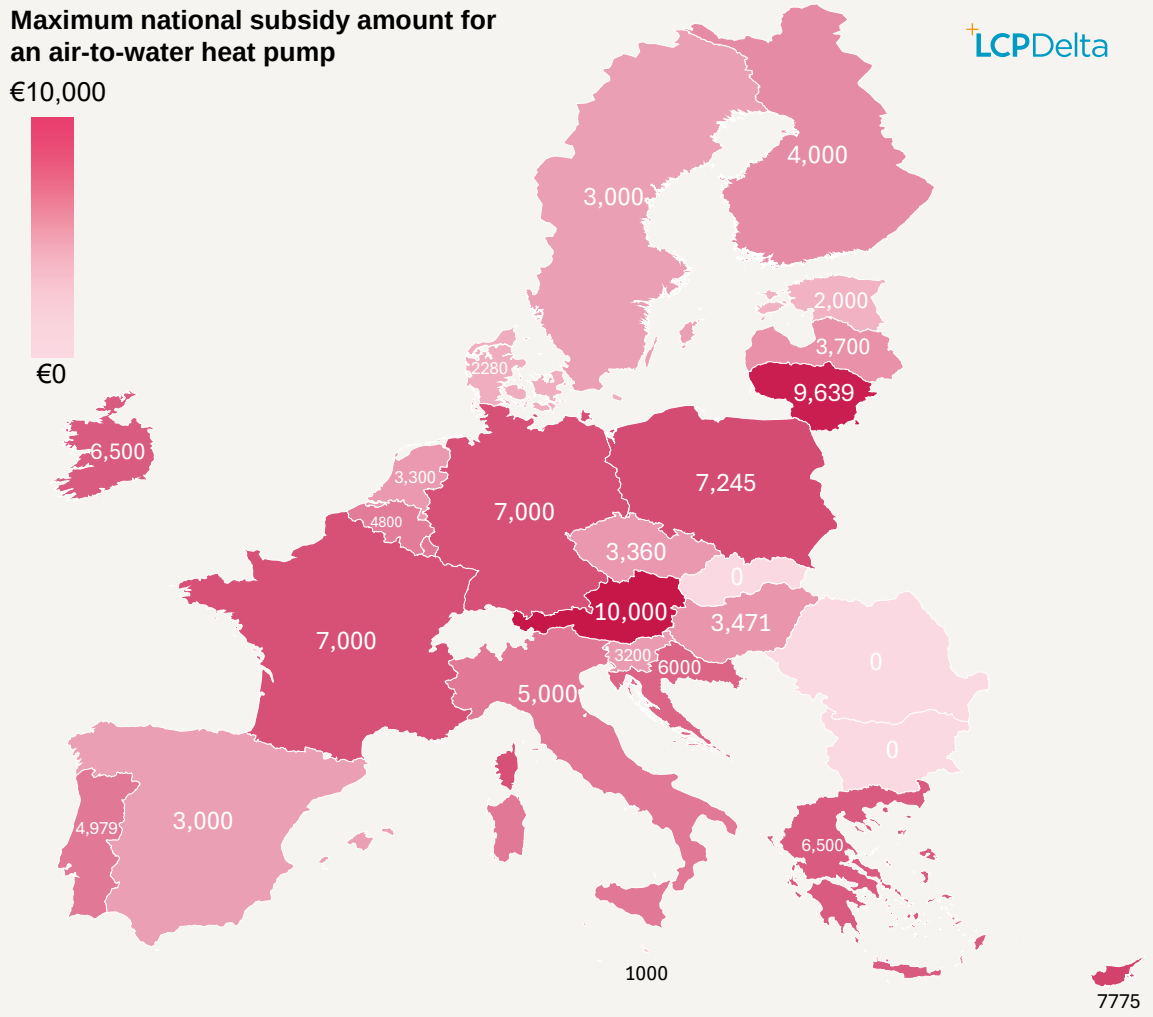
National subsidy schemes

Heat pump subsidies across the EU are widespread, vary greatly in type, accessibility and scale across member states

As set out above, the installation of heat pumps in the homes of vulnerable consumers will be a critical step in alleviating the impact of ETS2. There are already a number of support mechanisms in place across the EU. These vary in form and levels of funding and include*:

- Italy's Ecobonus for Energy Renovation
- France's MaPrimeRenov bonus
- VAT reduction to 6% in Belgium
- Finland's grant for giving up oil heating in detached houses
- Heat pump grant system in Republic of Ireland

The maximum national subsidy amount for air-to-water heat pumps is provided in the map on the right. This focuses on support for low-income homes and assumes relevant eligibility critieria (e.g. Minimum energy performance certificate (EPC) standard) are met.



** A list of the funding support by member state can be found in Annex 1.*

A 2024 update of the heat pump gap-o-meter

Analysis on the necessary additional subsidy and loans for households to payback a heat pump within 7 years

This heat pump gap-o-meter provides an update of analysis carried out for the Green Heating for all 2 report.

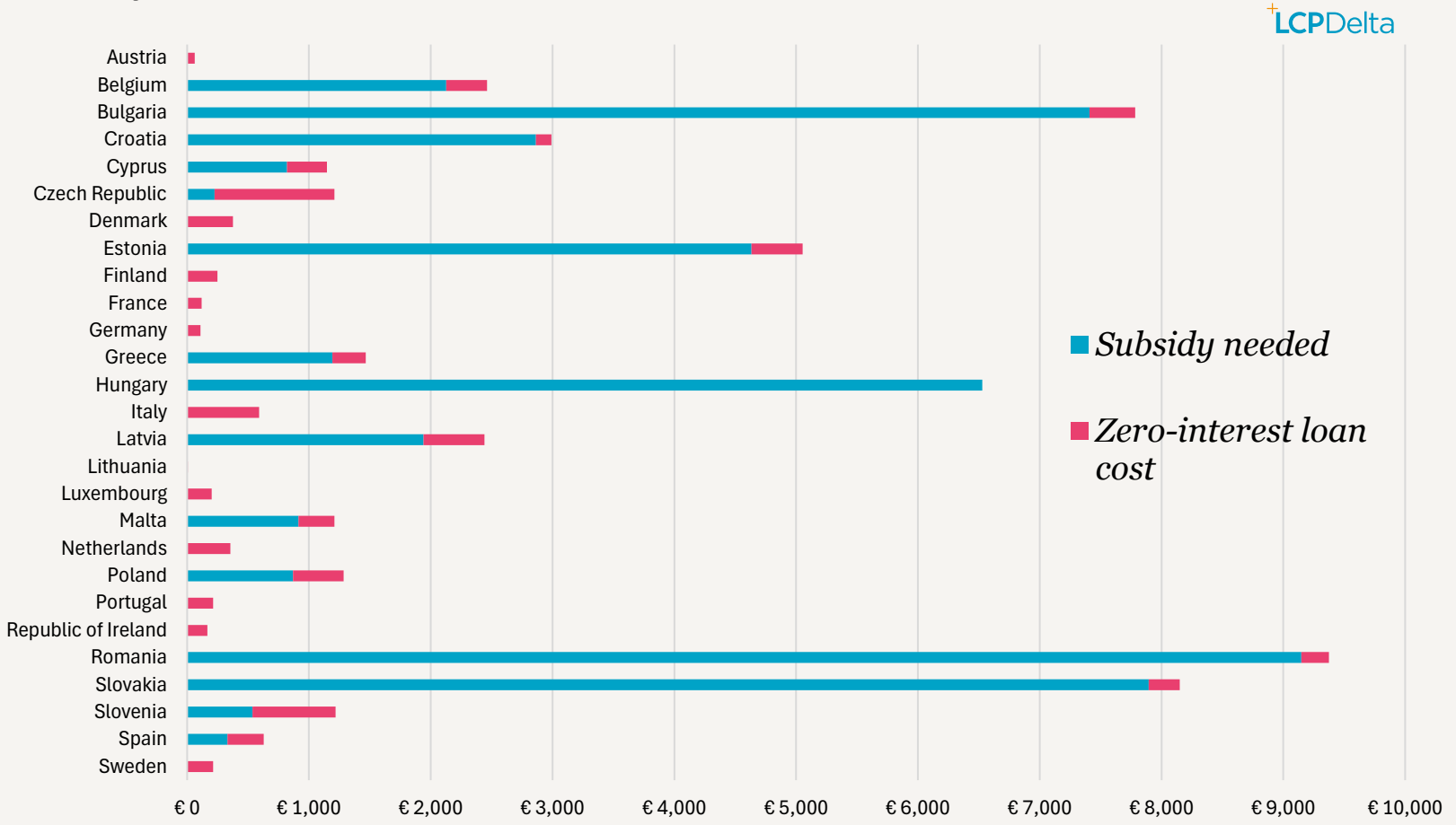
It explores the ability of European households to invest in air to water heat pumps and have a payback of 7 years or less.

In member states when the payback is under 7 years, a 0% interest loan can support households with the upfront cost, especially when these households can't easily access credit.

In other Member States with longer payback periods, unless other policies are in place, subsidies will be needed to cover the additional cost as savings from the heat pump will not cover the loan repayments.

The SCF and ETS2 funding could be used to cover the additional grants and loans required to fully subsidise the cost for energy poor households.

Necessary additional subsidy and cost of zero interest loan for each household to payback a heat pump within 7 years*



** With subsidies available in 2024 and fuel costs forecasts taken March 2025*

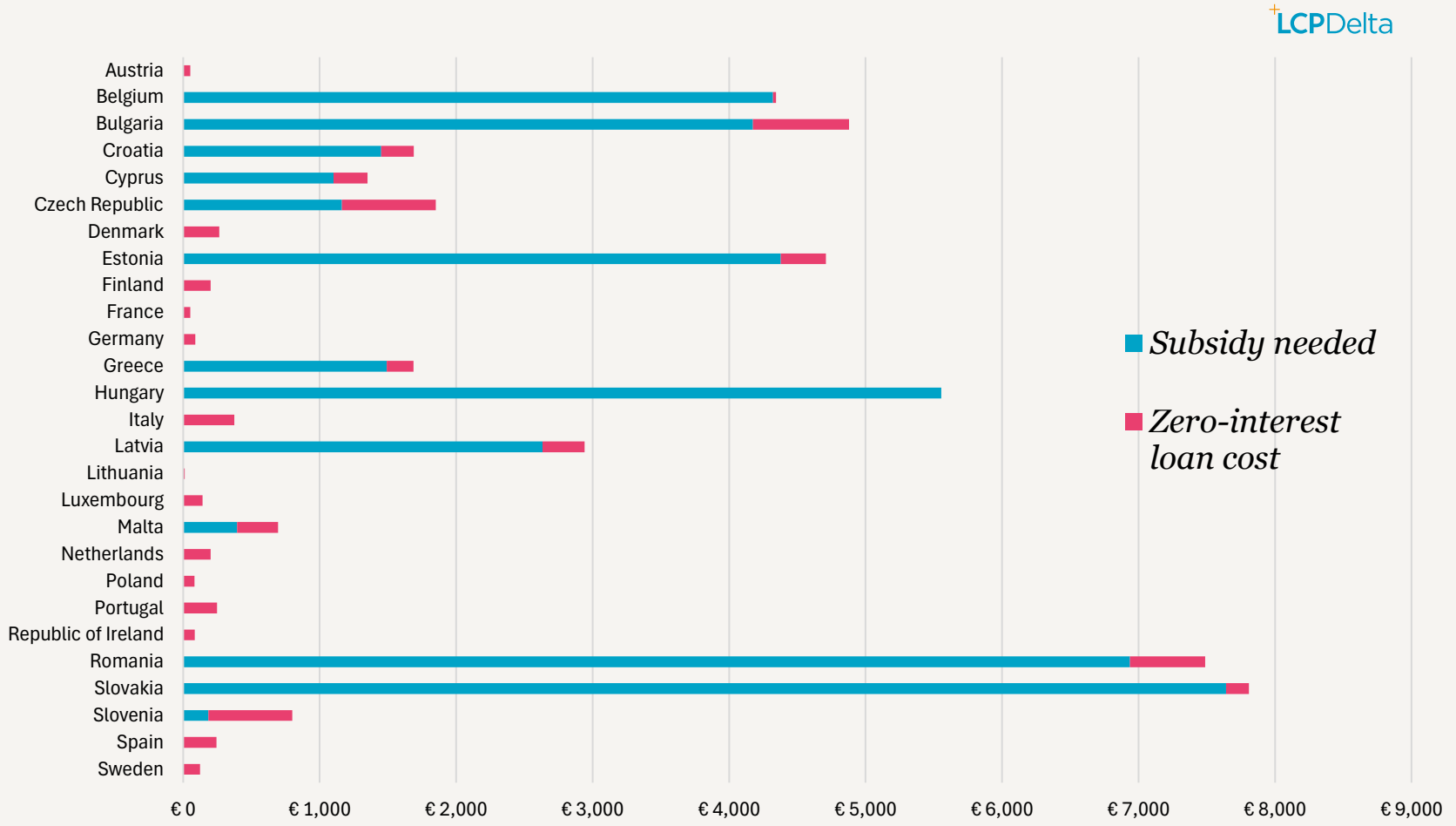
The subsidy gap will get smaller by 2032

The impact of ETS2 on gas prices makes the annual savings from a heat pump larger by 2032

The introduction of ETS2 will cause gas and oil prices to rise, thereby improving the payback case for heat pumps.

For most Member States with a larger gap (e.g. Belgium, Bulgaria, Estonia) the necessary subsidy or loan amount reduces by €1,000-2,000.

Forecasted necessary additional subsidy and cost of zero interest loan for each household to payback a heat pump within 7 years, in 2032



Role of renovation of buildings

Renovation alongside heat pump installations will be important to meet targets

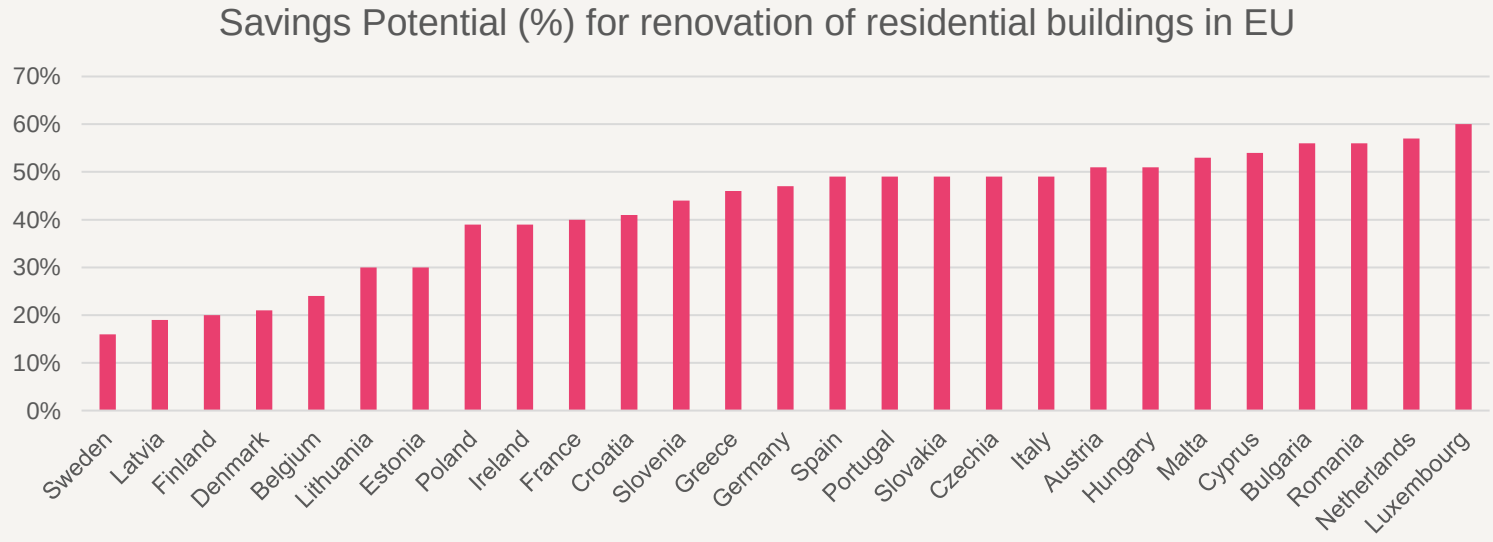
The focus of this report was to explore the options for subsiding heat pumps in EU residential buildings. It is important to recognise that whilst heat pumps will be a leading technology in decarbonising residential buildings, there are a range of other heating and cooling technologies that will be used. In addition, the fabric efficiency of buildings is an important determining factor in the size of heating bills and carbon emissions for households.

In Europe, the majority of building stock dates from before 1990 and about 1% of the building stock is built annually. The renovation of existing buildings will therefore be an important step in meeting net zero targets.

Research carried out in 2022 identified that if all residential buildings in the EU were renovated to achieve targeted efficiency, 777TWh or 44% of final energy used for space heating could be saved. This assumes the entire building stock is renovated by 2050, the renovation rate is at least doubled by 2030, and further increases to a 3% renovation rate by 2035 and 4% by 2030.

The research identified that energy savings will vary significantly by country, due to differences in the building stock, climate, energy demand by square meter. This means Luxembourg, the Netherlands, Romania and Bulgaria achieve the highest savings (all over 55%) and Sweden achieving the lowest (16%).

The analysis found that by only **renovating roofs and walls** to the target U-values **about 60% of the EU countries can save between 8-11% of final energy consumption by 2030**



Source: How to Stay Warm and Save Energy – Insulation Opportunities in European Homes. Building Performance Institute Europe (BPIE) (2023)

3. Policy option scenarios

Policy scenarios

An allocation of SCF and ETS2 funds could be a mix of subsidies and zero-interest loans repaid with the annual savings made from switching to a heat pump

In this study we have modelled four policy scenario options for the allocation of SCF and ETS2 funds to subsidies and zero-interest loans

- **Subsidies:** Funding will be provided to households to cover the missing subsidy amount that is needed to bring the pay back period of a heat pump below 7 years, through savings on bills (prices adjusted ETS2).
- **Zero interest loans:** Funding is given to households in the form of a loan, repayable in monthly payments **without** charging interest payments. The loan is repaid by the household using the savings they make from switching to a heat pump from their old gas/oil system. The cost of giving this loan is the effective value of interest that the government has missed out on by not charging interest.

A combination of policy mixes have been defined over four scenarios to assess the impact on the number of heat pumps that could be installed.

In practice, the **allocation strategy is likely to be highly country-specific**, rather than being set at the EU level. Each member state would choose the amount of funding to allocate towards loans or subsidies based on their demographics, energy costs and their existing subsidy schemes. The scenarios in this report are chosen to provide a comparable analysis across Member States.

	Social Climate Fund (SCF)		Remaining ETS2 revenues	
	Subsidies	Loans	Subsidies	Loans
Scenario 1 (SCF only)	100%	0%	0%	0%
Scenario 2 (SCF only)	50%	50%	0%	0%
Scenario 3 (SCF and ETS2)	50%	50%	100%	0%
Scenario 4 (SCF and ETS2)	100%	0%	50%	50%

Allocation of funding: subsidies and loans

Methodology

1. The heat pump gap-o-meter

The missing subsidy and cost of zero interest loan is calculated for each member state, accounting for factors including the current subsidy support, energy costs and interest rates.

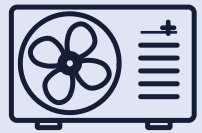
2. The Social Climate Fund

SCF funding is allocated first, targeting energy poor households according to subsidy gaps and loan costs. SCF funding is used **only** on energy poor households. For countries where there is surplus SCF, the funding is assumed to be reallocated to another sector

3. Remaining ETS2 funding

Remaining ETS2 funding designated for clean heating is allocated next. Energy poor homes **not reached** by SCF are targeted first, followed by the wider population.

4. Number of heat pumps



The final number of heat pumps installed per member state is combination of installs due to SCF and ETS2, depending on the chosen policy mix

A detailed description of the methodology can be found in Annex 2

EU-level findings (1/2)

The impact of the Social Climate Fund (SCF) on heat pump installations by 2030

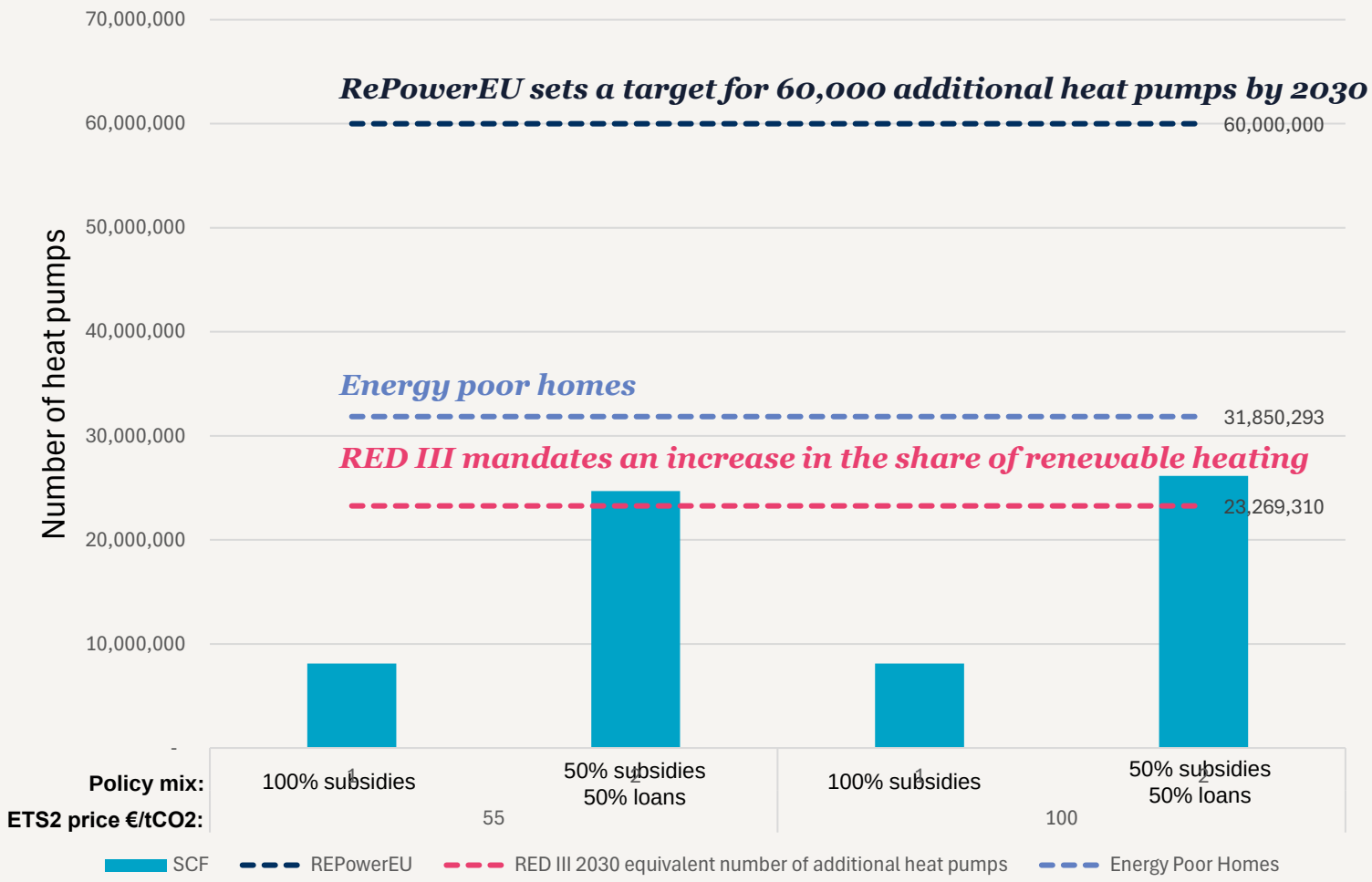
The Social Climate Fund alone could provide over 20 million heat pumps to energy poor homes in the EU, but falls short of the total number required

- A targeted allocation of SCF funding using 50% subsidies and 50% zero-interest loans could deliver just over 20 million heat pumps EU-wide.
- This exceeds the Renewable Energy Directive (RED) III binding target for member states to increase their share of renewable heating and cooling
- But the SCF falls short of being able to provide subsidised heat pumps to **all** energy poor homes across the EU

65%

of energy poor homes in the EU could be shielded from gas price rises with a subsidised heat pump using the SCF to complement existing subsidies

Number of heat pump installations in the EU by 2032 due to SCF only



EU-level findings (2/2)

The impact of using SCF **and** remaining ETS2 revenues to subsidise heat pumps

Using the remaining ETS2 revenues, the EU could target all energy poor homes, delivering 100 million heat pumps and exceeding targets set for 2030 by RED III and RePowerEU.

- By taking additional support from the remaining ETS2 revenues towards heat pump subsidies and loans, **all of the EU's energy poor homes** could be shielded from a rise in gas prices with a heat pump.

100% **of energy poor of homes in the EU could be shielded from gas price rises with a subsidised heat pump using SCF and ETS2 to complement existing subsidies**

Number of heat pump installations in the EU by 2032 due to SCF and ETS2

Reduction in gas consumption due to SCF

Heat pump installations due to SCF could reduce EU gas consumption by 11%

Gas consumption in the EU

EU gas consumption stabilised in 2024 at 332 bcm (3243TWh), marking the first year since the 2021 energy crisis without a decline. While this was only a 1% increase on 2023, it reflects a potential floor in demand reduction after a cumulative 20% drop compared to pre-crisis 2021 levels. Gas use varied significantly across Member States, with changes in national consumption ranging from -17% to +30% in 2024. Despite this divergence, every Member State used less gas than in 2021.

Source: European Commission Quarterly report on European gas markets

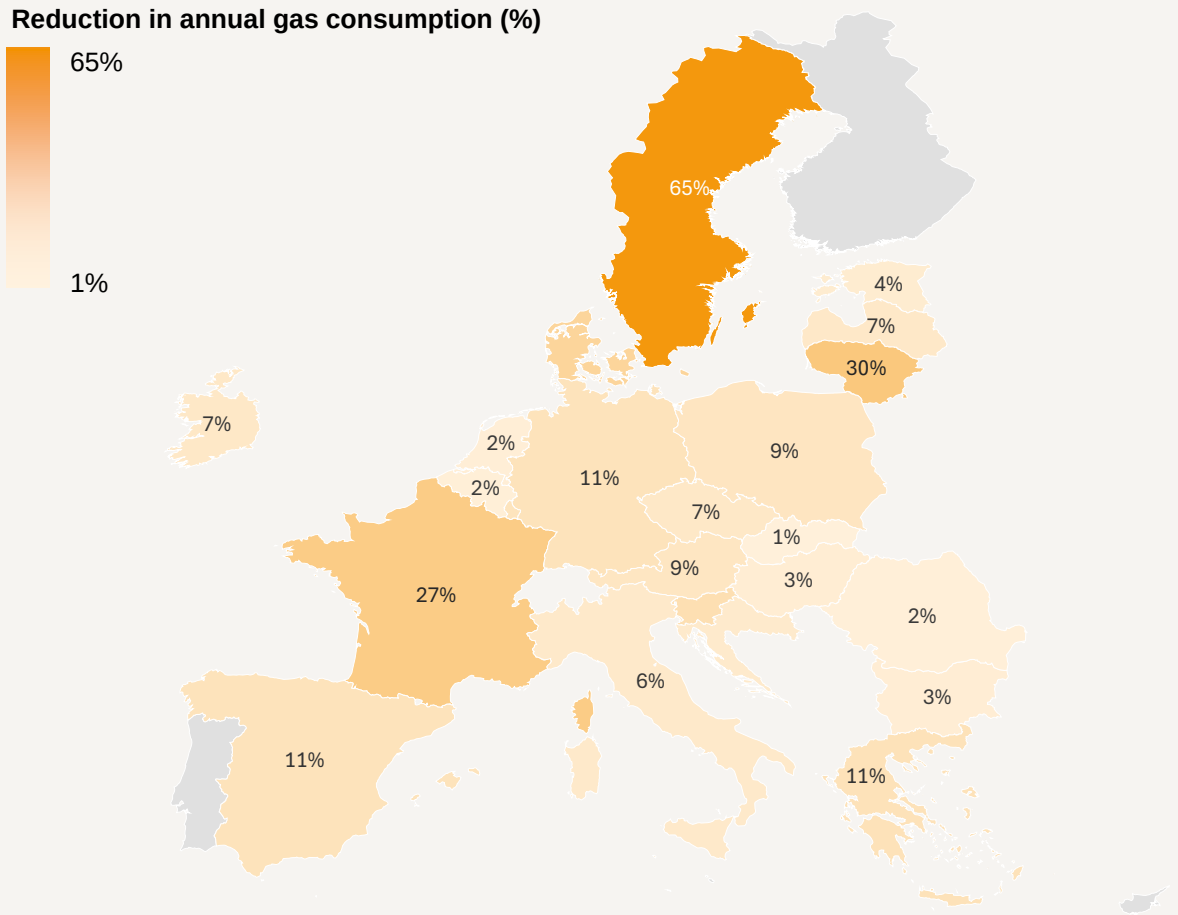
3243 TWh

In 2024, the EU consumed just over 3200 TWh of natural gas

11% reduction

Heat pumps installed from SCF could reduce overall EU gas consumption by 11%

Reduction in annual gas consumption by 2032 due to heat pumps installed from SCF, relative to 2023 levels (Scenario 2)



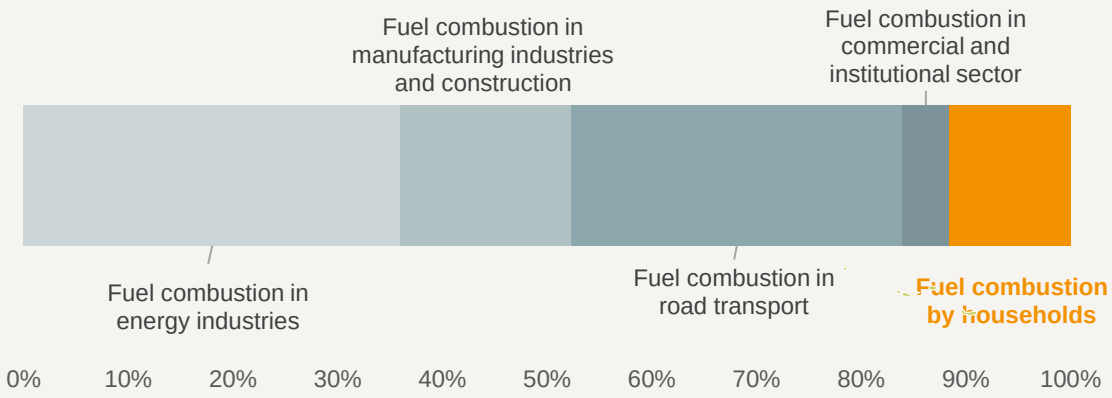
Emission reductions due to SCF

The social climate fund could reduce CO_2 emissions from household fuel combustion in some member states by up to 47%

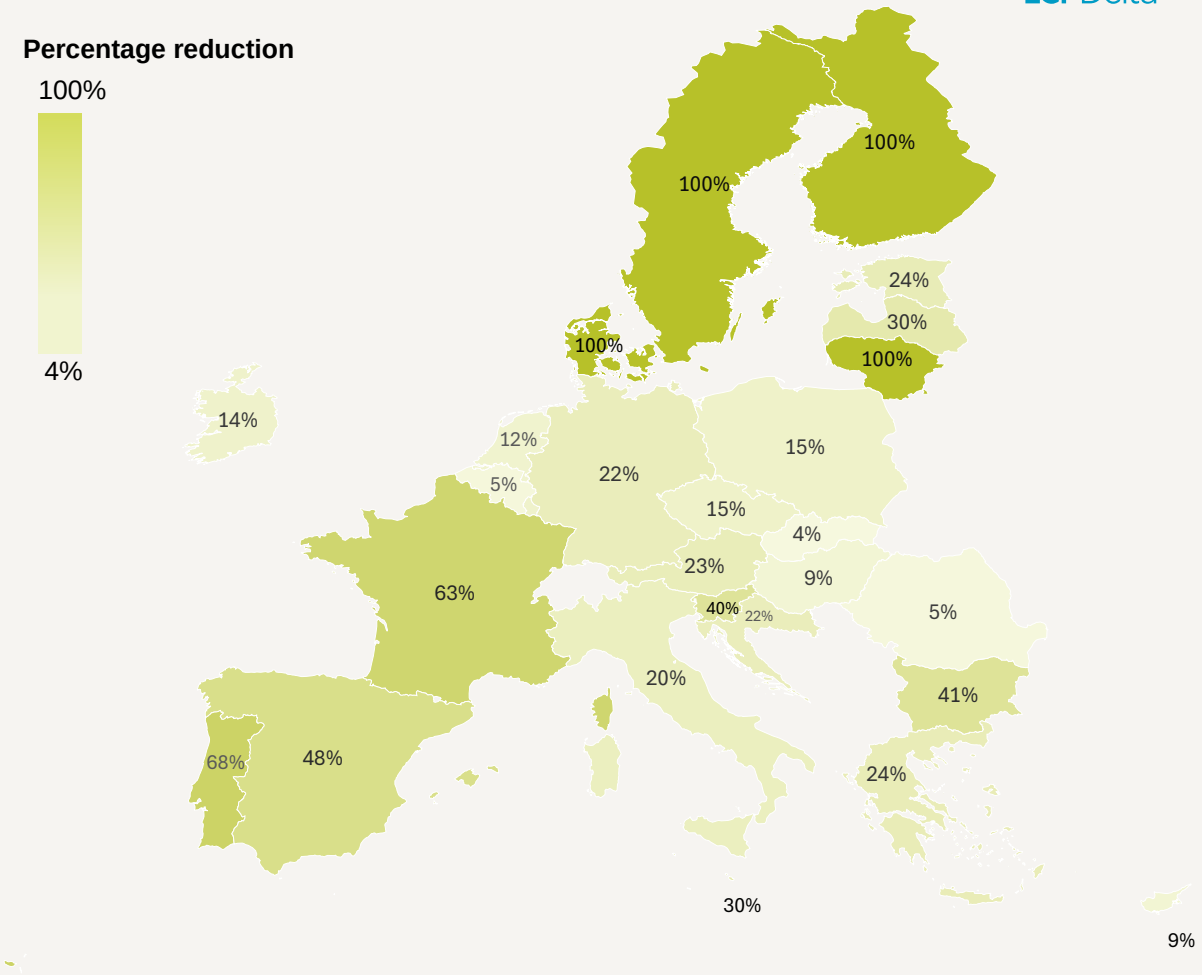
Avoided carbon emissions

- Decarbonisation of residential heating is widely regarded as one of the most significant challenges to reaching net zero
- In addition to providing energy poor homes with a more cost-effective heating system, the heat pumps delivered by SCF have the potential to make significant in-roads on reducing CO_2 emissions from household fuel consumption.

ETS2 sector emission share, 2022



Percentage reduction in household fuel combustion emissions due to SCF-funded heat pumps (Scenario 2)



4. Member state findings

Austria

SCF sufficient to provide support for all energy poor homes

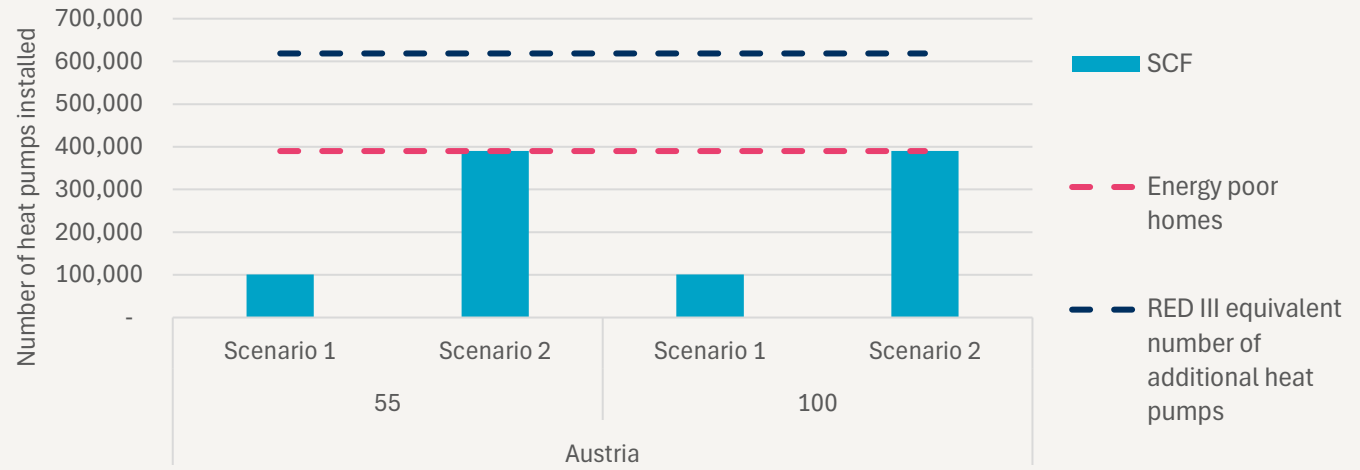
- Austria's support scheme covers 75% of the cost of the heat pump. For low-income customers there is support in place that covers 100% of the cost but funding pot is sufficient to cover ~18,000 homes so was not used as the baseline funding scenario.
- A combination of grants and loans through SCF should support all vulnerable customers to receive a subsidised heat pump
- If ETS2 funding is used for loans to cover the remaining funding gap for other consumers there is sufficient funding to extend the support to all households.

Air-to-water heat pump

100%

of energy poor of homes in AT could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2

*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Belgium

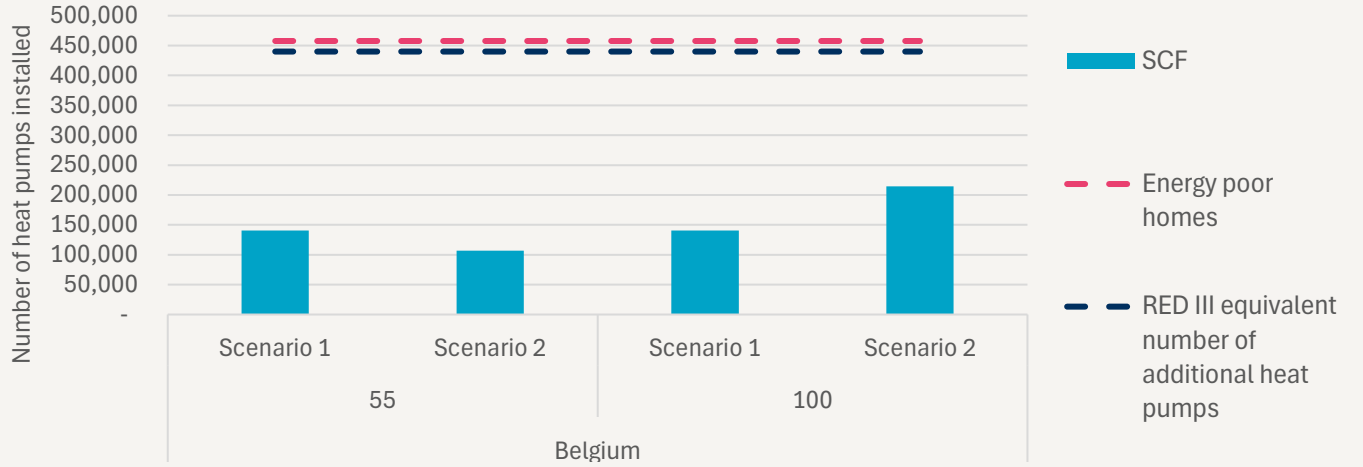
SCF funding in BE is insufficient to support all vulnerable homes

- The support in Belgium is largely focused at a regional level. The main support at a national level is a reduced VAT for heat pumps (6%).
- At a regional level the support is around €4,000-5,000.
- Above average European electricity prices and below average gas prices mean that despite the financial support the heat pump does not pay back within 7 years. Therefore, in Belgium, there is a fairly large funding gap (about €2,500)
- SCF alone is not sufficient to support all energy poor homes, supporting around 200k homes through a mix of grants and loans. ETS2 funding is sufficient under both scenarios to support the remaining vulnerable households.

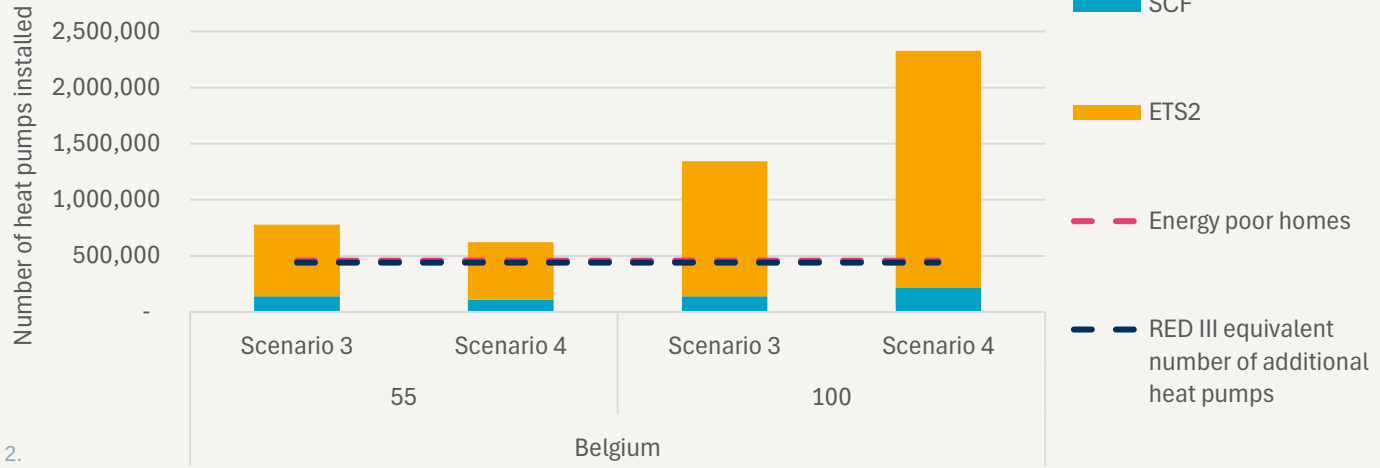
Air-to-water heat pump

31% **of energy poor of homes in BE could be shielded from gas price rises with a subsidised heat pump using SCF**

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Bulgaria

A lack of existing funding limits the impact of SCF and ETS2 in BG, with both measures falling short of reaching all energy poor homes

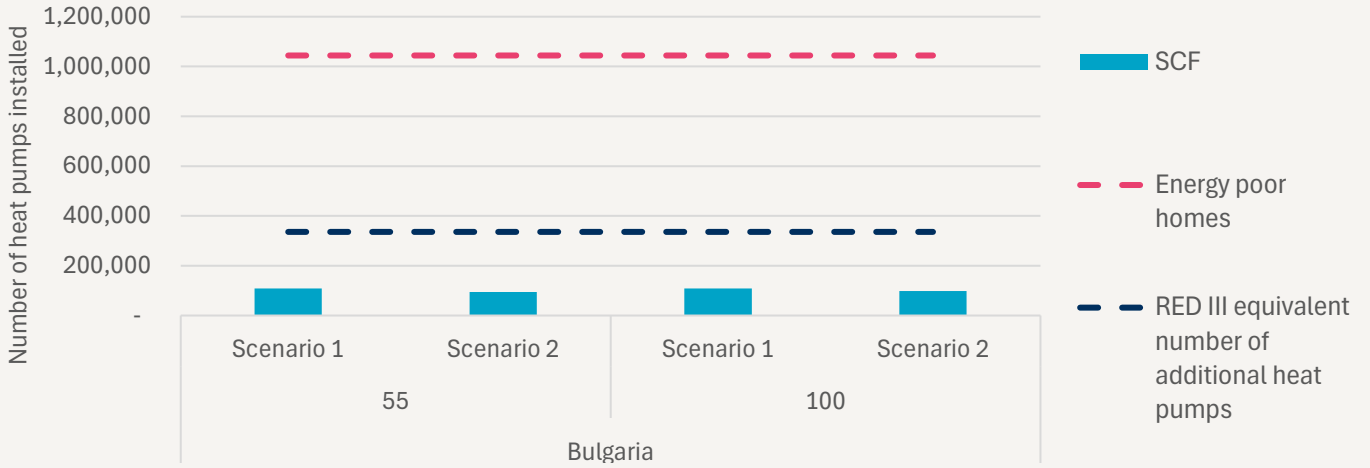
- Bulgaria has the third largest funding gap in the gap-o-meter. Despite relatively low electricity prices the low annual spend on heating means the saving each year for a heat pump is relatively low compared to other member states
- The upfront cost of a heat pump in Bulgaria is high compared to the average salary (roughly 12 months of income) and the proportion of energy poor households is high (37%)
- Therefore subsidies will be important to support energy poor homes in Bulgaria. SCF and ETS2 funding is not sufficient to support all these homes.

Air-to-water heat pump

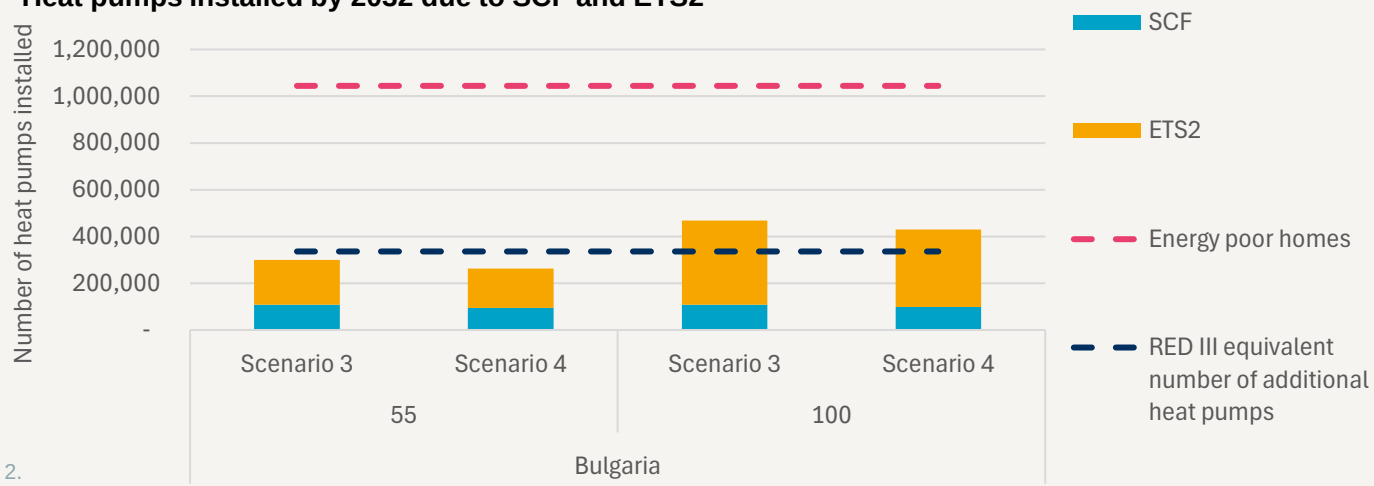
10%

of energy poor of homes in BG could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Croatia

Low gas and electricity prices mean slower payback

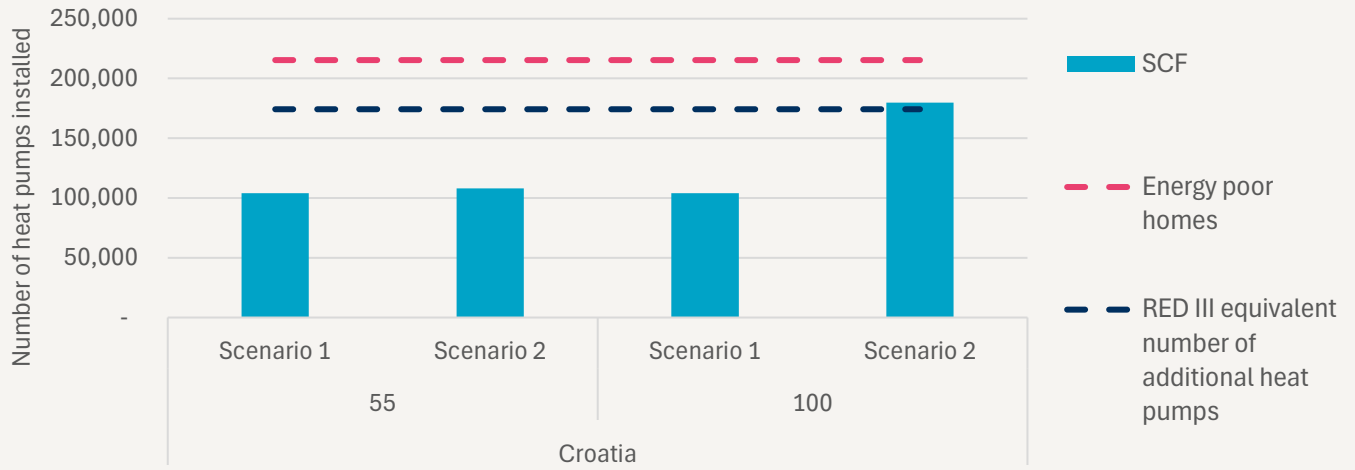
- Low gas and electricity prices in Croatia mean relatively low household bills and therefore slower payback for heat pumps.
- There is financial support in place with households being able to receive support for up to 60% of the eligible cost.
- Energy poor homes will need subsidy support to cover the remaining upfront cost.
- SCF alone is not sufficient to support all energy poor households but ETS2 is sufficient under both price scenarios to support

Air-to-water heat pump

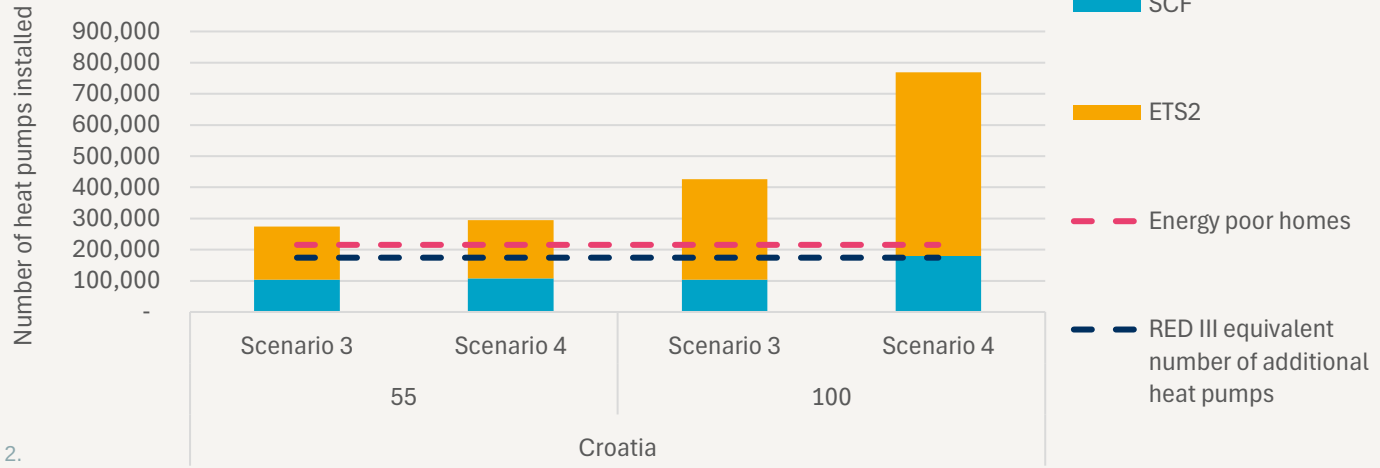
50%

of energy poor of homes in HR could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Cyprus

New support scheme available in 2024

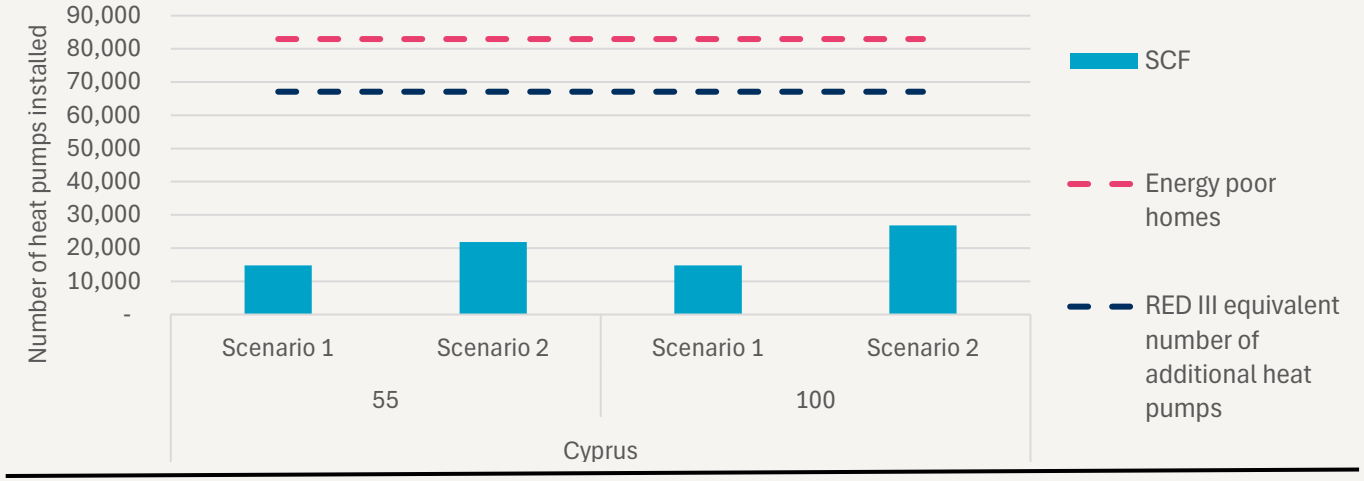
- In Cyprus, €900 is available for vulnerable households to fund a solar thermal water heating system
- Annual savings are relatively small (€300- €400) despite, the higher-than-average COP in Cyprus, but the given the current subsidy scheme in place, the remaining investment pays back in 5 years, hence no further subsidy is required.
- Through a combination of loans and subsidies SCF provides sufficient support for all energy poor households

Air-to-air heat pump + solar thermal water heating

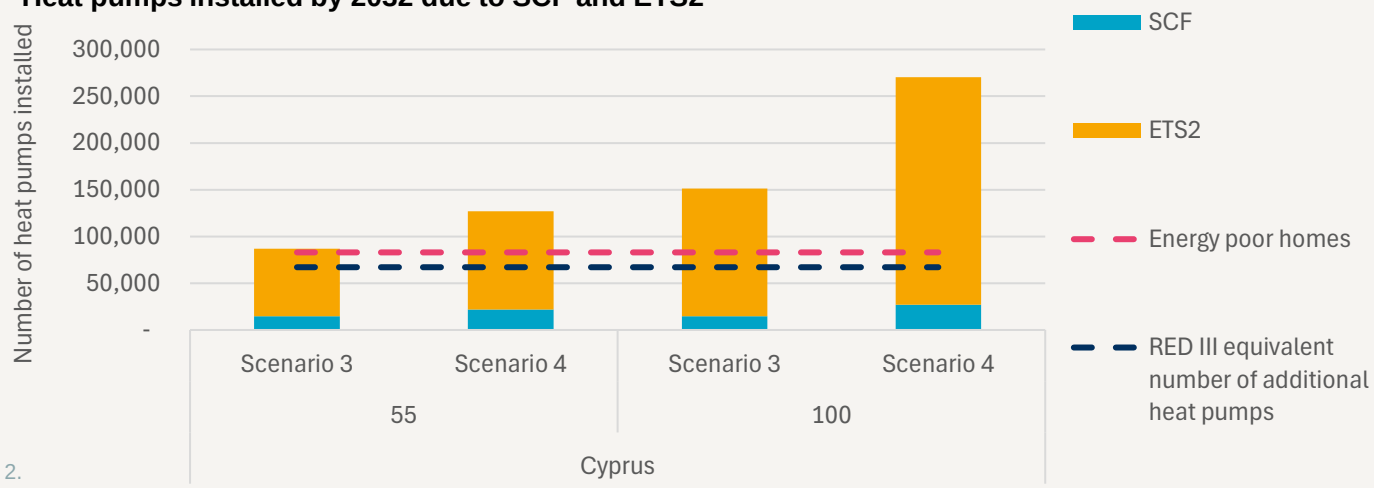
26%

of energy poor of homes in CY could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Czech Republic

60% funding of heat pumps through support scheme and relatively high annual savings

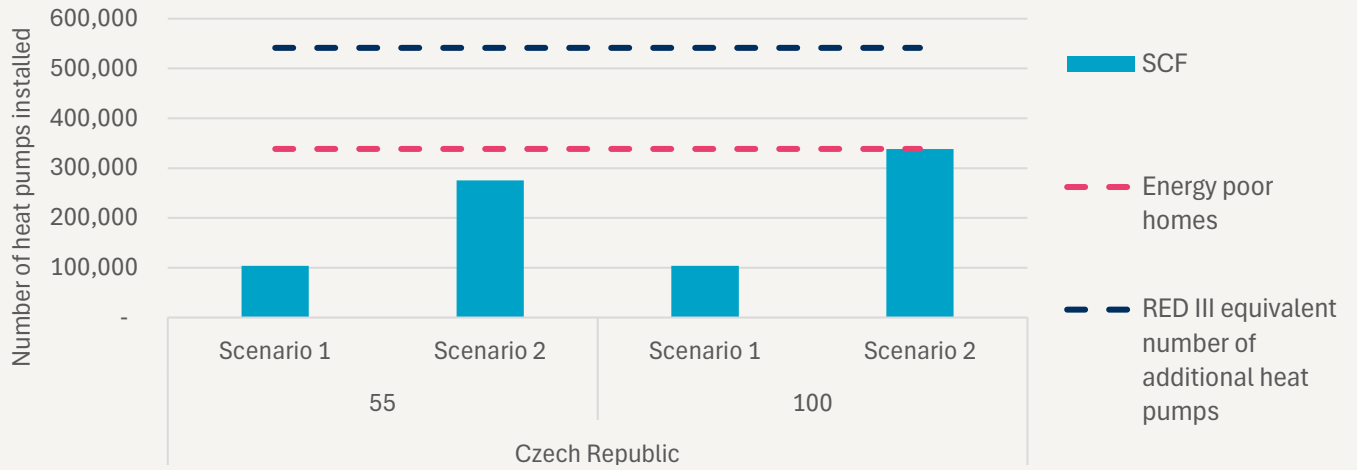
- The New Green Savings Programme supports up to 60% of the cost of a heat pump for low income households (50% available for other households)
- Heat pumps can provide relatively high annual savings of around €900 meaning a good payback for the system
- A combination of grants and loans through SCF is sufficient to support all homes under a 100 €/tCO_2 ETS2. Under a 55 €/tCO_2 ETS2 there are around 50k households not supported. ETS2 is available to cover this gap under both price scenarios.

Air-to-water heat pump

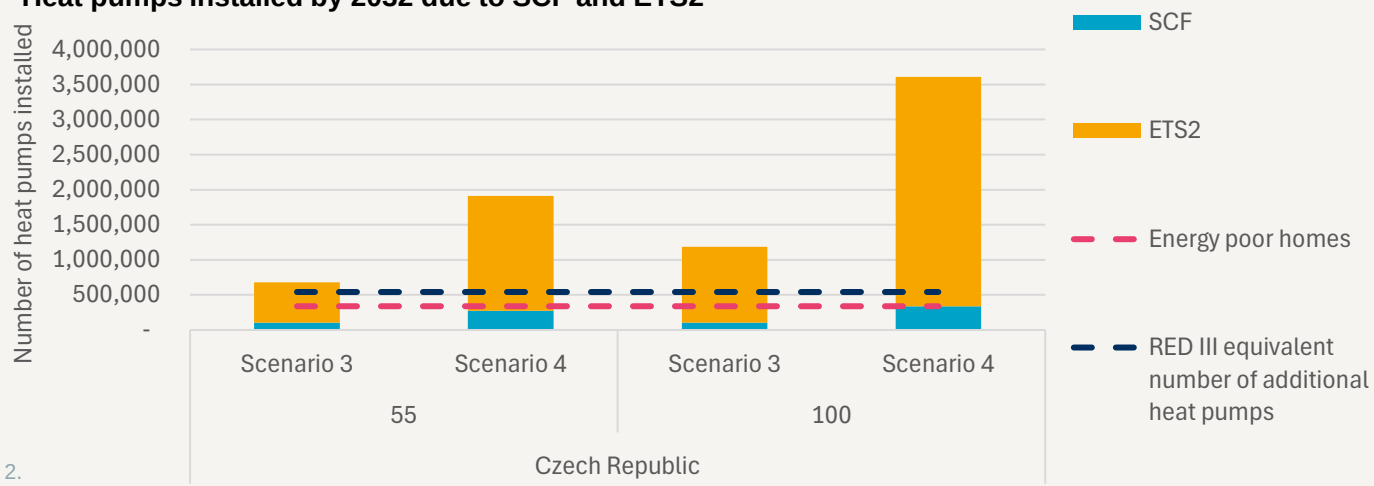
81%

of energy poor of homes in CZ could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Denmark

SCF sufficient for most energy poor homes

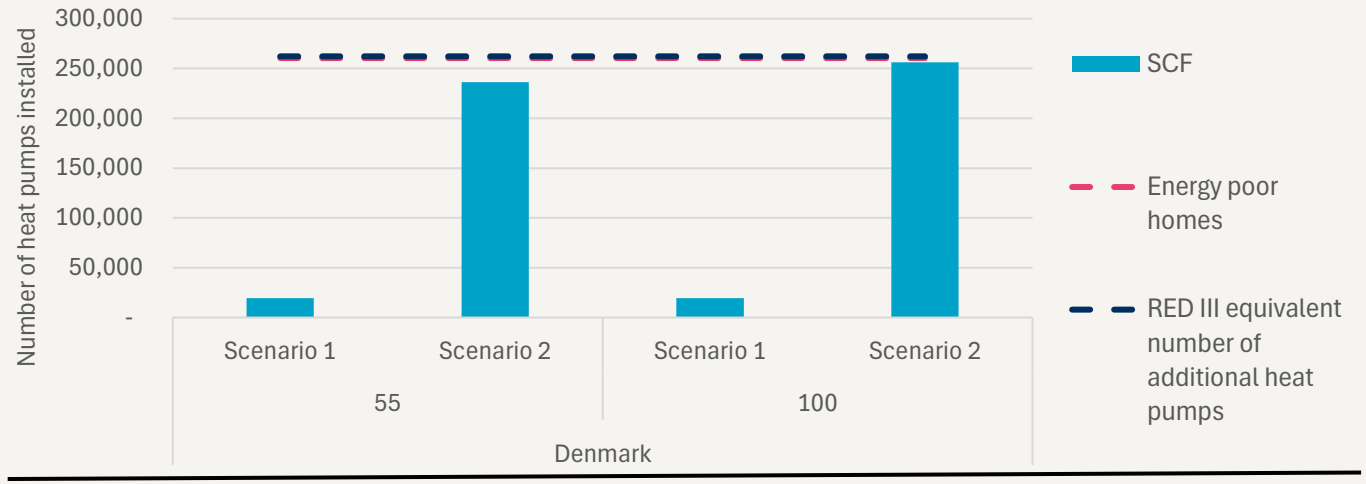
- Denmark's Heat Pump Pool policy provides funding of about €2,280
- A combination of grants and loans through SCF is sufficient to provide heat pumps to the majority of energy poor homes. ETS2 is sufficient to cover this gap under both price scenarios

Air-to-water heat pump

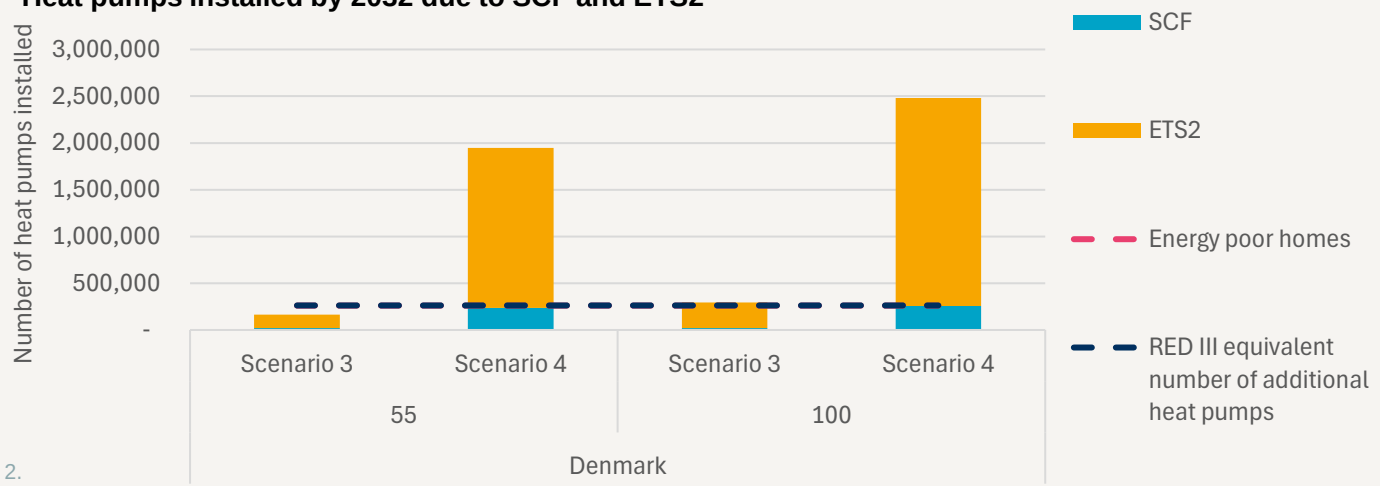
91%

of energy poor of homes in DK could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Estonia

Relatively high funding gap and low gas costs

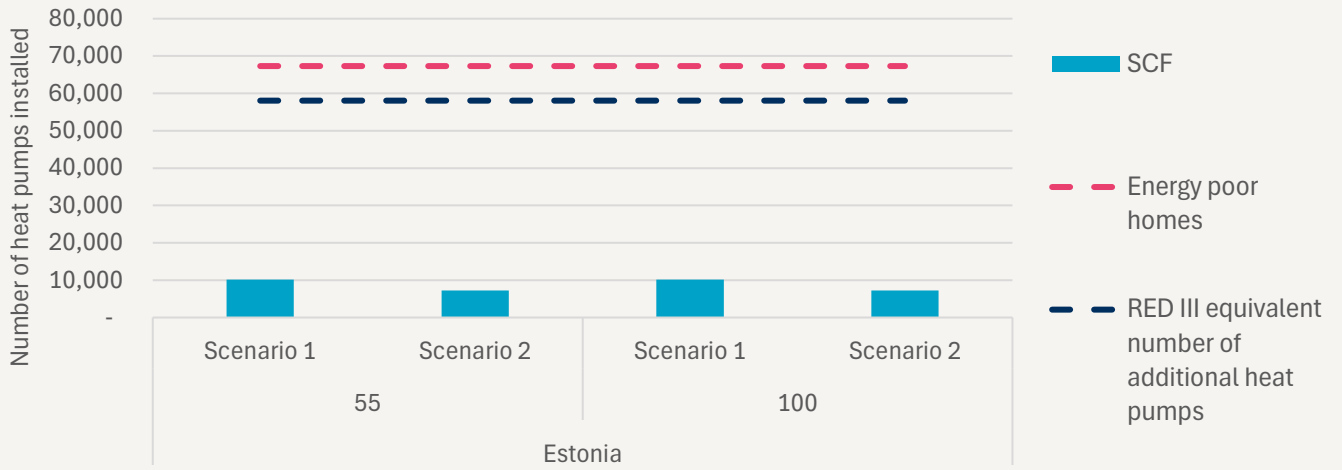
- Estonia has a relatively high funding gap, largely due to the relatively low subsidy support (20% of total cost)
- Estonia also has low gas costs, making the payback period longer. This means grants are a more effective policy tool than 0% loans, which means the funding pot under SCF only covers a small proportion of energy poor homes.
- Using ETS2 funding, even under a 100 €/tCO$_2$ price there are still around 15,000 households that cannot be supported

Air-to-water heat pump

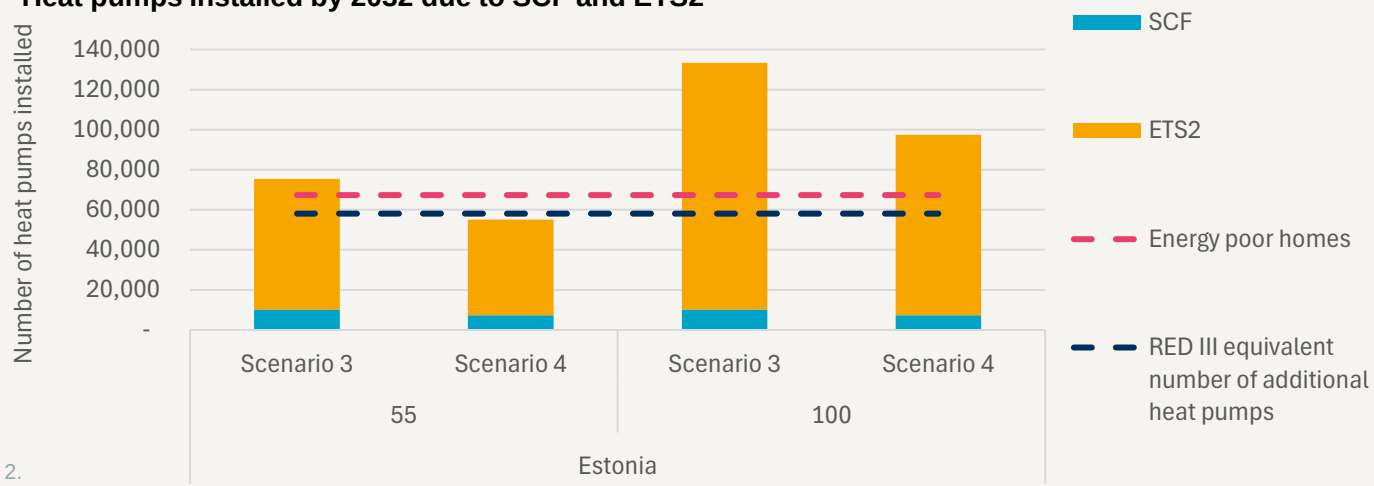
14%

of energy poor of homes in EE could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Finland

High oil prices support good payback from heat pumps

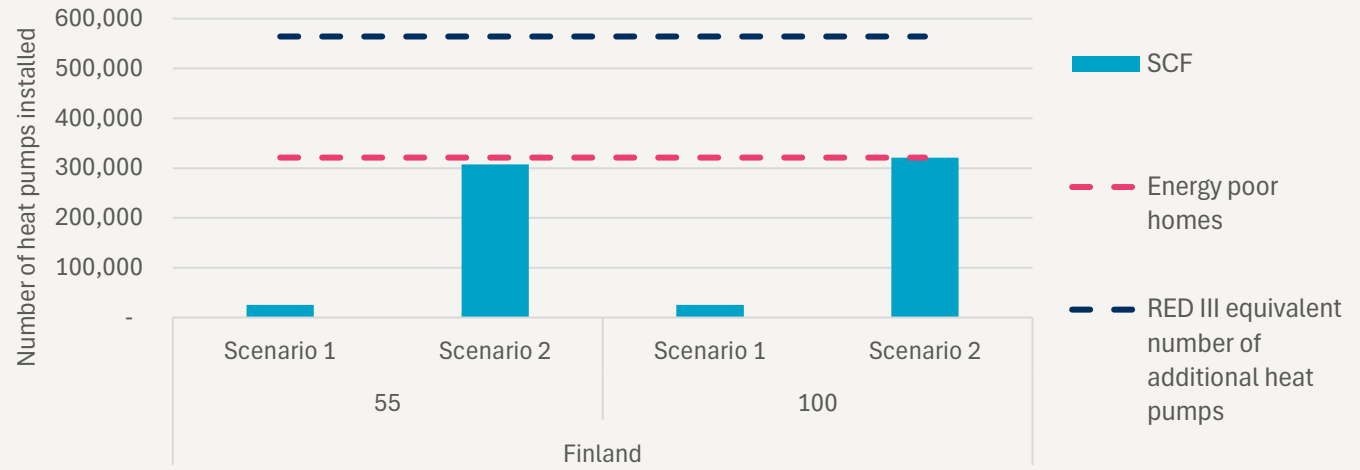
- Finland has some of the highest fossil fuel (oil) prices, and below average electricity prices provides a good payback case. Therefore a combination of loans and grants is able to support a much higher proportion of energy poor homes.
- There is substantial revenue leftover to support other households if ETS2 funding is utilised.

Air-to-water heat pump

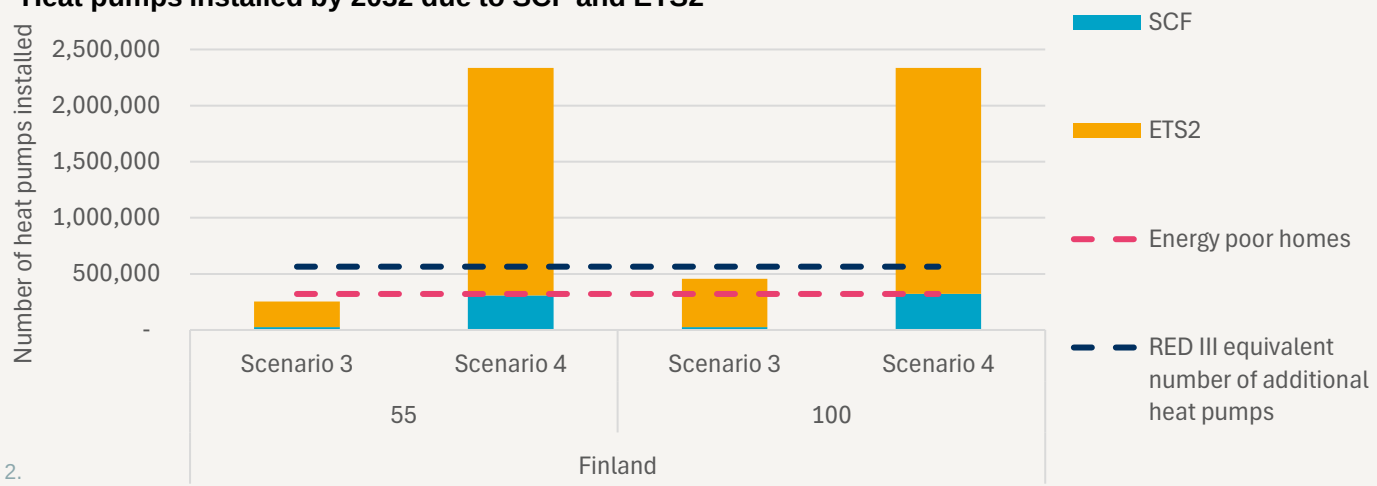
96%

of energy poor of homes in FL could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

France

Combination of support leaves relatively small funding gap

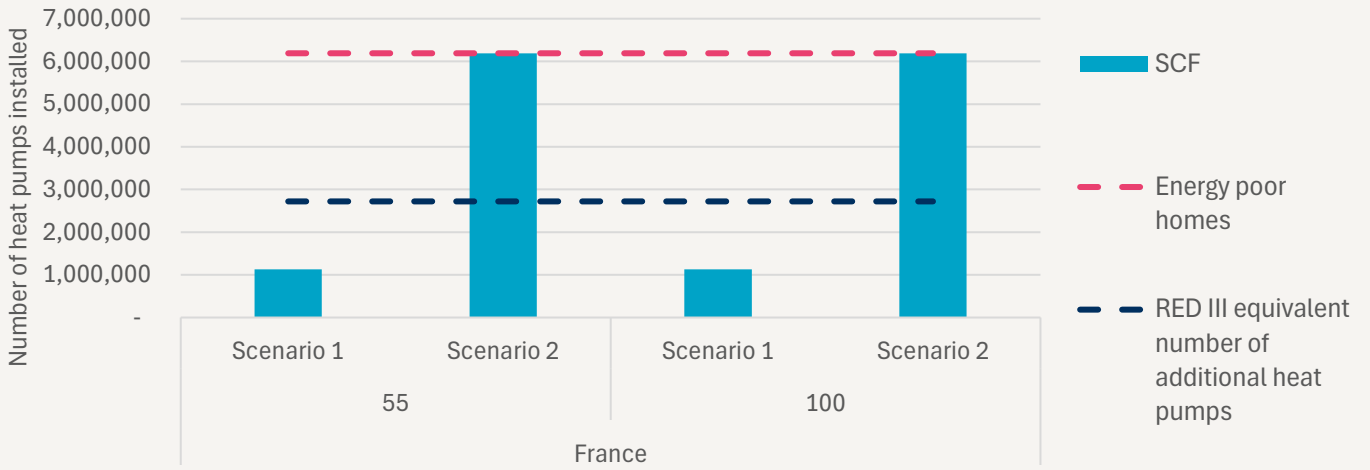
- MaPrimeRenov is a key support scheme in France, which can be combined with other support schemes. This leaves a relatively small funding gap to resolve.
- Using a combination of grants and loans, all energy poor households can be supported through SCF.

Air-to-water heat pump

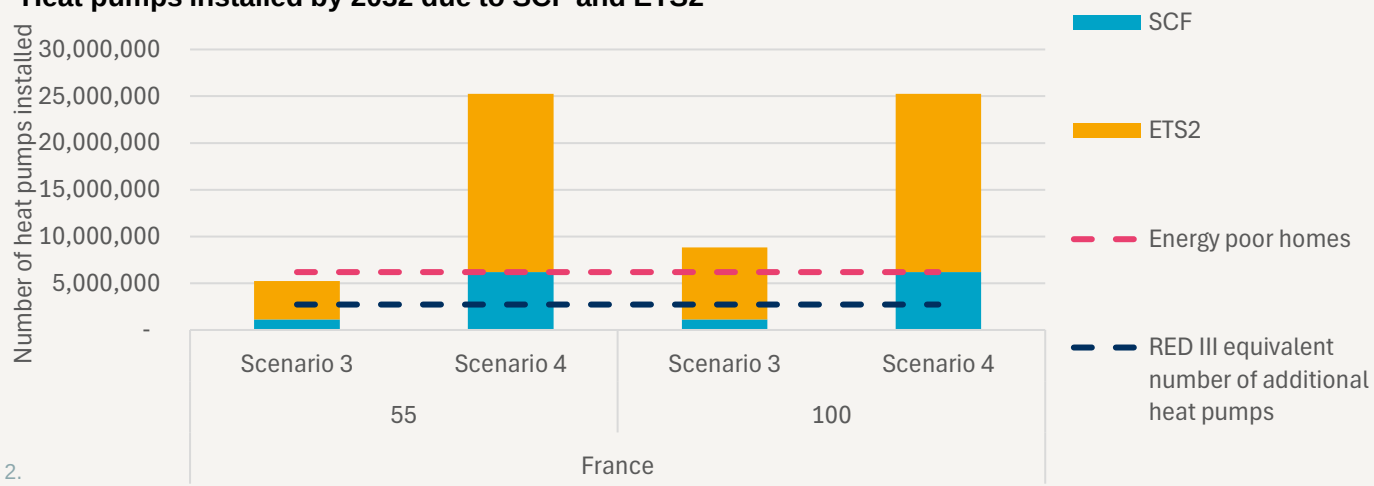
100%

of energy poor of homes in FR could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Germany

Small funding gap means SCF sufficient to support all energy poor homes

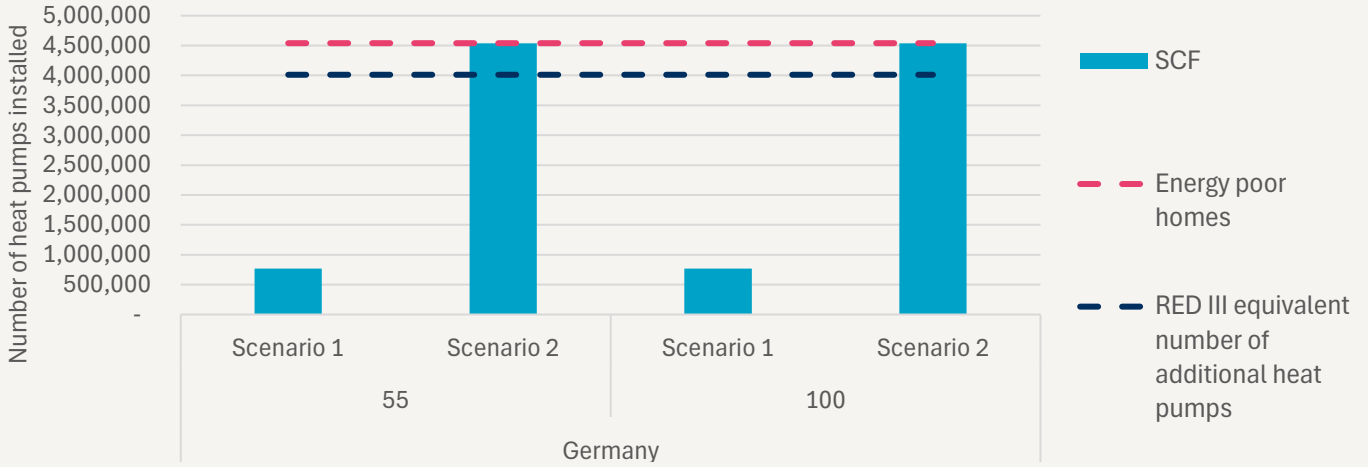
- Similarly to France, there is a relatively small funding gap in Germany. Subsidies for heating systems in Germany are primarily distributed through federal support for energy-efficient buildings (BEG). These come in the form of grants as well as loans with favourable interest rates.
- Using a combination of grants and loans all energy poor households can be supported through SCF.

Air-to-water heat pump

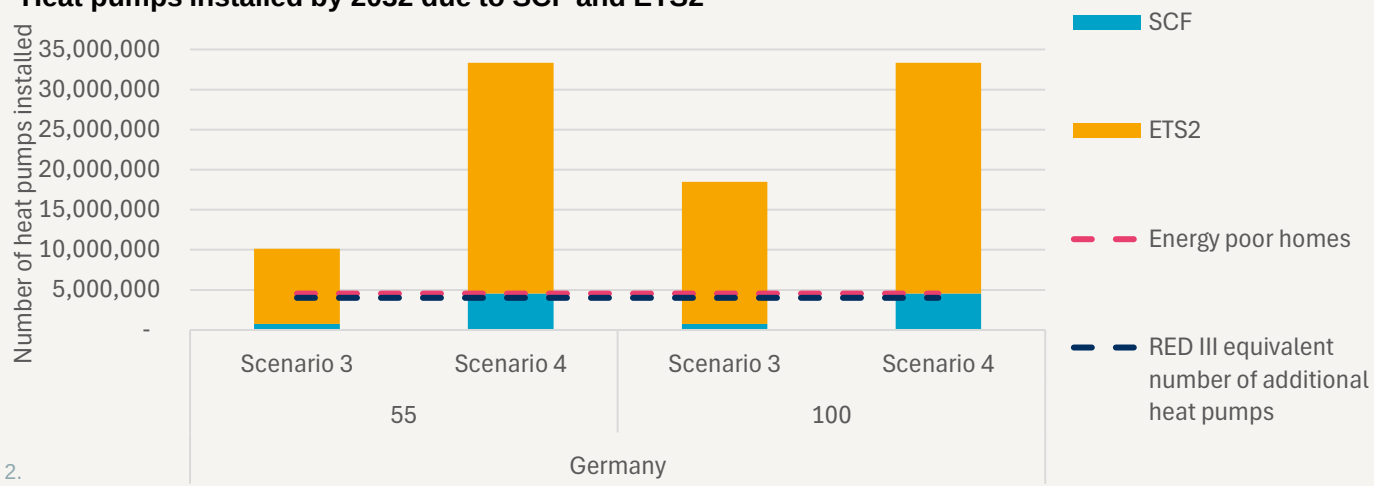
100%

of energy poor of homes in DE could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Greece

Quite high financial support but high gas prices and high proportion of energy poor homes

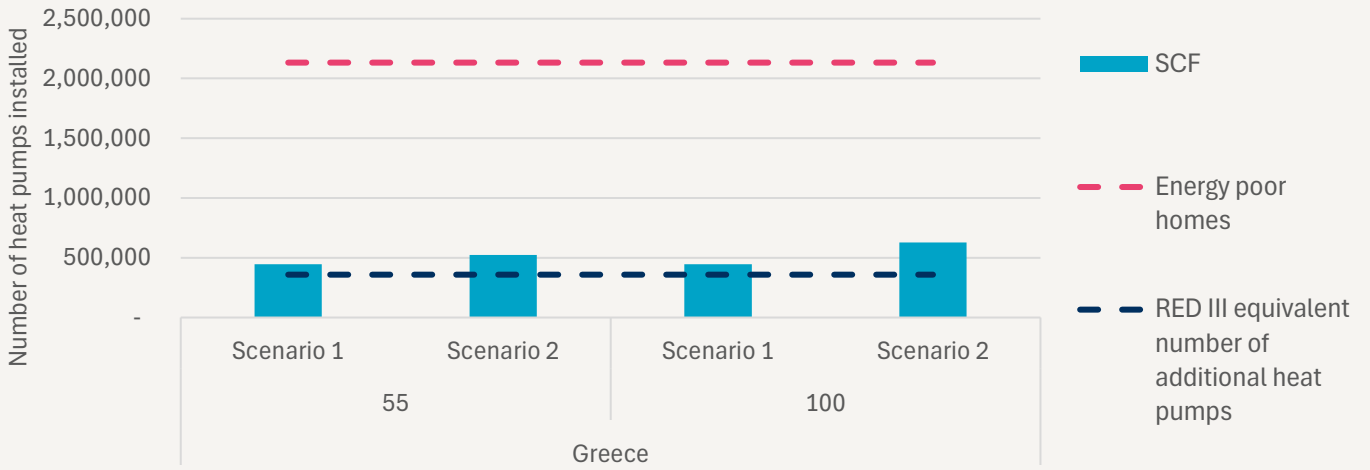
- In Greece, financial support for up to 65% of a heat pump can be provided. However, relatively cheap gas prices means an unfavourable payback case.
- Greece has the highest proportion of energy poor homes under the metric used in this report. Therefore, SCF is not sufficient to support all energy poor homes in any of the scenarios. Using ETS2 revenue to support a mixture of grants and loans could enable most energy poor households to be supported.

Air-to-water heat pump

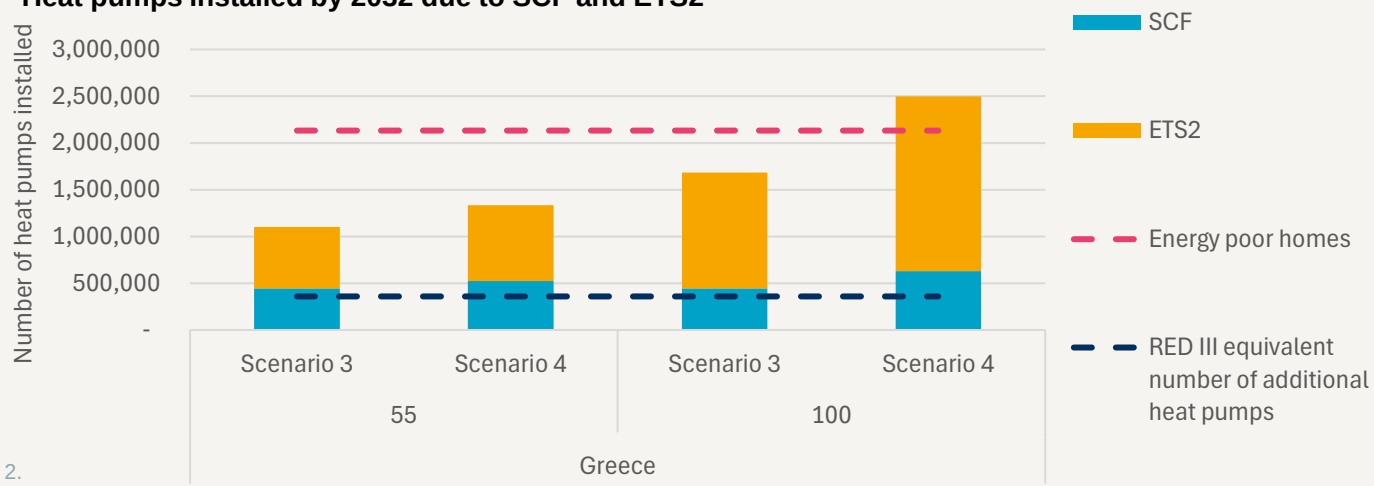
24%

of energy poor of homes in GR could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Hungary

Government-subsidised gas prices make heat pumps more expensive to operate.

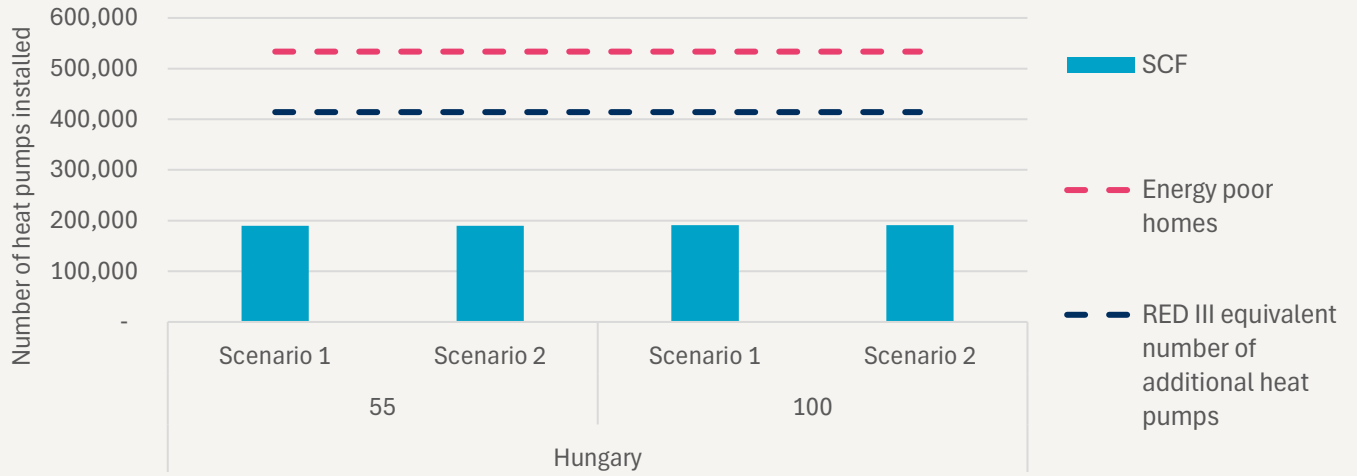
- In 2024, gas prices in Hungary were the lowest in Europe, at € 0.0275/kWh
- As a consequence, heat pumps in Hungary are modelled to have a higher operating cost than gas boilers
- Households are therefore unable to repay a zero-interest loan through bill savings, and instead all government support must be in the form of a full subsidy. Operating subsidies must also be introduced, to ensure cost-competitiveness with low gas prices.
- Through ETS2 under a 100 €/tCO_2 price nearly all energy poor homes can be supported.

Air-to-water heat pump

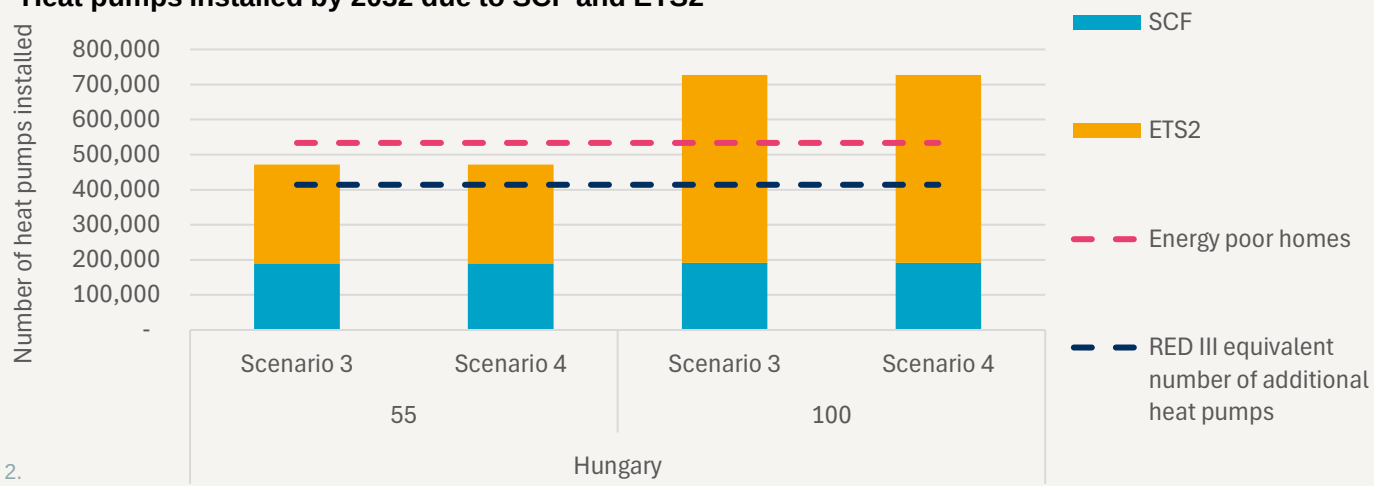
36%

of energy poor of homes in HU could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Italy

Strong existing financial support means SCF can support most energy poor homes

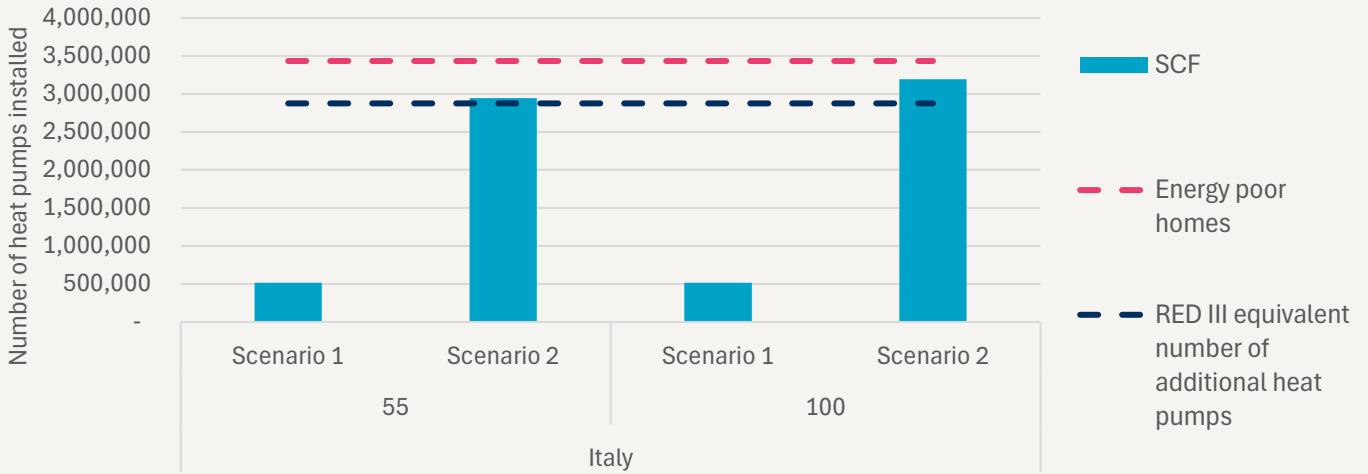
- In 2024, Italy's Ecobonus scheme offered tax deductions of up to 65% (capped at €30,000 for heat pumps), supporting residential efficiency upgrades including heat pumps, boilers, and solar thermal. The rate has since been reduced to 50% in 2025.
- Modest annual savings of up to €1,000 by 2032 would allow Italian households to payback a heat pump within 7 years without any further subsidy.
- A combination of grants and loans can be used to support all energy poor homes.

Air-to-water heat pump

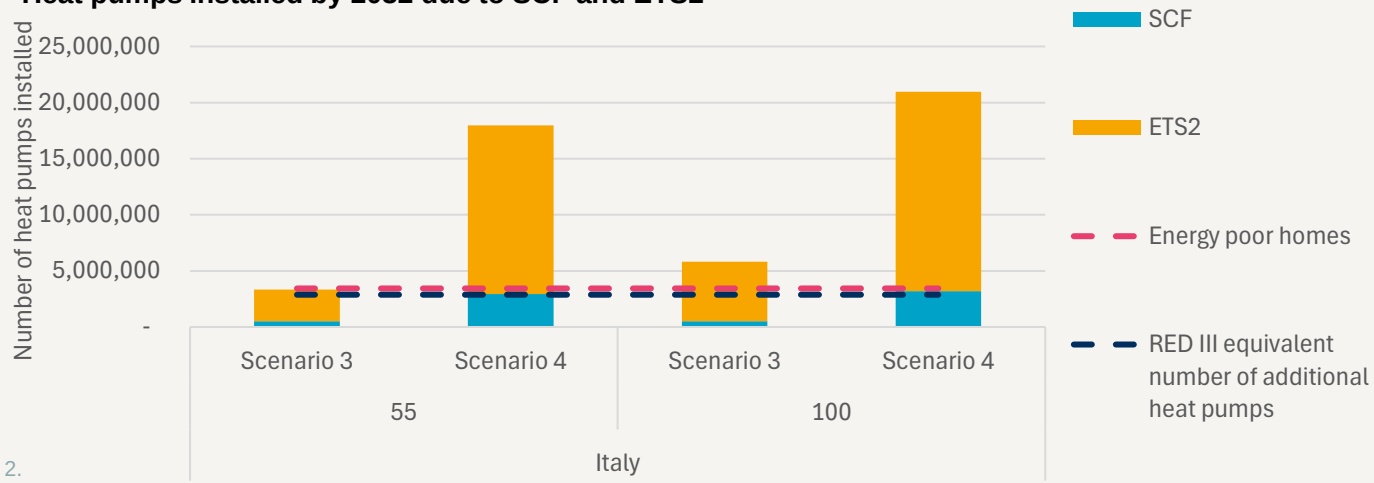
86%

of energy poor of homes in IT could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Latvia

ETS2 and SCF funding in LV could accelerate heat pump adoption.

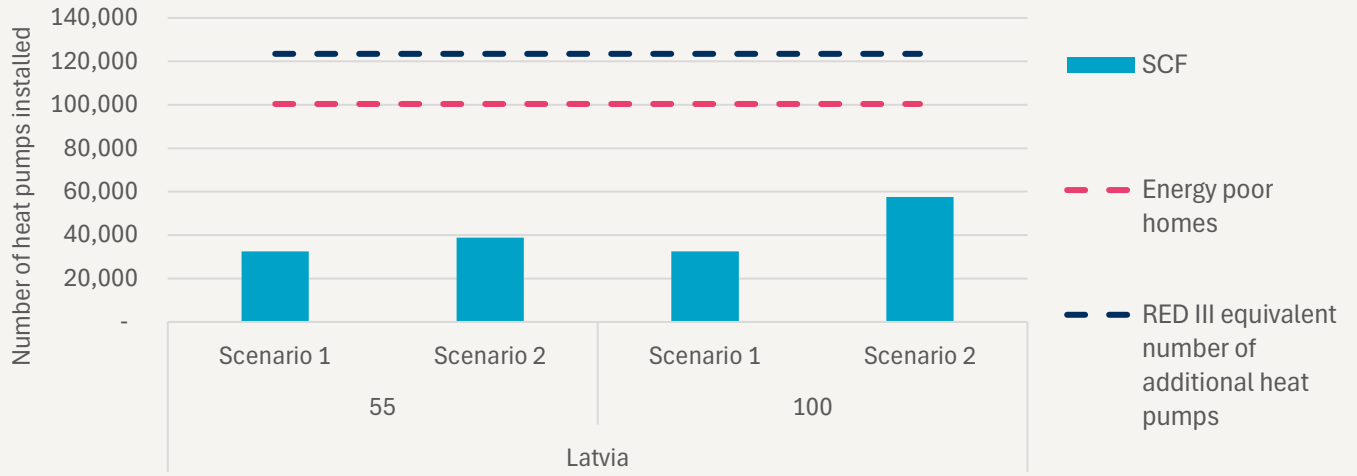
- The main central government subsidy scheme in Latvia provides households with €3,700 towards the cost of an air-to-water heat pump.
- However, due to small annual savings from switching to a heat pump, an additional subsidy of ~ €2,500 is needed from ETS2 and SCF to bring the payback period to 7 years.
- SCF alone is not sufficient to support all energy poor households, but ETS2 can be used to support the majority of them.

Air-to-water heat pump

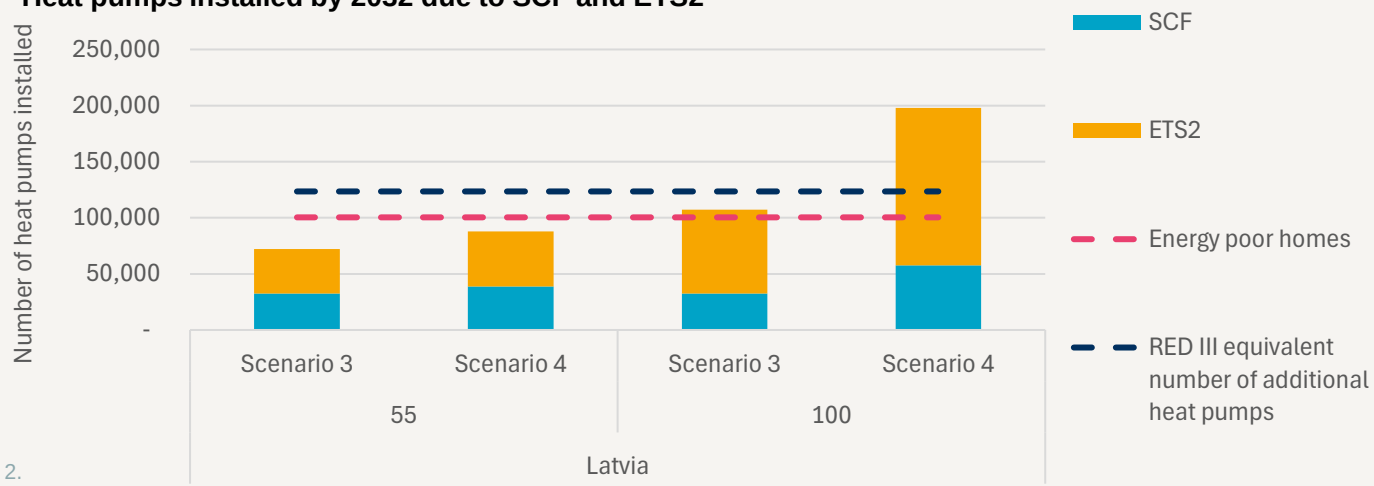
39%

of energy poor of homes in LV could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Lithuania

Generous existing subsidies allows SCF to support all vulnerable homes

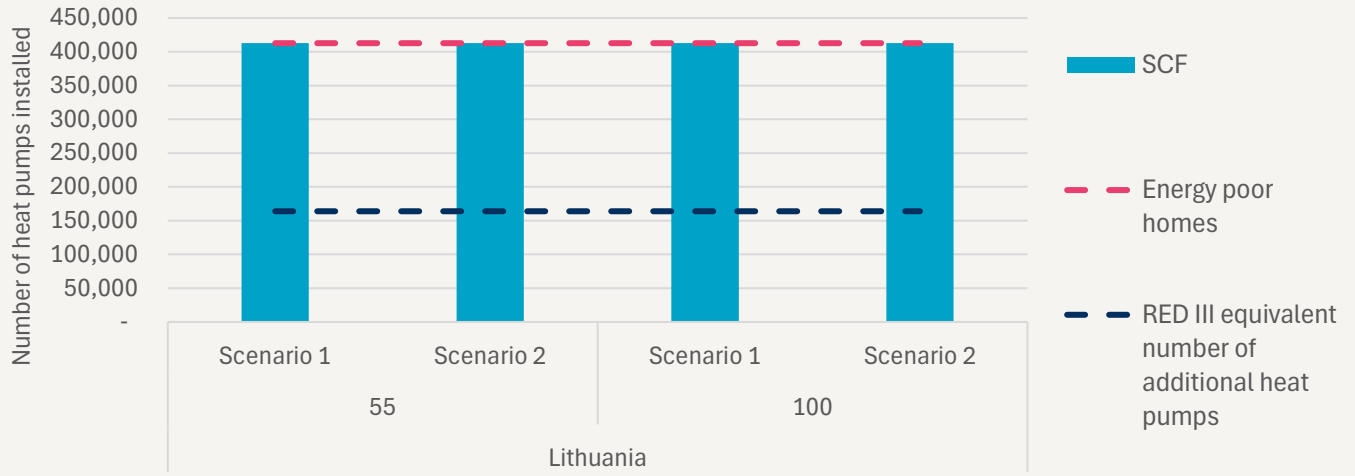
- As of 2024, Lithuania offered €1,071/kW of installed capacity in heat pump subsidies.
- Assuming a 9kW air-to-water unit, this amounts to €9,639.
- Assuming this policy remains active through to 2032, energy poor households can be supported under all SCF scenarios and ETS2 would not be needed to supplement this.

Air-to-water heat pump

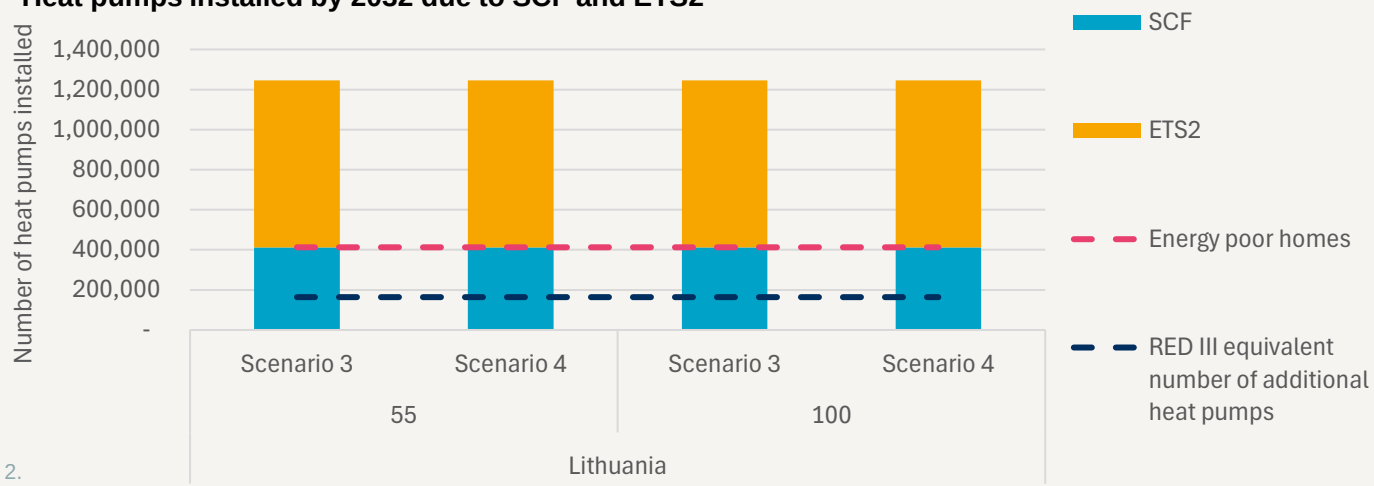
100%

of energy poor of homes in LT could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Luxembourg

SCF could help LT transition all residential properties to a heat pump, owing to strong heat pump annual savings and good existing subsidies

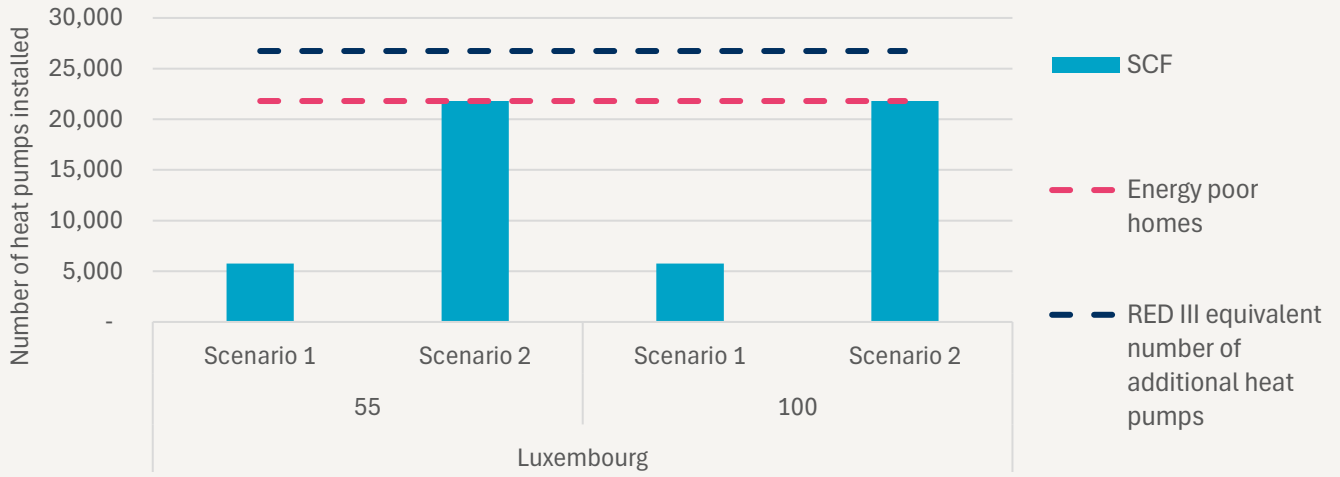
- The main financial support in Luxembourg provides a 50% subsidy for an air-to-water heat pump, up to €5,000 per household.
- Annual savings from switching to a heat pump are significant (~ €2,000) and therefore the only gap in support is in the form of a zero-interest loan, with households paying back the amount using their annual savings. Therefore, SCF is sufficient to support all energy poor homes.

Air-to-water heat pump

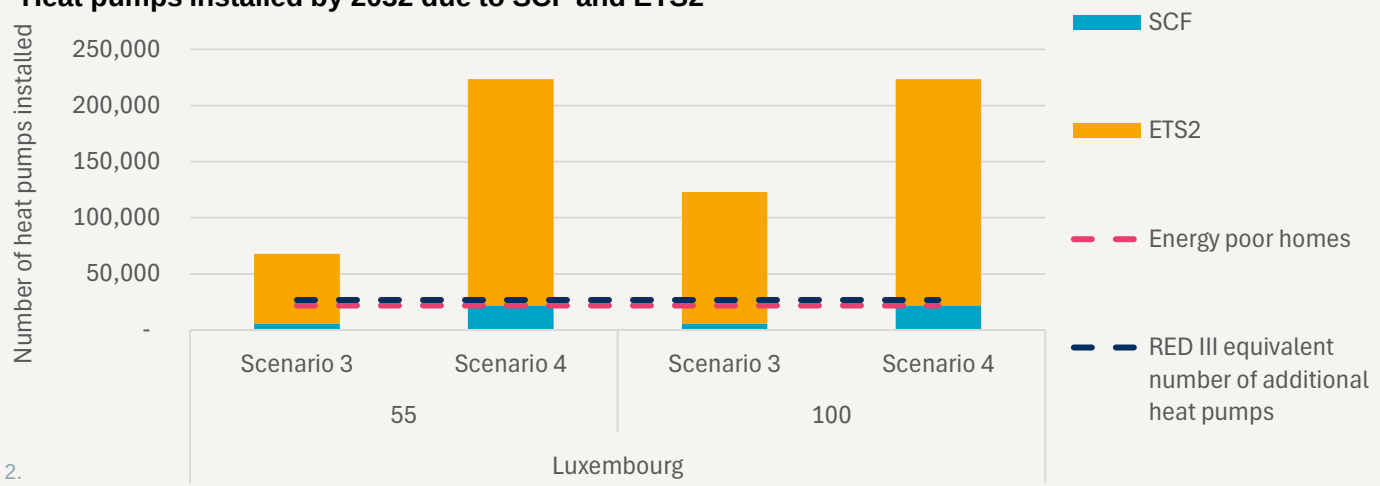
100%

of energy poor of homes in LU could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Malta

SCF can reach around a half of vulnerable homes in MT

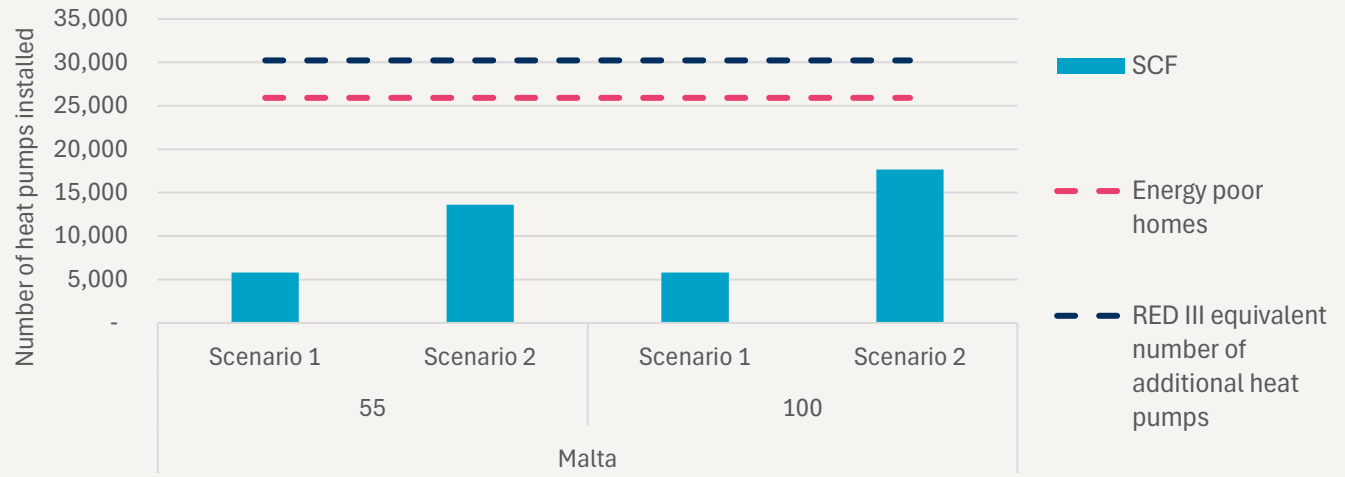
- Malta's national scheme offers a 50% reimbursement (up to €1,000) for residential heat pump water heaters, active through 2024.
- Small annual savings from switching to a heat pump (< €400) results in a significant subsidy gap in Malta, ranging from ~ €6,500 in 2026 to €5,200 in 2032. Therefore, SCF and ETS2 funding alone is not sufficient to support all energy poor homes.

Air-to-air heat pump + solar thermal water heating

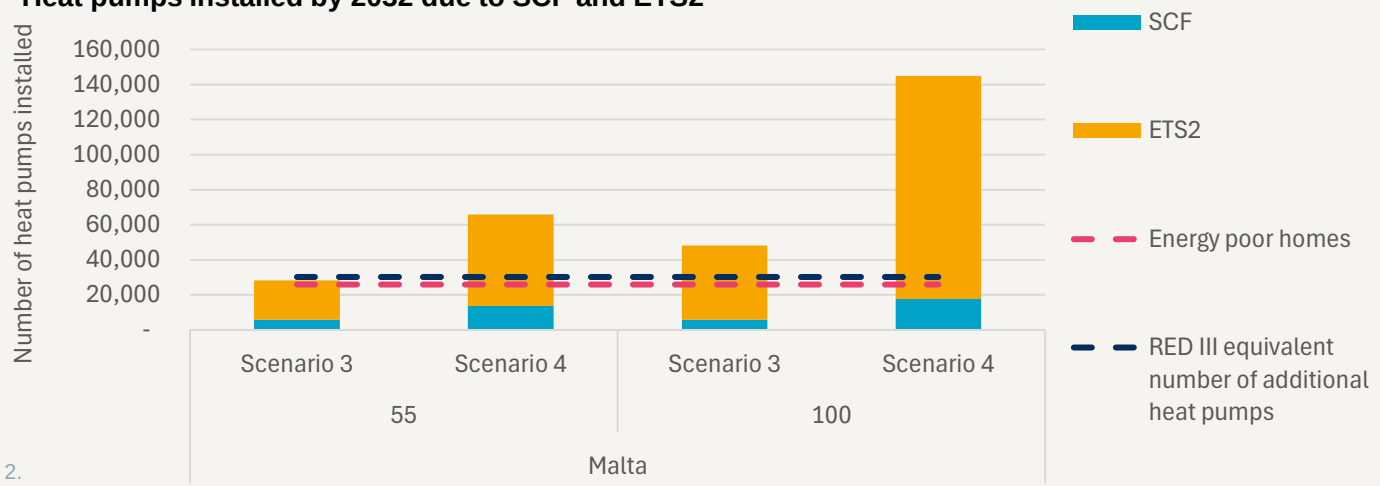
52%

of energy poor of homes in MT could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Netherlands

SCF alone is insufficient to support all vulnerable homes

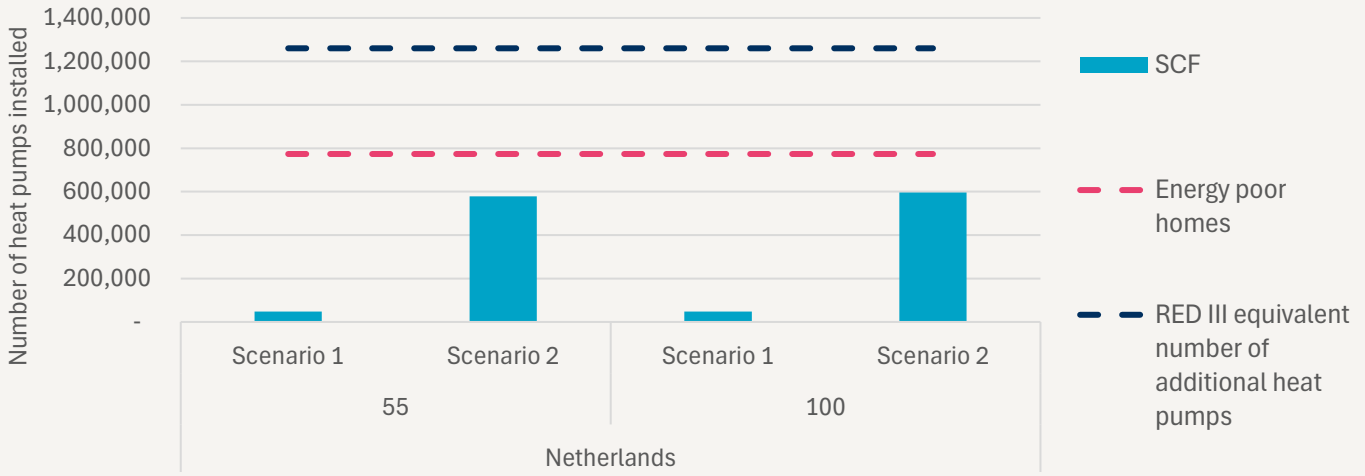
- In the Netherlands, households can receive €2,100 for a A++ rated air-to-water heat pump **plus** an additional €150 per kW above 1kW.
- Annual savings from switching to a heat pump range from €1,700- €2,300, resulting in a payback period under 7 years
- Energy poor households can therefore access a heat pump with a zero-interest loan, and payback the amount using the savings they make
- ETS2 funding can be used to supplement the funding and bridge the gap.

Air-to-water heat pump

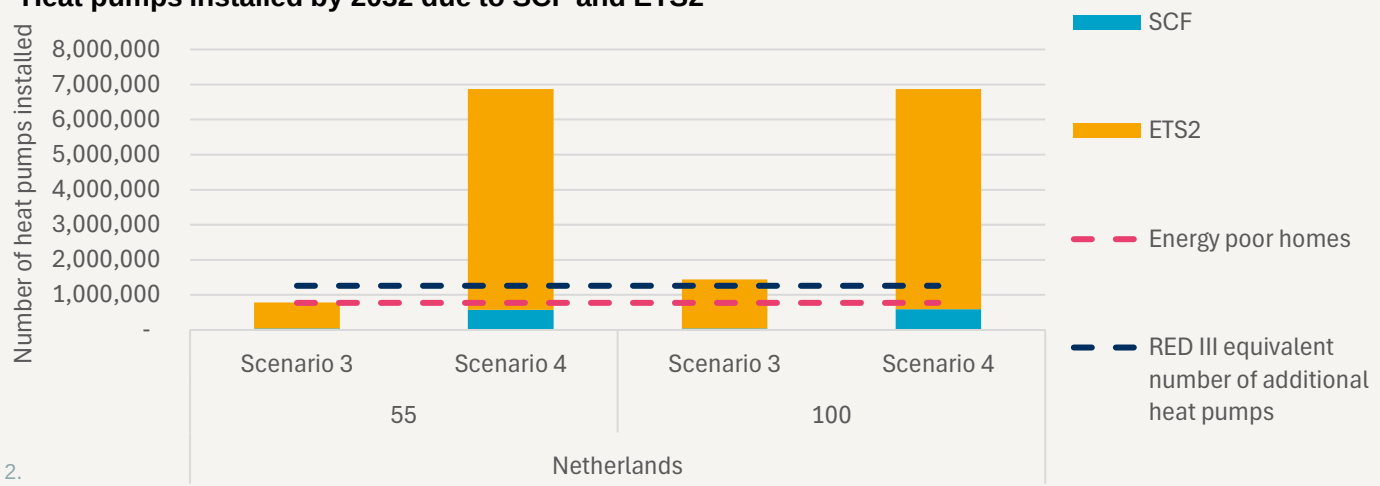
75%

of energy poor of homes in NL could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Poland

Generous existing subsidy allows SCF to support all vulnerable homes

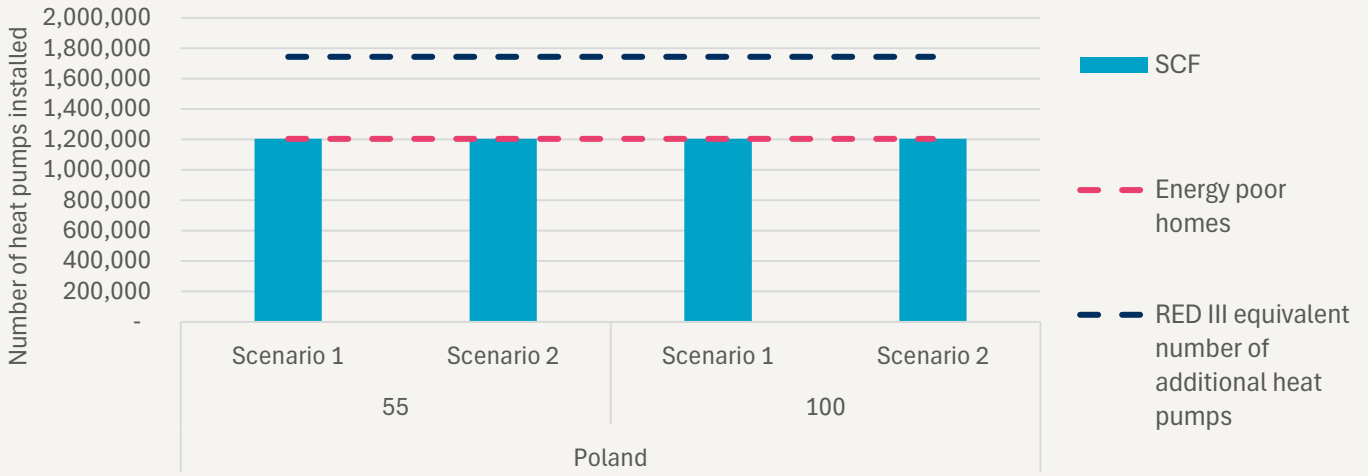
- As of 2024, the lowest income homes in Poland are eligible to receive a 100% subsidy for an air-to-water heat pump, up to a maximum of 31,500 PLN (€7,245).
- Whilst cost savings from a heat pump are only projected to be around €400 in 2026, this grows to over €1,000 by 2032.
- As a result, the remaining gap only requires a small zero interest loan and SCF is sufficient to support energy poor households.
- With its higher emissions, large population, high energy poverty levels, and lower income per capita compared to other EU countries, Poland is expected to receive a larger portion of ETS2 and SCF.

Air-to-water heat pump

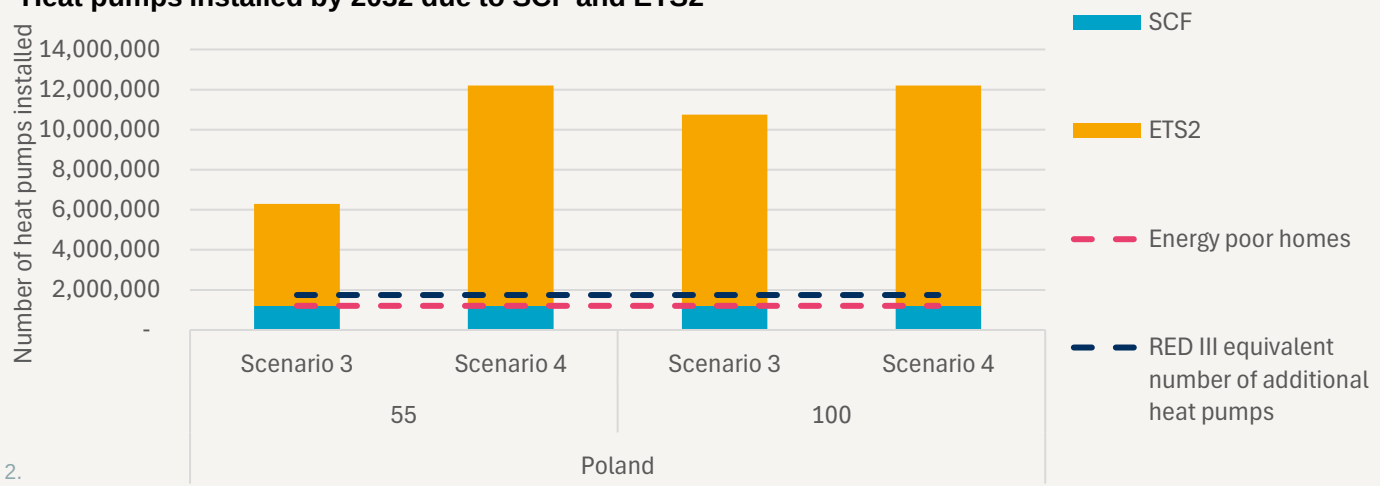
100%

of energy poor of homes in PL could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Portugal

SCF can support the majority of vulnerable homes and help PT reach RED III targets by 2030

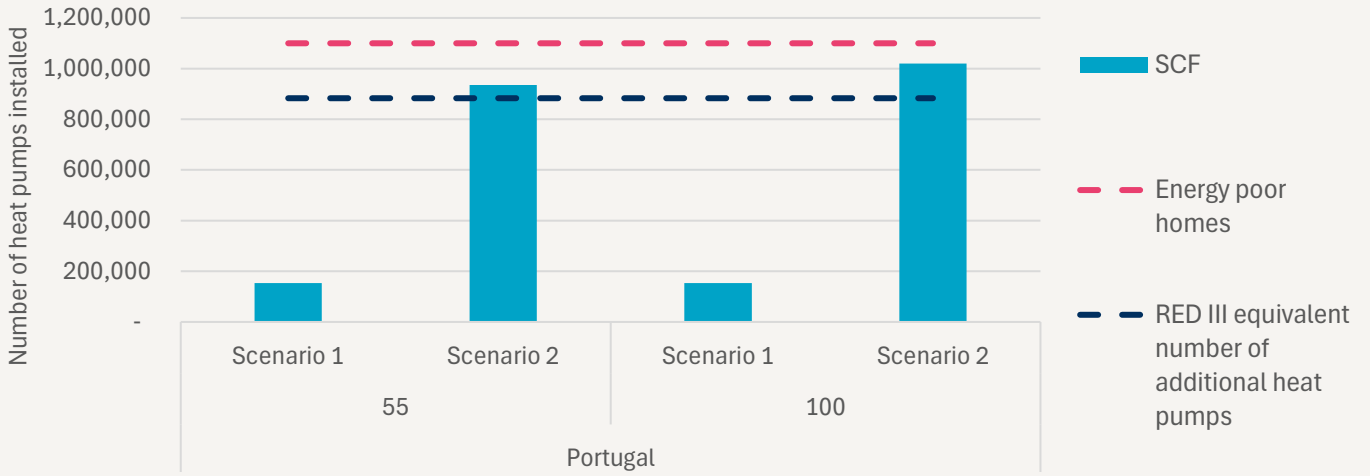
- In Portugal, a €1300 subsidy voucher is available to support the purchase of solar thermal water heating
- Due to modest annual savings of approximately €500-600 from 2026 to 2032, achieving a 7-year payback period requires no additional subsidy, with zero-interest loans the only needed support.
- Portugal has a high proportion of energy poor homes (25%) and SCF alone is not sufficient. SCF and ETS2 funding could target 100% of Portugal's ~1 million energy poor homes

Air-to-air heat pump + solar thermal water heating

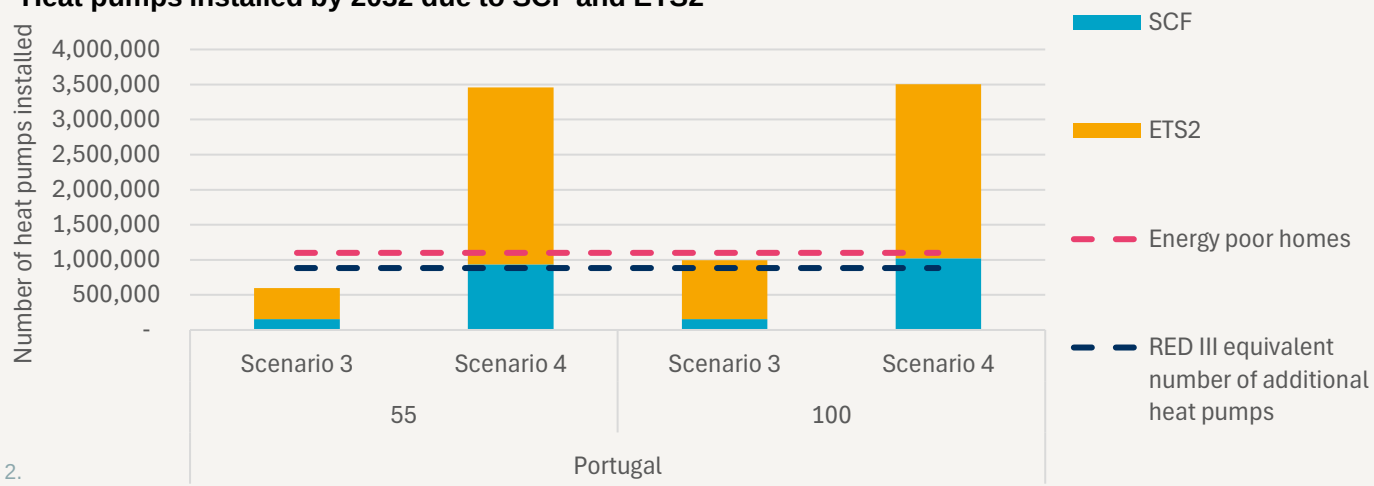
85%

of energy poor of homes in PT could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Republic of Ireland

Payback period less than three years

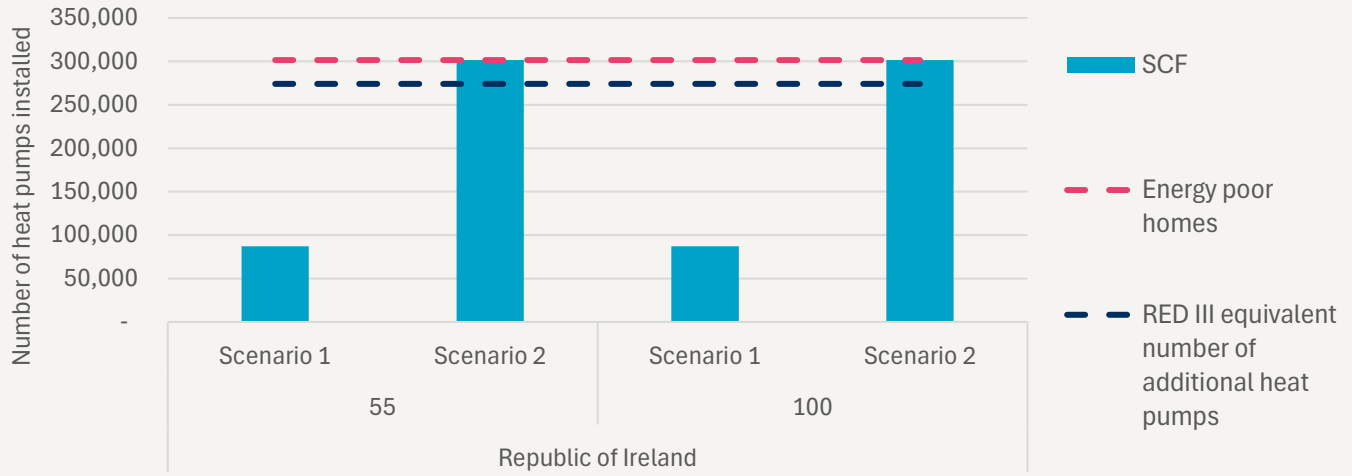
- Generous subsidies are available in Ireland offering up to €6,500 for air-to-water heat pumps in most property types.
- Despite above-average electricity prices, the generous subsidy combined with a high heat pump COP result in a payback period less than three years, resulting in no further subsidy support necessary.
- A policy scenario focused solely on zero-interest loans would be a more efficient strategy in Ireland, unlocking more funding to tackle harder to decarbonise sectors.

Air-to-water heat pump

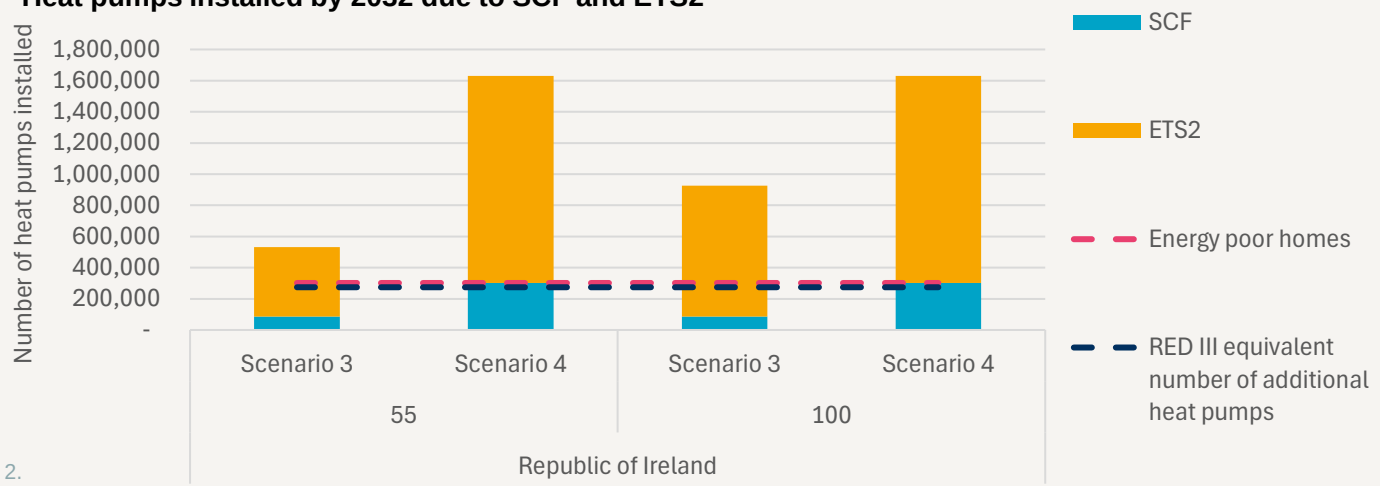
100%

of energy poor of homes in IE could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Romania

Romania has the highest funding gap of the EU27 Member States

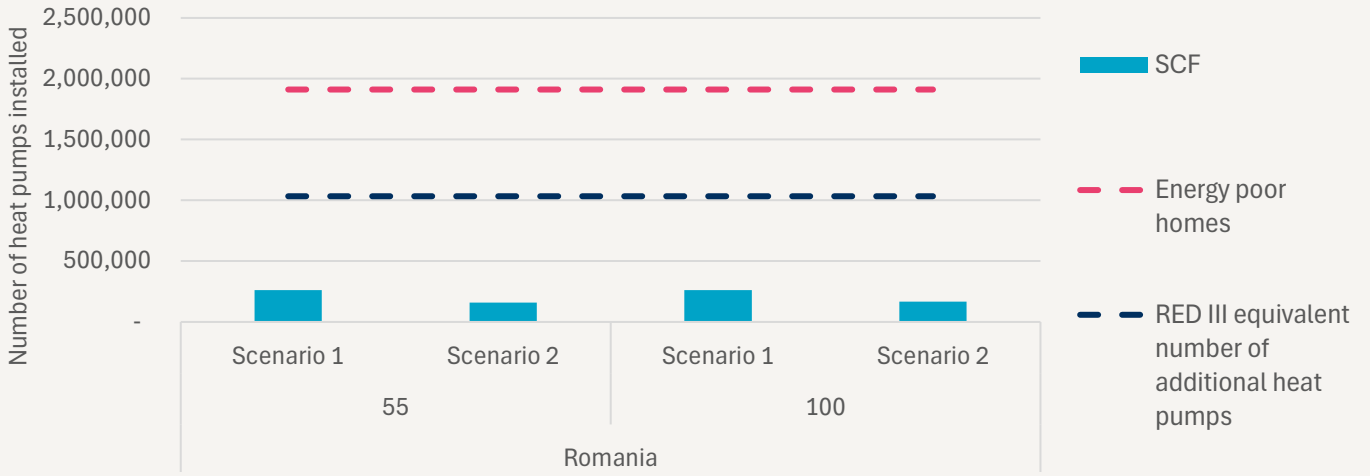
- There is currently no subsidy or financial support available for residential heat pumps in Romania and there is a high proportion of energy poor homes (25%).
- Annual savings from switching to a heat pump are only ~ €120 and with cost of borrowing amongst the highest in Europe at 7%, the subsidy required for a 7-year payback is high, at over € 9,000.
- Therefore, SCF and ETS2 funding is not sufficient in any of the scenarios.

Air-to-water heat pump

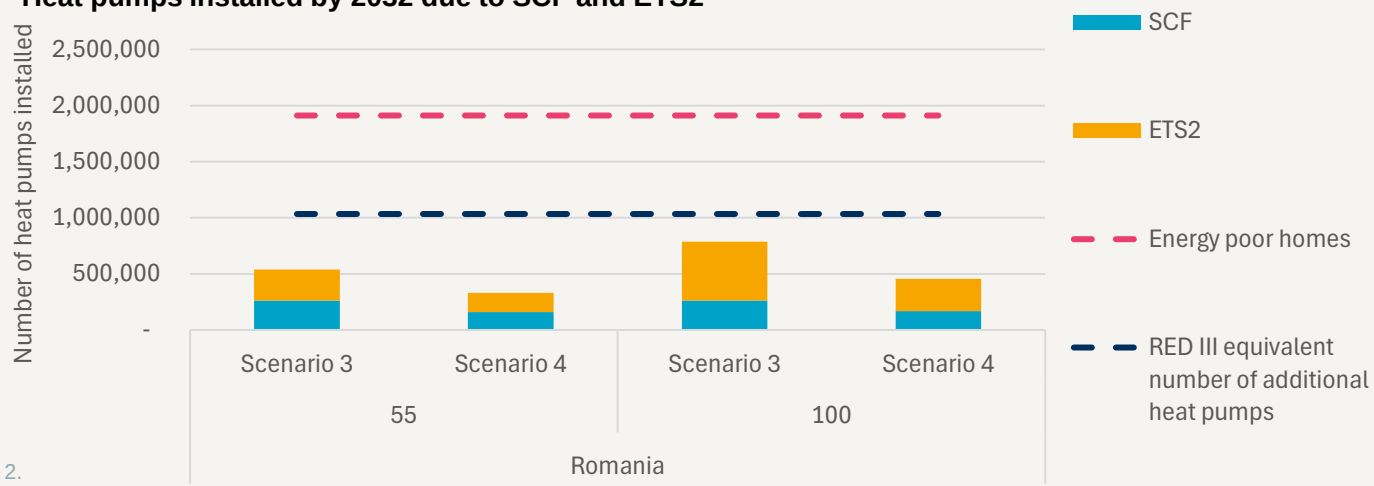
14%

of energy poor of homes in RO could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Slovakia

ETS2 and SCF funds could support all energy poor homes, but the termination of current support schemes could limit further reach

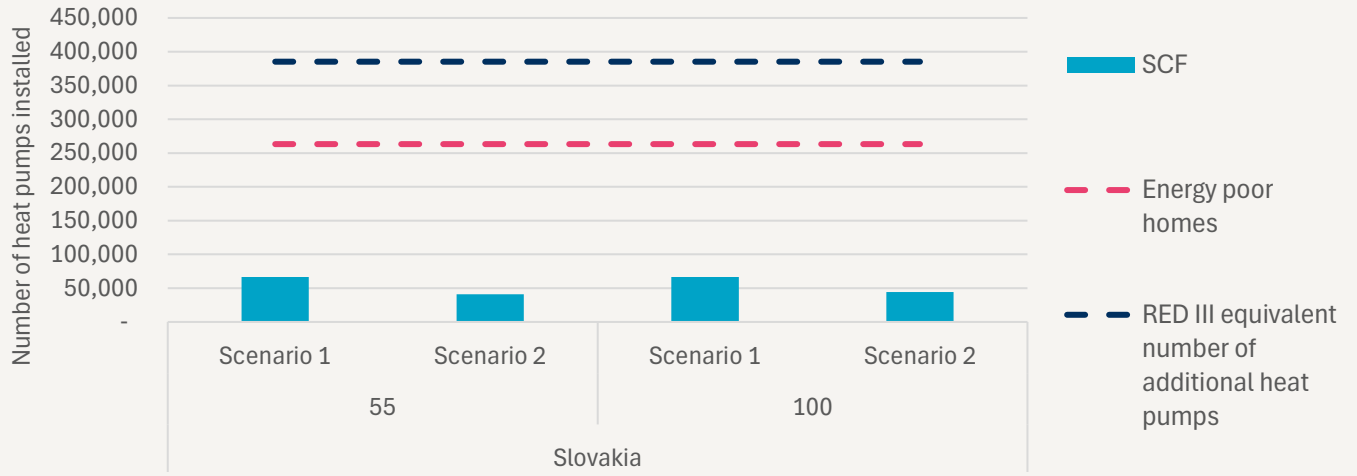
- In 2024, Slovakia's Green Households Programme provided subsidies to support the installation of heat pumps. However, as of 2025, the Slovak government announced plans to phase out subsidies for renewable energy by 2026.
- The use of SCF alone is not sufficient to support most energy poor homes.
- Despite this, use of new ETS2 revenues on top of ETS2 could transition 100% of Slovakia's energy poor households to an air-to-water heat pump via a combination of subsidies and zero interest loans.

Air-to-water heat pump

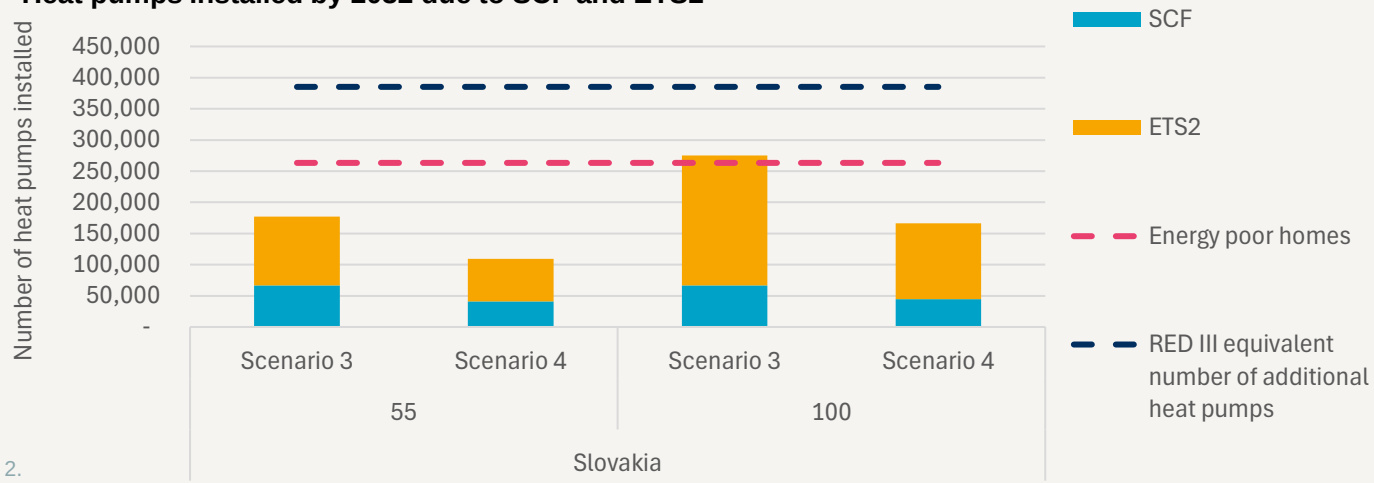
25%

of energy poor of homes in SK could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Slovenia

Slovenia could achieve full support for energy poor homes.

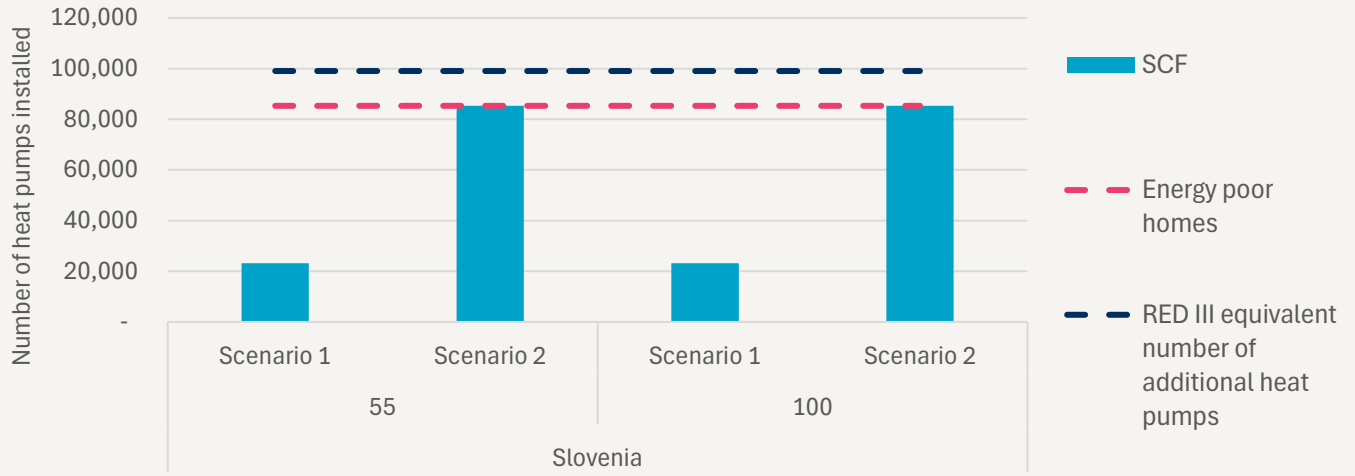
- Current subsidy support in Slovenia is delivered via the Eco fund, with a maximum of €3200 available for the installation of an air-to-water heat pump.
- The heat pump gap-o-meter for Slovenia indicates that during early years of ETS2, a larger proportion of funding should be allocated towards subsidies, but in the latter years, as payback time shrinks and heat pump costs fall, more funding could be dedicated towards zero-interest loans instead.

Air-to-water heat pump

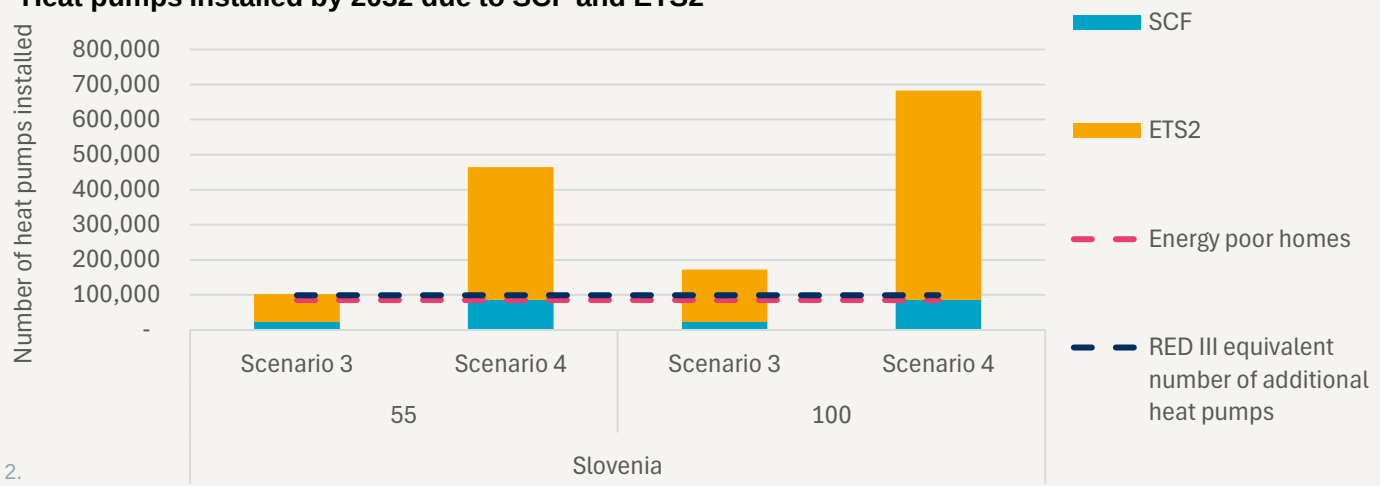
100%

of energy poor of homes in SL could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Spain

SCF can almost reach all vulnerable homes with a 55 €/tCO$_2$ price ETS2 price

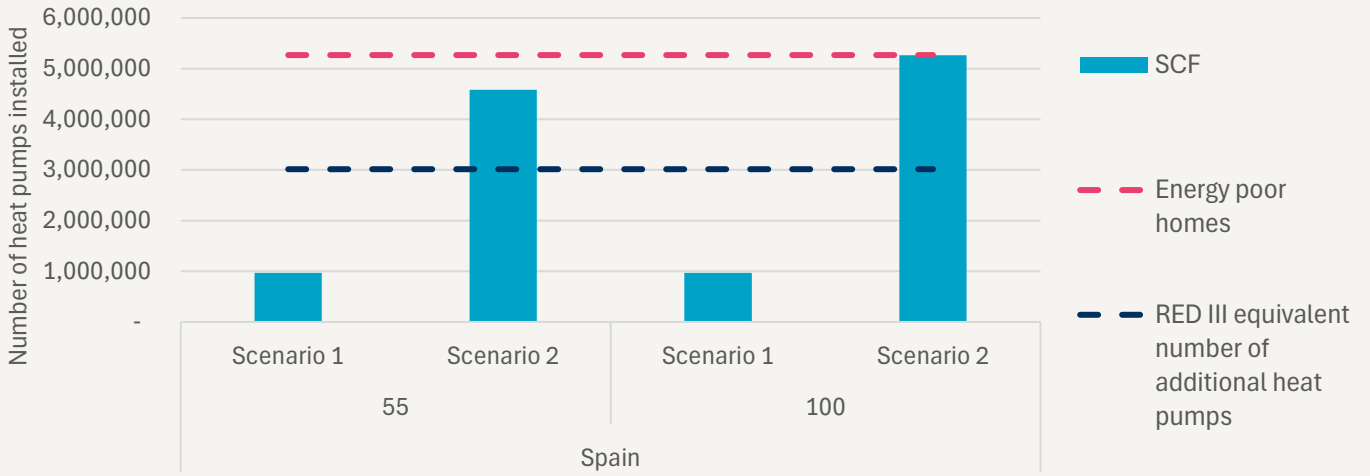
- Spain has a high proportion of energy poor homes (27%)
- Current support under in Spain provides €1,800 towards solar thermal water heating, with no support available for an air-to-air heat pump
- Below average gas prices result in small annual saving from switching to a heat pump; the ~ 18-year payback period requires significant additional subsidy from ETS2 revenues to support energy poor homes.

Air-to-air heat pump + solar thermal water heating

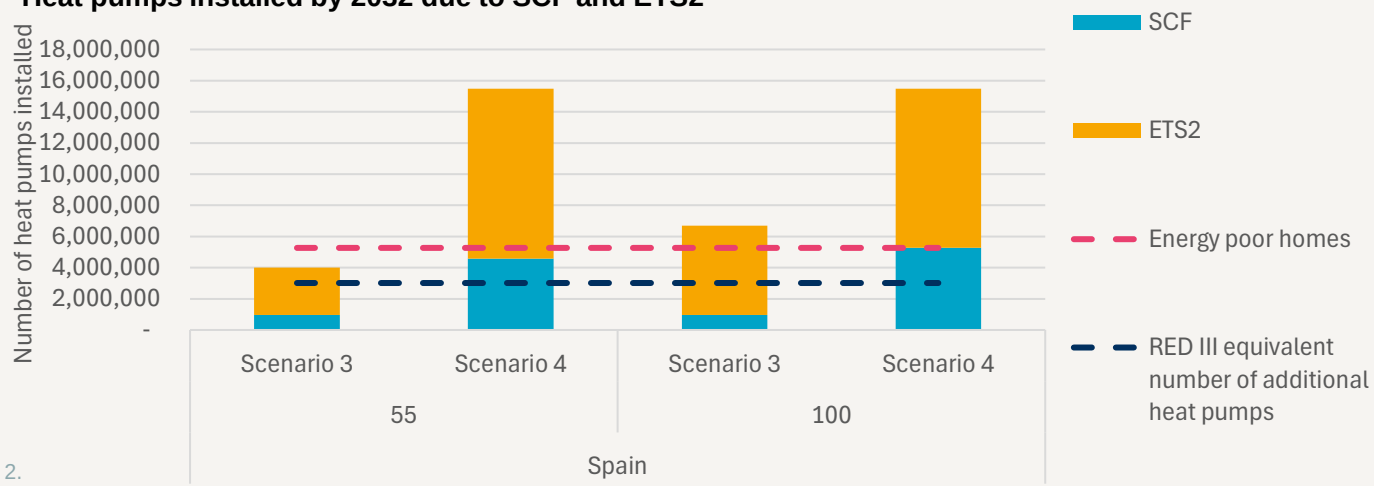
87%

of energy poor of homes in ES could be shielded from gas price rises with a subsidised heat pump using SCF

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

Sweden

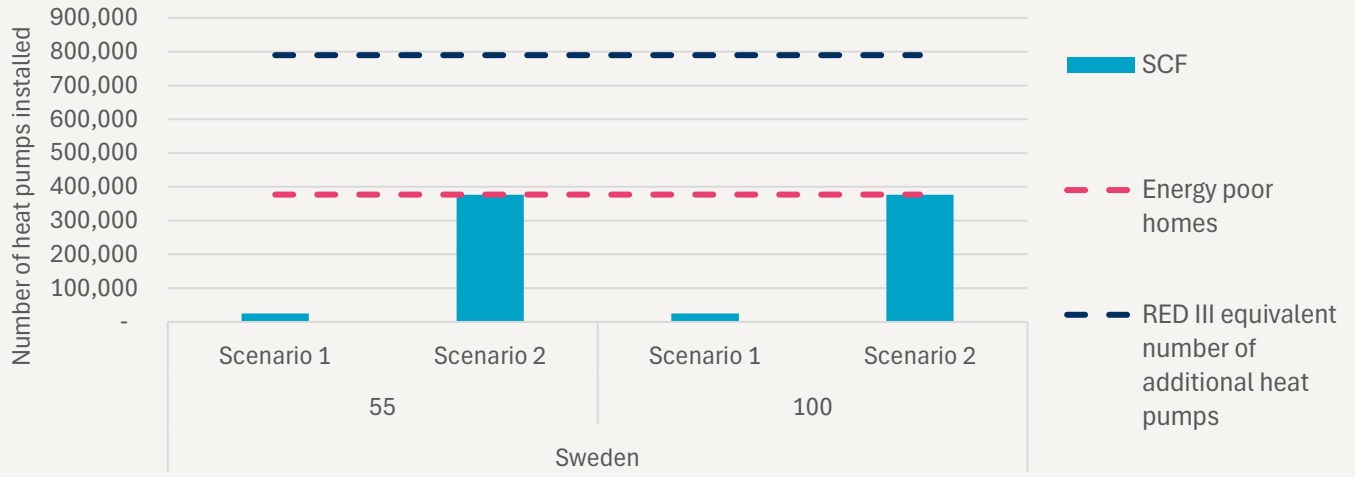
High gas prices result in a rapid payback period of under three years, which could allow funding to be allocated exclusively for zero-interest loans

- Existing subsidy support in Sweden is in the form of a tax deduction on costs for the installation of heating systems
- As of 2024, Sweden had the highest consumer gas price amongst member states (€0.17/kWh), 38% of which was comprised of taxes and levies. As a result, annual savings from a heat pump are substantial and result in a 2.6-year payback (post existing subsidy).
- Therefore, no additional subsidies are required and funding from ETS2 and SCF could be used entirely for zero interest loans

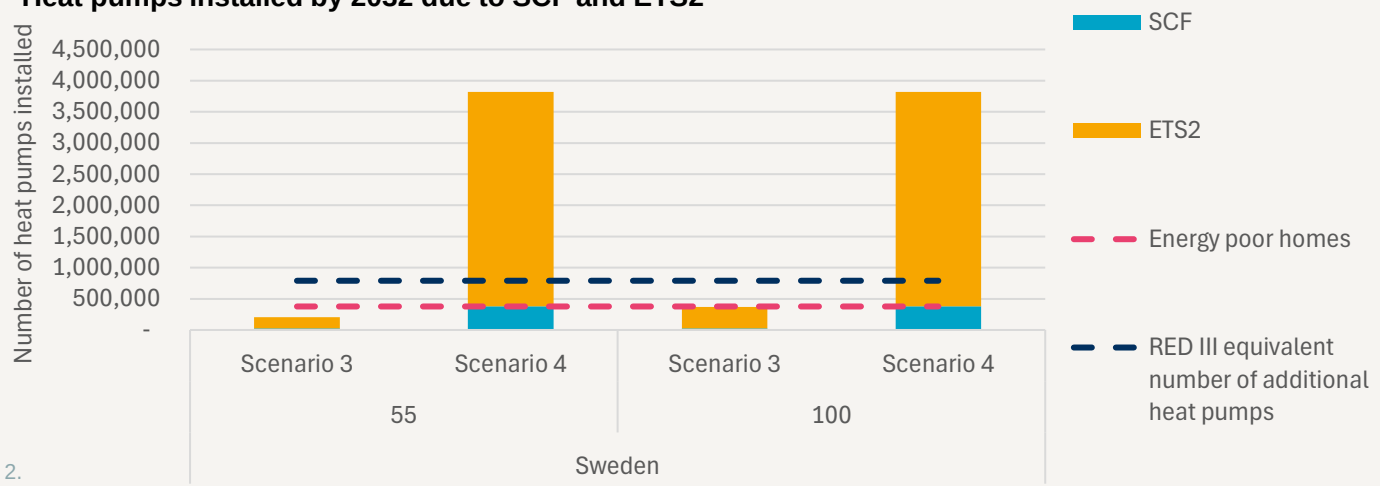
Air-to-water heat pump

100% **of energy poor of homes in SE could be shielded from gas price rises with a subsidised heat pump using SCF**

Heat pumps installed by 2032 due to SCF only



Heat pumps installed by 2032 due to SCF and ETS2



*See page 12 for allocation of SCF and ETS2 funding per member state. Further detail on methodology in Annex 2.

5. Conclusions

Conclusion

Varying impact of SCF and ETS2 to support vulnerable households

The feasibility and impact of scaling heat pump deployment through SCF support vary significantly across EU Member States. In many member states, including France, Republic of Ireland and Germany SCF is sufficient to support all energy poor households to install a heat pump, and therefore be shielded from increases in fossil fuel prices. In other Member States, this funding pot is not sufficient. This variation is largely influenced by:

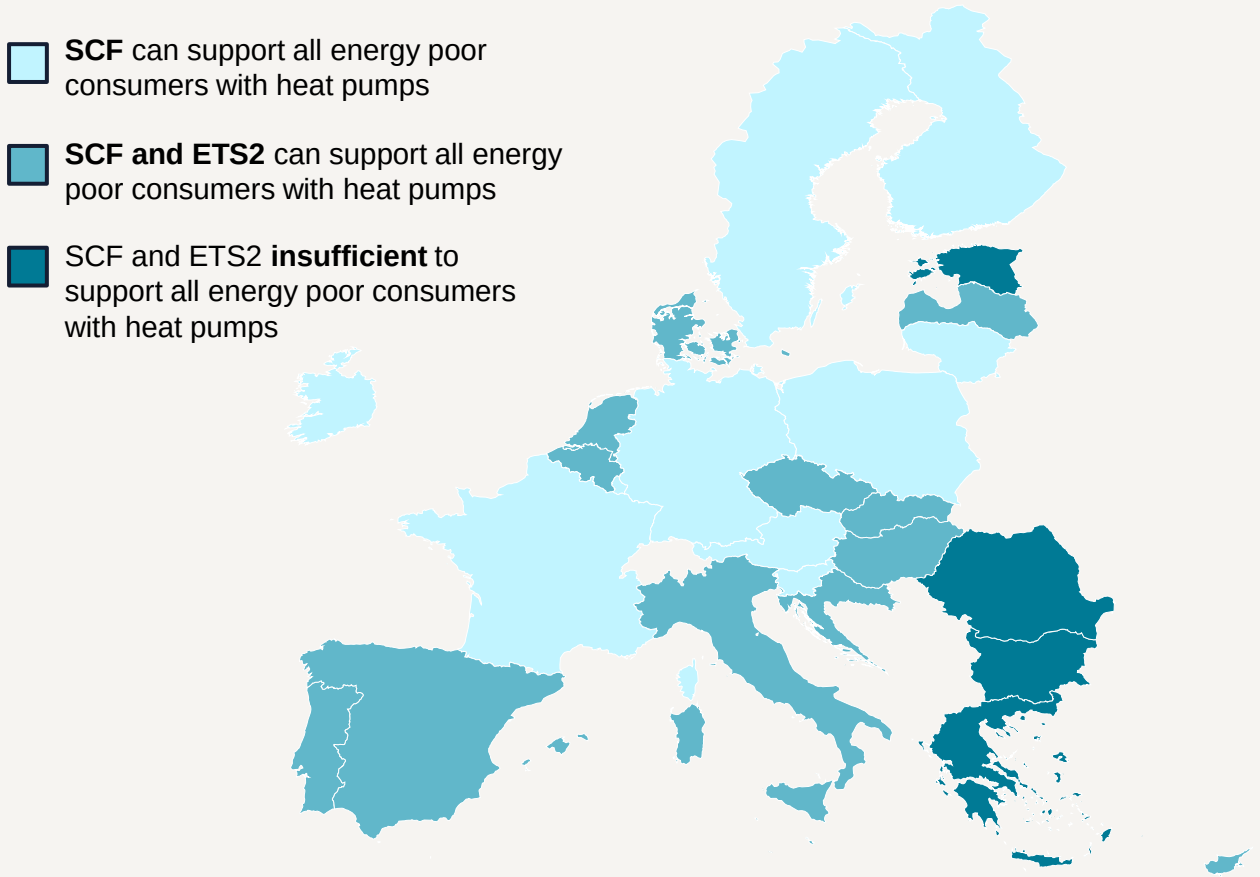
- The nature of current support schemes
- The prevalence of energy-poor households
- Differences in the housing stock
- Gas and electricity prices

Disparities are exacerbated by artificially low gas prices, which continue to act as a persistent barrier to heat pump adoption.

Nevertheless, SCF can be applied strategically by Member States to maximise impact. In addition, ETS2 funding can be used to supplement SCF to reach all energy poor households in other Member States, such as Italy, Czech Republic and the Netherlands. In other Member States, such as Bulgaria and Greece, the combination of ETS2 and SCF allocation might not be sufficient to support all energy poor households.

It should be noted that the heat pump installations have been modelled with EU-wide assumptions on the proportions of revenues allocated to different low carbon technologies (see Annex 2). In practice, member states may choose to allocate revenues differently.

Where is SCF sufficient to support energy poor homes?



How and when should this funding pot be used?

How?

Member States will need to assess the best use of the SCF and ETS2 funding. This report provides an overview of the funding pots available and outputs based on different distribution scenarios. It focuses on heat pumps but there are a number of technologies and solutions to shield energy poor households from the impact of ETS2, which should be harnessed alongside and in combination with heat pumps to maximise their contribution, including:

- A range of heating technologies, including district heating, solar thermal and hybrid heat pumps.
- Improvements to the fabric efficiency of buildings
- Innovative energy management and tariff solutions.

This report considers the economic feasibility of using SCF and ETS2 to install heat pumps, but there are a number of other factors to consider, including, but not limited to:

- The readiness of the workforce to install heat pumps
- Technical feasibility of installation into homes, though the market is providing an increasing number of solutions
- Consumer willingness to replace their heating system
- The national share of vulnerable houses relying on individual/buildings heating vs district heating

When?

There is a large pot of money available, but timing is key. To protect vulnerable consumers, from the price increases is will be crucial to upgrade the heating system quickly so that consumers are not left with their fossil fuel system and rising bills as ETS2 progresses. This will also reduce EU dependence on external energy sources and increase resilience, supporting the RePowerEU plan.

Improving the fabric efficiency of buildings is another route to shield consumers from increasing fossil fuel price and could be combined with low carbon heating technologies to optimise funding allocation and maximise the number of shielded consumers.

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