EUROPE'S LEAP TO HEAT PUMPS

THE SOCIO-ECONOMIC AND CLIMATE BENEFITS UNLOCKED BY A FAST HEAT PUMP ROLL-OUT

ACKNOWLEDGEMENTS

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This is a summary report produced and written by the European Climate Foundation and the European Heat Pump Association, based on the Cambridge Econometrics report '*Modelling the socio-economic impacts of zero carbon housing in Europe (update)*', which is available on the Cambridge Econometrics website. For more information about this summary report, please contact Femke de Jong at *femke.dejong@europeanclimate.org.*

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EXECUTIVE SUMMARY

In 2022 Russia invaded Ukraine triggering the energy crisis we are still experiencing today. The war caused unprecedented fossil fuel price hikes, leading to high inflation and eye-watering bills for consumers and businesses across Europe and beyond. It also prompted the EU to take measures to rapidly wean its economy off imported gas. The REPowerEU plan, launched in response to the Russian war on Ukraine, included targets to double the deployment of heat pumps in order to cut fossil fuel use for heating over five years.

This study explores the socio-economic and climate impacts of meeting the EU's REPowerEU objective for the installation of heat pumps and finds that doing so could bring substantial economy-wide benefits. Heat pumps are a highly efficient heating technology, they reduce household energy bills and improve Europe's energy independence. A fast heat pump roll-out would mean installing 60 million heat pumps by 2030. This would make Europe less dependent on foreign energy imports by **reducing the EU's gas demand in buildings by 40%** by 2030 compared to 2022 and allowing the EU to **reduce its energy import bill by €60 billion** between now and 2030. More heat pumps and energy renovations also help protect consumers from future energy price shocks and lift people out of energy poverty, by **cutting average heating bills by 20%** by 2030 compared to a business as usual scenario.

Based on modelling by Cambridge Econometrics, this study amends an earlier study published in 2022 by using the current and foreseen higher energy prices deepened by the Russian invasion. It models a rapid move to heat pumps across the EU in line with REPowerEU's objectives of 30 million more hydronic heat pumps being added by 2030 (on top of 20 million today). It has been estimated that this means about 60 million[1] more heat pumps when all types are factored in. The study compares this to a business as usual scenario with a continued high reliance on fossil fuel boilers.

To meet the EU's climate objectives, the building sector will need to achieve a 60% reduction in greenhouse gas emissions between 2015 and 2030, and fully decarbonise by 2050. However, Europe's buildings are not on track to achieve these goals. Emissions from the EU's residential building stock are only expected to decrease by 11% between 2022 and 2030 under currently adopted policies.

Boilers running on fossil fuels are the main reason for the EU's high gas dependence and the high level of emissions from buildings. There are still over 90 million gas and oil boilers in the EU and a new boiler is installed every 8 seconds[2]. Only by accelerating the transition to clean heating technologies like heat pumps, will the EU be able to meet its climate commitments: **CO_2 emissions from EU residential buildings can be lowered by 46%** between 2022 and 2030 if heat pumps are deployed in line with REPowerEU's ambition.

Burning fossil fuels and biomass for heating emits CO_2 and other air pollutants that are detrimental to public health. An increased deployment of heat pumps, which do not emit air pollutants at the point of use, would **reduce NO_x emissions from household heating by almost 40% by 2030** compared to 2022.

An extensive deployment of heat pumps (both in individual heating systems and in district heating networks) and a high renovation rate can **increase the disposable incomes of households by at least 2%**, lead to a **2.5% growth in annual Gross Domestic Product (GDP)** and create **3 million net[3] additional jobs** by 2030 compared to a business as usual scenario. In a context of high fossil fuel prices, heat pumps will be cost-competitive options for consumers as they are on average 30% cheaper to run than gas boilers over their lifetime.

In order to capitalise on these climate and socio-economic benefits and deliver REPowerEU's goals, EU decision makers need to develop an enabling policy and financing framework to speed up the transition to more energy efficient buildings and heat pumps.

1 European Heat Pump Association press release, see *here*

2 See Better Without Boilers: *betterwithoutboilers.eu*

3 Combining the job gains and losses in different sectors leads to the final figure of net additional jobs by 2030

FIVE WAYS FOR THE EU TO DELIVER A FAST HEAT PUMP ROLL-OUT AND HIGHER RENOVATION RATE

- **End the sale of fossil fuel boilers**
- **Set Minimum Energy Performance Standards to upgrade buildings**
- **Ensure countries support vulnerable households with subsidies**
- **Reduce taxes on electricity and heat pumps**
- **Launch a heat pump skills partnership and action plan**

THE BENEFITS OF INSTALLING 60 MILLION HEAT PUMPS IN THE EU BY 2030

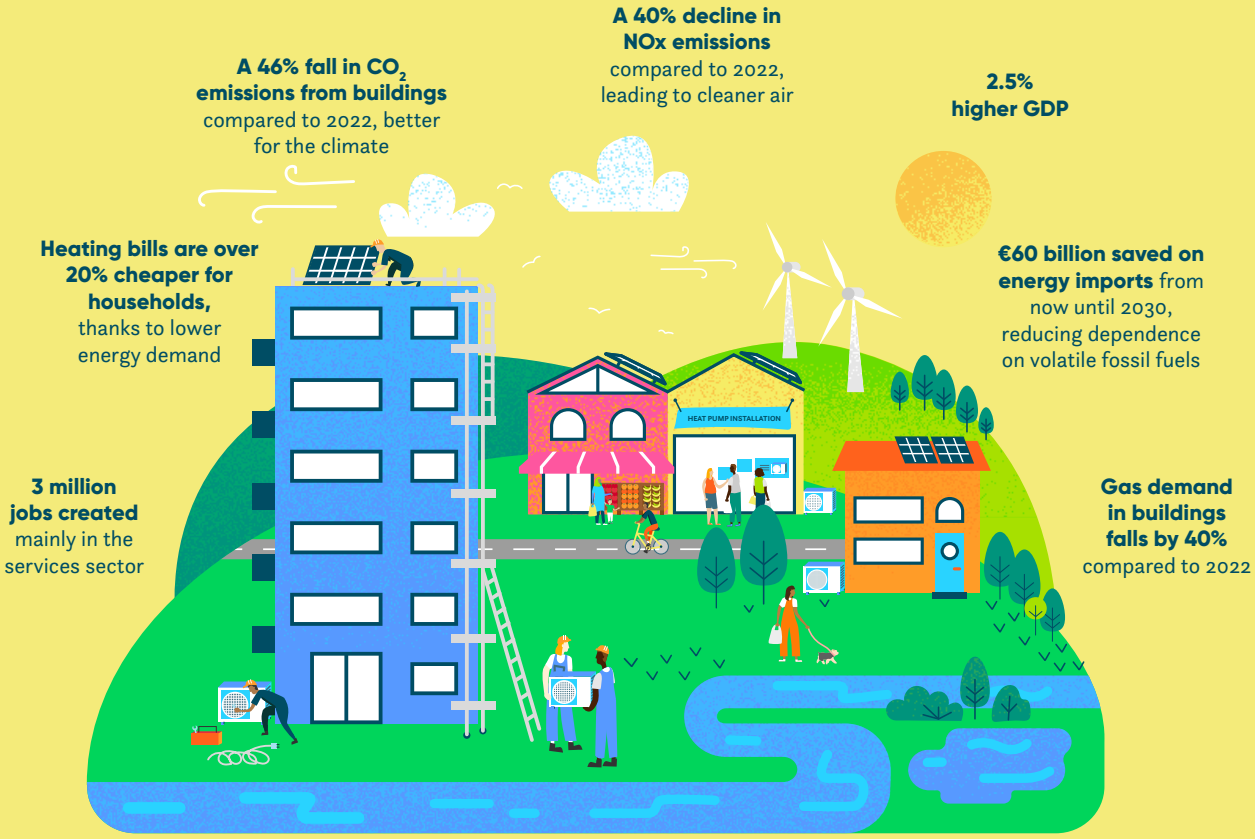
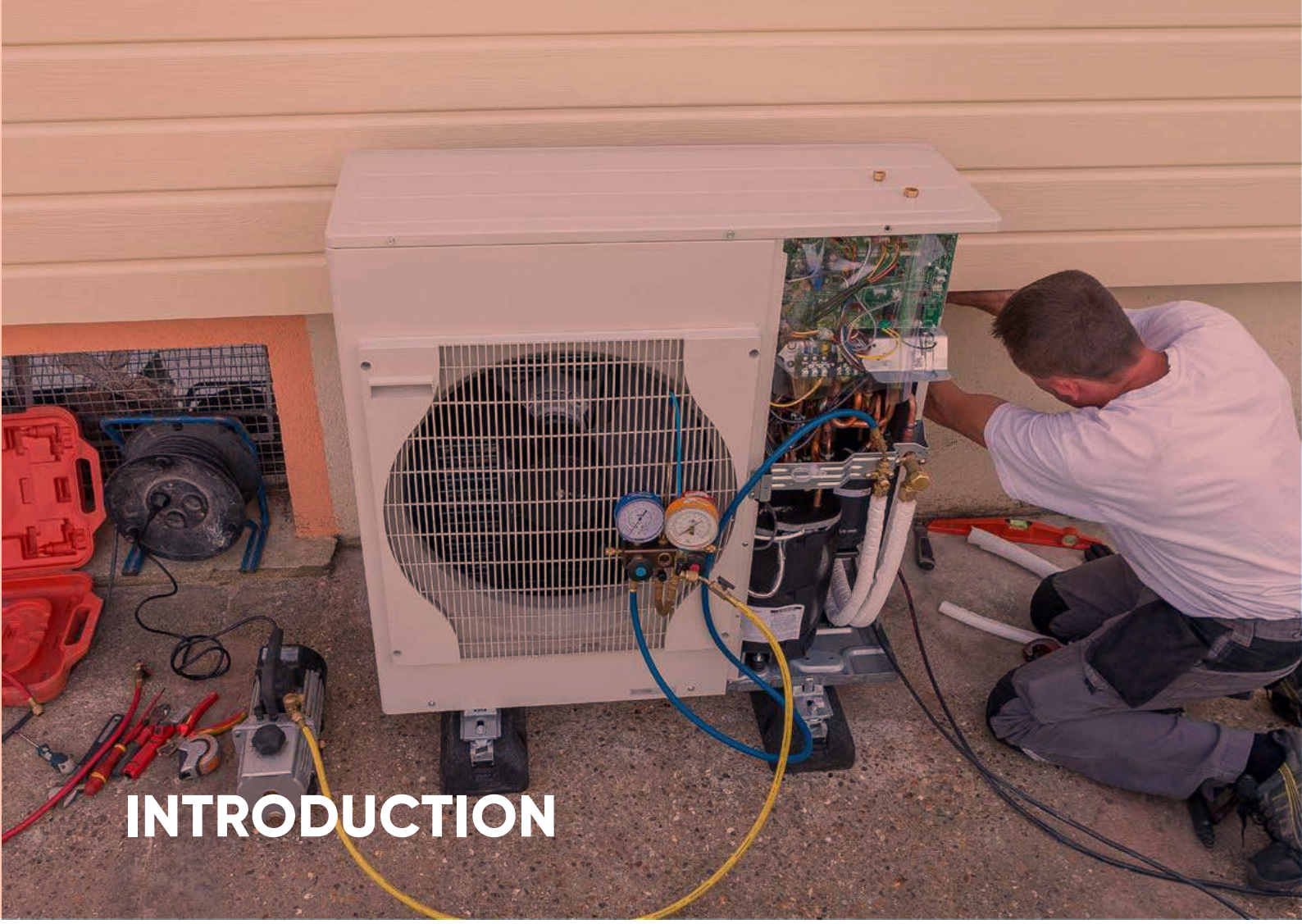


Figure 1: Illustration showing the main socio-economic and climate benefits of a fast transition to heat pumps by 2030, compared to the business as usual scenario (or 2022 when specified)



INTRODUCTION

Russia's invasion of Ukraine in 2022 sent shock waves throughout the world and its knock-on effects on the costs of energy brought Europe's high dependency on imported fossil fuels into sharp focus. This situation forced EU policy makers to redouble their efforts to reduce gas consumption through measures outlined in the REPowerEU plan, including targets to accelerate the transition to heat pumps in buildings.

To unlock the benefits a fast roll-out of heat pumps can offer, much work needs to be done. Buildings — such as houses, schools, hospitals and offices — still account for 40% of the EU's energy consumption and 36% of the EU's energy-related greenhouse gas emissions. At the moment, energy inefficient buildings are not being renovated fast enough to reduce energy consumption, and Europe is still meeting most of its heating demand with fossil fuels, with gas boilers being the most common heating technology.

Prior to the Russian invasion, the EU launched a strategy known as the "Renovation Wave" to upgrade its existing building stock. Several legislative proposals have since been put forward to improve the energy efficiency of buildings and encourage the switch to renewable heating. Following the Russian war on Ukraine, the European Commission's REPowerEU plan[4] aims to double the current deployment rate of hydronic heat pumps, resulting in an additional 10 million hydronic heat pumps over the next five years[5].

In March 2022, Cambridge Econometrics released a study[6] exploring the economy-wide impacts of different scenarios to decarbonise EU and UK residential buildings. The study was the result of a year-long process of discussions and analysis between Cambridge Econometrics and an expert panel, which advised on the input data, scenario development and assumptions. The report found that the shift to electrified and highly efficient buildings would generate the largest socio-economic benefits for Europe and that relying on green hydrogen for heating is not projected to deliver similar benefits.

While these conclusions still hold, following the Russian war on Ukraine, the magnitude of the benefits has changed somewhat since some of the assumptions of the study no longer reflect reality. Energy prices have, for example, increased substantially and are expected to stay above previous projections in the coming years.

These higher prices have increased the demand for energy renovations and heat pumps. Data gathered by the European Heat Pump Association show that 3 million heat pumps were sold in 2022, a growth of almost 38% compared to 2021, bringing the total stock of heat pumps to around 20 million[7]. The REPowerEU plan's ambition for heat pumps would mean that 60 million heat pumps are installed in the EU by 2030, much more than the previous Cambridge Econometrics study modelled.

Cambridge Econometrics has therefore updated the previous modelling using higher energy prices and a faster deployment of heat pumps in line with the REPowerEU plan. This summary report provides an overview of the main results of the new technical report by Cambridge Econometrics '*Modelling the socio-economic impacts of zero carbon housing in Europe (update)*'.

4 European Commission (2022), REPowerEU Plan, see *here*

5 The initial focus of the EU Commission is on water-based ('hydronic') heat pumps and sees a total of 10 million additional hydronic units being necessary by 2026. The original REPowerEU communication set the 2030 target at 30 million hydronic units. As this will have positive effects on both air-to-air and water-based heat pumps, EHPA estimates that the total amount of heat pumps are equal to an additional 20 million heat pumps by 2026 and 60 million by 2030, building on a 2022 stock of about 20 million units.

6 Cambridge Econometrics (2022), Building Europe's Net-Zero Future: Why the transition to energy efficient and electrified buildings strengthens Europe's economy, see *here*

7 EHPA (2023), Heat pump record: 3 million units sold in 2022, contributing to REPowerEU targets, see *here*

METHODOLOGY

This project builds on the approach, input data and modelling of the previous study which was explained in the executive summary of '*Building Europe's Net-Zero Future: Why the transition to energy efficient and electrified buildings strengthens Europe's economy*'.

For this project, Cambridge Econometrics has adapted the modelling of their previous study to incorporate the following developments in both of the scenarios in this study:

- Higher energy price projections following the invasion of Ukraine and subsequent energy crisis.
- The new emissions trading system for heating and road transport fuels which will come into force in 2027.

In the REPowerEU plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition, the European Commission included targets for accelerating the deployment of heat pumps. This heat pump target has been incorporated in a new heat pump scenario which was modelled by Cambridge Econometrics for this project. The socio-economic benefits of a faster heat pump roll-out in line with the REPowerEU plan were derived by comparing the "heat pump scenario" with a "business as usual scenario", which already takes into account the impact of higher energy prices and the introduction of carbon pricing for heating.

BUSINESS AS USUAL SCENARIO COMPARED TO THE MODELLED HEAT PUMP SCENARIO

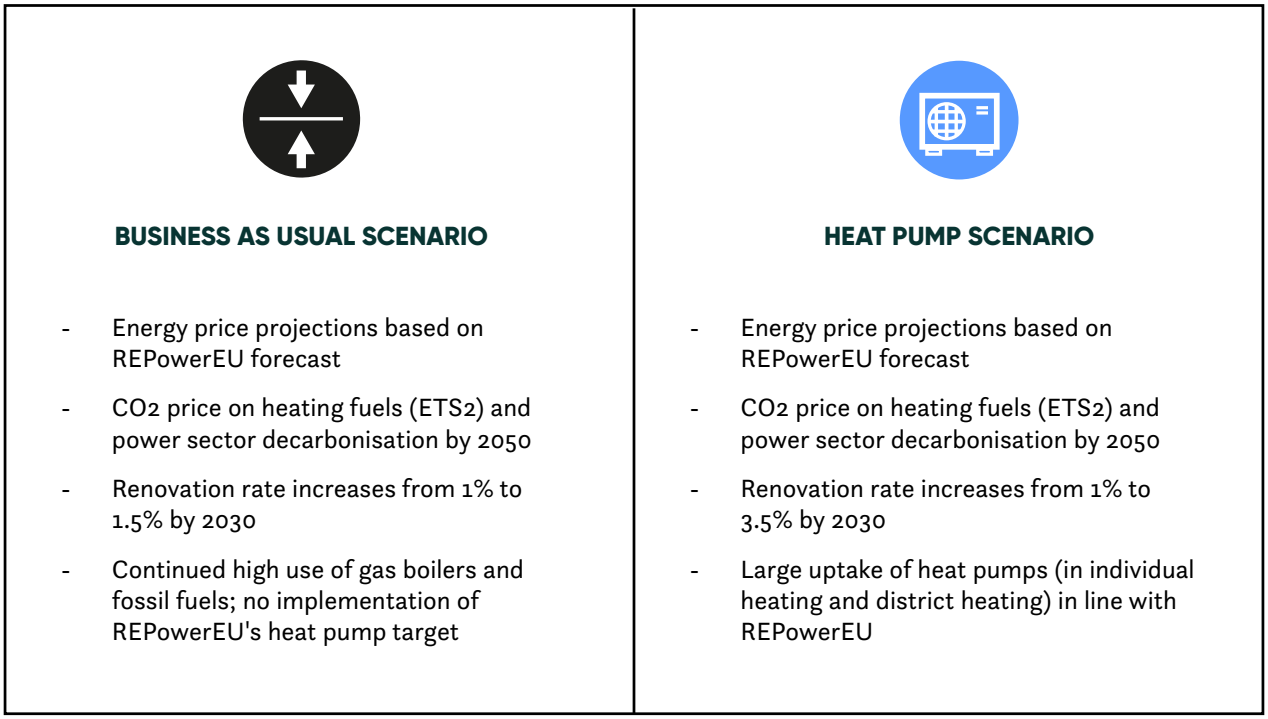


Figure 2: Icons explaining the two different scenarios

Following the Russian invasion, energy prices skyrocketed in the EU and gas prices are expected to remain higher than previously assumed. The energy price projections of the EU Reference Scenario 2020 are no longer an accurate depiction of the future. Cambridge Econometrics has therefore incorporated new energy price projections in their modelling:

- The REPowerEU projections and results in this report use the European Commission's forecast contained in the REPowerEU Plan, produced with the PRIMES model.
- The "slow recovery" projections also use the REPowerEU forecast but Cambridge Econometrics assumed a slower price level recovery from the price shock. In this situation the socio-economic benefits from deploying heat pumps and energy renovations will be higher than the REPowerEU energy price projections. A faster heat pump roll-out will therefore have even greater benefits than those presented in this report if a slow recovery materialises.

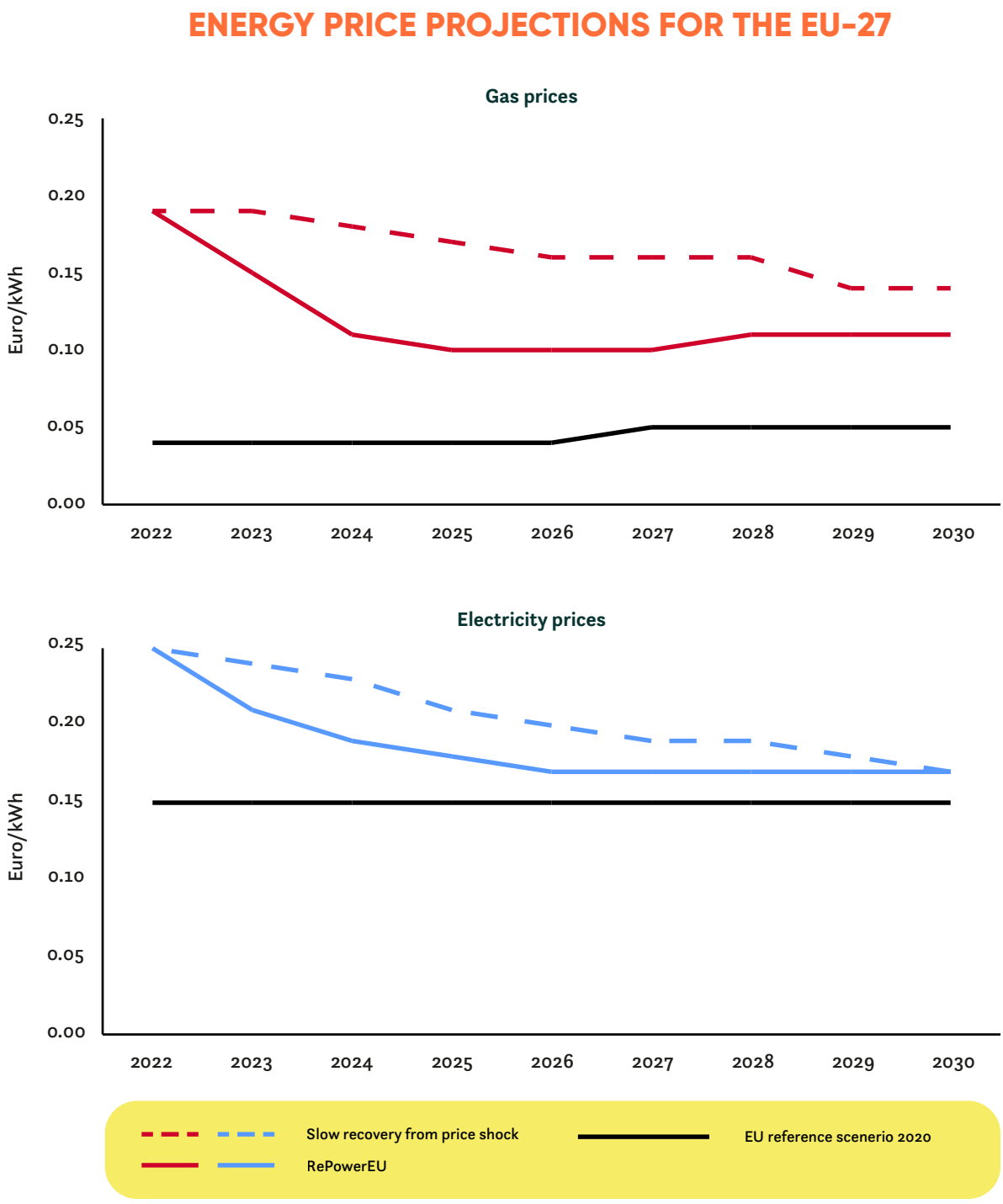


Figure 3: End-user energy price projections used in this study for the EU-27

CLIMATE AND HEALTH IMPACTS

There are currently around 20 million heat pumps in Europe, which together avoid 54 million tonnes of CO_2 — roughly equivalent to the annual emissions of Greece[8]. While the number of installed heat pumps in the EU is growing rapidly, their uptake is not fast enough to meet the EU's climate goals. This is because of the EU's continued dependence on fossil fuels to heat homes. There are still over 90 million gas and oil boilers in the EU, with a new one being installed every eight seconds[9].

Under the business as usual scenario, which incorporates the new emissions trading system for buildings, emissions from the EU's residential buildings decrease by only 11% between 2022 and 2030. This is not in line with the EU's climate objectives.

Increasing energy renovations and accelerating the deployment of heat pumps would lead to a 46% decrease in CO_2 emissions from the EU residential building stock between 2022 and 2030, enabling the EU to meet its climate commitments.

Burning fossil fuels and biomass for heating not only emits CO_2 emissions but also other air pollutants that are detrimental to public health. Heat pumps, on the other hand, do not directly emit air pollutants. An increased deployment of heat pumps will therefore **reduce NO_x emissions by almost 40% by 2030** compared to 2022. In Poland, the uptake of heat pumps is expected to be particularly beneficial for air quality since it will result in a 100% reduction of fine particulate matter (PM2.5) emissions from household heating by 2030. In 2020, exposure to PM2.5 concentrations in Poland was linked to over 35,000 premature deaths[10].

The health costs of NO_X pollution

Nitrogen oxides, including nitrogen dioxide, react with oxygen to form smog and acid rain while also contributing to a variety of health problems such as lung tissue damage. Acute and long-term exposure to NO_x has been linked to respiratory and cardiovascular issues. In 2020, 49,000 premature deaths were attributed to exposure to nitrogen dioxide in the EU[11]. Transport is a major source of NO_x pollution, but gas combustion is also an important contributor, responsible for a fifth of the London-wide NO_x emissions, for example.

Air pollution from fossil fuel and wood use for home heating causes €27 billion a year in health-related costs to society in the EU and the UK, according to research by CE Delft for the European Public Health Alliance[12]. Heat pumps cause no direct air pollutants and, combined with a fully renewable energy system without biomass, would have zero health-related costs from air pollution.

Nitrogen oxides are also a health hazard indoors. A report from CLASP and the European Public Health Alliance[13] suggests that cooking on gas in a typical kitchen without mechanical ventilation causes indoor NO_x pollution that exceeds World Health Organisation air quality guidelines and outdoor EU air pollution standards multiple times each week throughout the year. The number of children in the EU with asthma symptoms occurring within the last 12 months due to cooking on gas is estimated at over 700,000, or 12% of current asthma cases in children across the EU, according to the report.

8 EHPA (2023), Heat pump record: 3 million units sold in 2022, contributing to REPowerEU targets, see here

9 Better Without Boilers, betterwithoutboilers.eu

10 Exposure above the 2021 WHO AQ guideline level of 5 µg/m3, see European Environment Agency (2022), Health Impacts of Air Pollution in Europe 2022, see here

11 European Environment Agency (2022), Air Quality in Europe 2022, see here

12 CE Delft (2022), Health-related social costs of air pollution due to residential heating and cooking in the EU-27 and UK, see here

13 CLASP and European Public Health Alliance (2022), Phasing Out Gas Cooking in Europe, see here

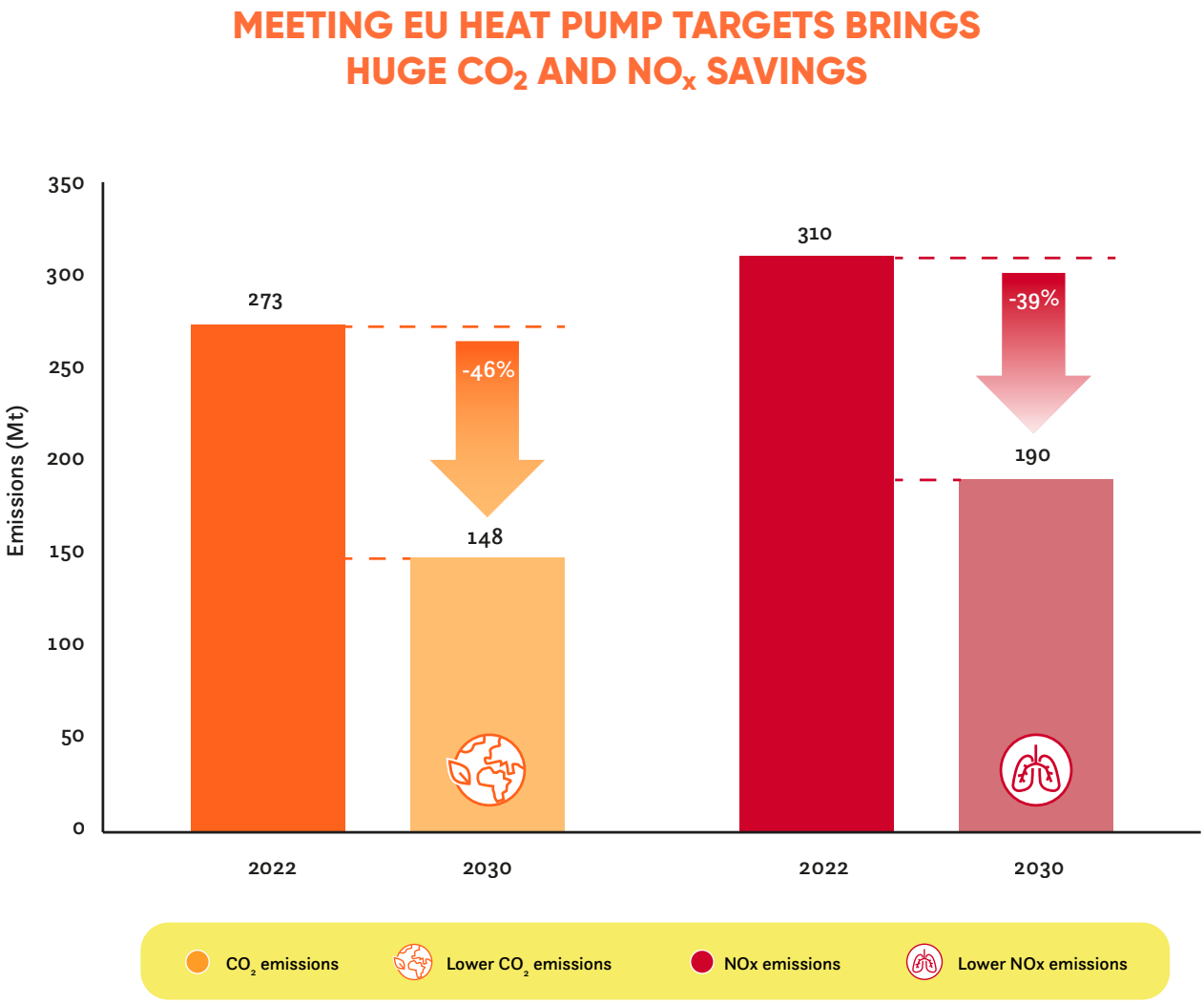


Figure 4: CO_2 and NO_x emission reductions from EU buildings by 2030 in the heat pump scenario, compared to 2022

IMPACTS ON CONSUMERS

To meet the EU's REPowerEU objectives, millions of heat pumps would need to be installed in buildings across the EU, alongside energy renovations to homes. Multiple benefits for consumers will be generated by this transition.

Accelerating the deployment of heat pumps and energy renovations will reduce final energy demand in the building sector by 24% by 2030 compared to 2022 and gas demand by 40%. As a result, **the average heating bill in the EU will decrease by more than 20% by 2030**, compared to the business as usual scenario, mainly due to the uptake of heat pumps. Energy bill savings are expected to be particularly high in France where average heating bills could be lowered by over 40%.

MEETING EU HEAT PUMP TARGETS WILL LEAD TO 20% LOWER HEATING BILLS FOR HOUSEHOLDS

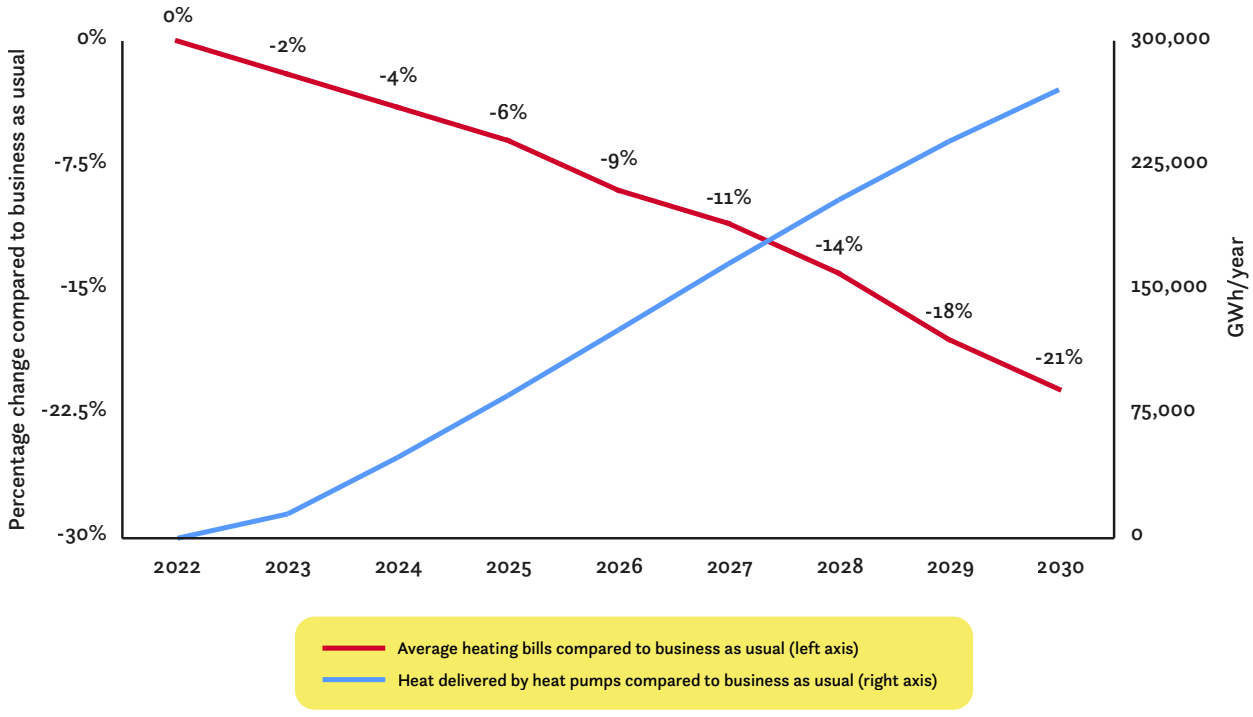


Figure 5: Heat delivered by heat pumps (GWh/year) and average household spending on heating (% change) in the heat pump scenario compared to the business as usual scenario

Heat pumps lead to long-term savings on energy bills, however their upfront costs are high. A heat pump is more expensive than a gas boiler to buy, which can present a barrier in particular for consumers who lack financial means. The higher upfront cost is expected to decrease over time as the market becomes more established and economies of scale are achieved.

However, the upfront cost of the heating technology represents a relatively small share of the total cost of a heating technology over its lifetime. Running and maintaining a heating appliance accounts for the biggest share of the total costs consumers face. The average total cost of a heat pump over its lifetime is lower than that of a gas boiler, because heat pumps are

up to four times as efficient as a gas boiler and do not rely on expensive gas. This means that **heat pumps are cost-competitive options for consumers** as they are on average 30% cheaper to run over their lifetime than a gas boiler in the EU.

Overall, the transition to heat pumps and energy renovations would benefit all income groups. With a fast heat pump roll-out, disposable incomes of all income groups in the EU is expected to grow by around 2% by 2030 compared to the business as usual scenario, thanks to the positive economy-wide effects from heat pump deployment.

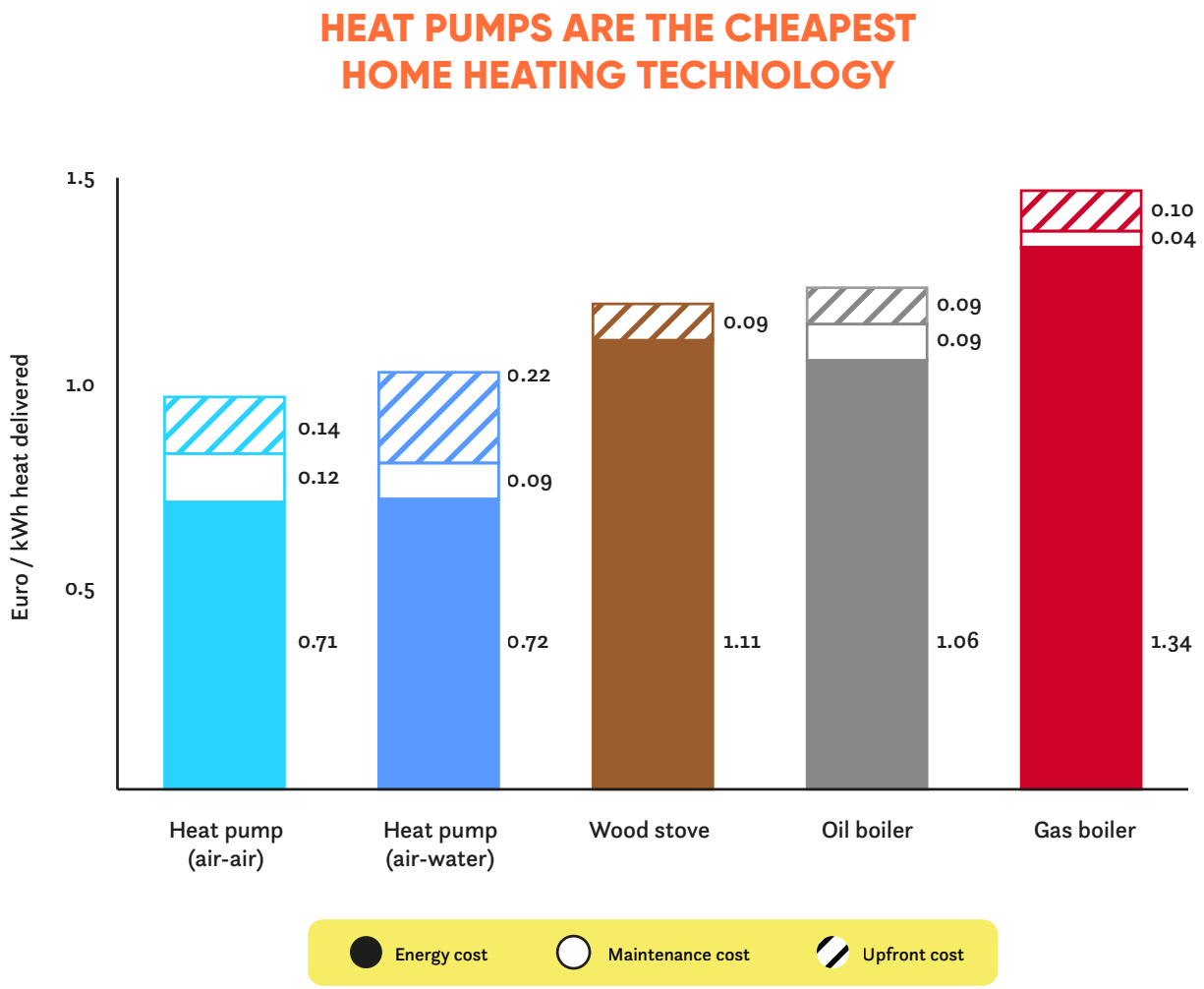


Figure 6: Total cost of owning and running different heating technologies, EU averages (Euro/kWh delivered, 2020–2030)

ECONOMIC IMPACTS

The shift to more efficient homes powered by heat pumps brings a wide range of economic benefits.

GDP IMPACTS

The EU transition to heat pumps will lead to a **2.5% net increase in Gross Domestic Product (GDP) by 2030**, compared to the business as usual scenario. Germany's GDP is expected to perform particularly well, surpassing the EU average with an increase in its annual GDP of over 4%.

ENERGY IMPORTS

At present, the EU is heavily dependent on fossil fuel imports to heat its homes. Recently, energy prices reached unprecedented high levels, exposing Europe's vulnerability to volatile fossil fuel prices. In 2022 the EU spent a staggering €400 billion on gas imports, more than three times the 2021 level[14].

Switching to heat pumps and more energy efficient homes will lower coal, gas and oil imports, meaning **the EU could cut its spending on fossil fuel imports by €60 billion between now and 2030, which includes €43 billion on gas imports.** If there is a slower recovery from the energy price shock, the energy import savings could amount to as much as €83 billion. Germany, in particular, will see large energy import savings if it accelerates the deployment of heat pumps. It could save €26 billion in energy imports between now and 2030, of which €19 billion for gas.

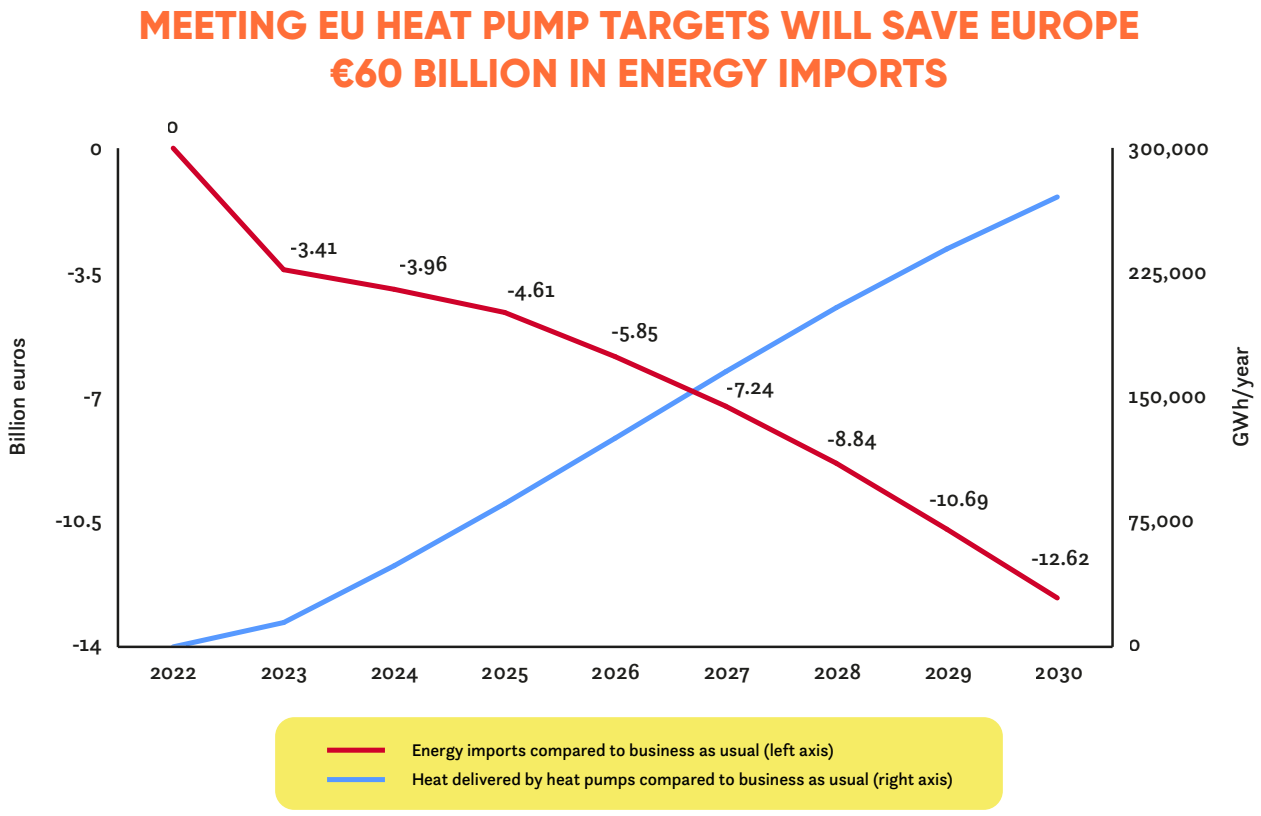


Figure 7: Heat delivered by heat pumps (GWh/year) and energy imports (billion euros) in the heat pump scenario as compared to the business as usual scenario

14 IEA (2023), Europe's energy crisis: What factors drove the record fall in natural gas demand in 2022?, see here

EMPLOYMENT IMPACTS

The uptake of heat pumps, which are much more efficient appliances than fossil fuel boilers, will lower household energy bills, unlocking spending elsewhere. This leads to positive multiplier effects such as more domestic demand for goods and services, higher domestic production to meet this demand, and therefore increased employment.

The increased uptake of heat pumps in line with the EU's REPowerEU plan will help **create almost 3 million net additional jobs by 2030**, compared to the business as usual scenario. Most jobs will be created in the service sector (1.8 million) and the construction sector (almost 500,000), while 27,000 jobs will be lost in fossil fuel related industries. Combining the job gains and losses in different sectors leads to the figure of 3 million net additional jobs by 2030. Over 1 million of the 3 million additional jobs would be created in Germany.

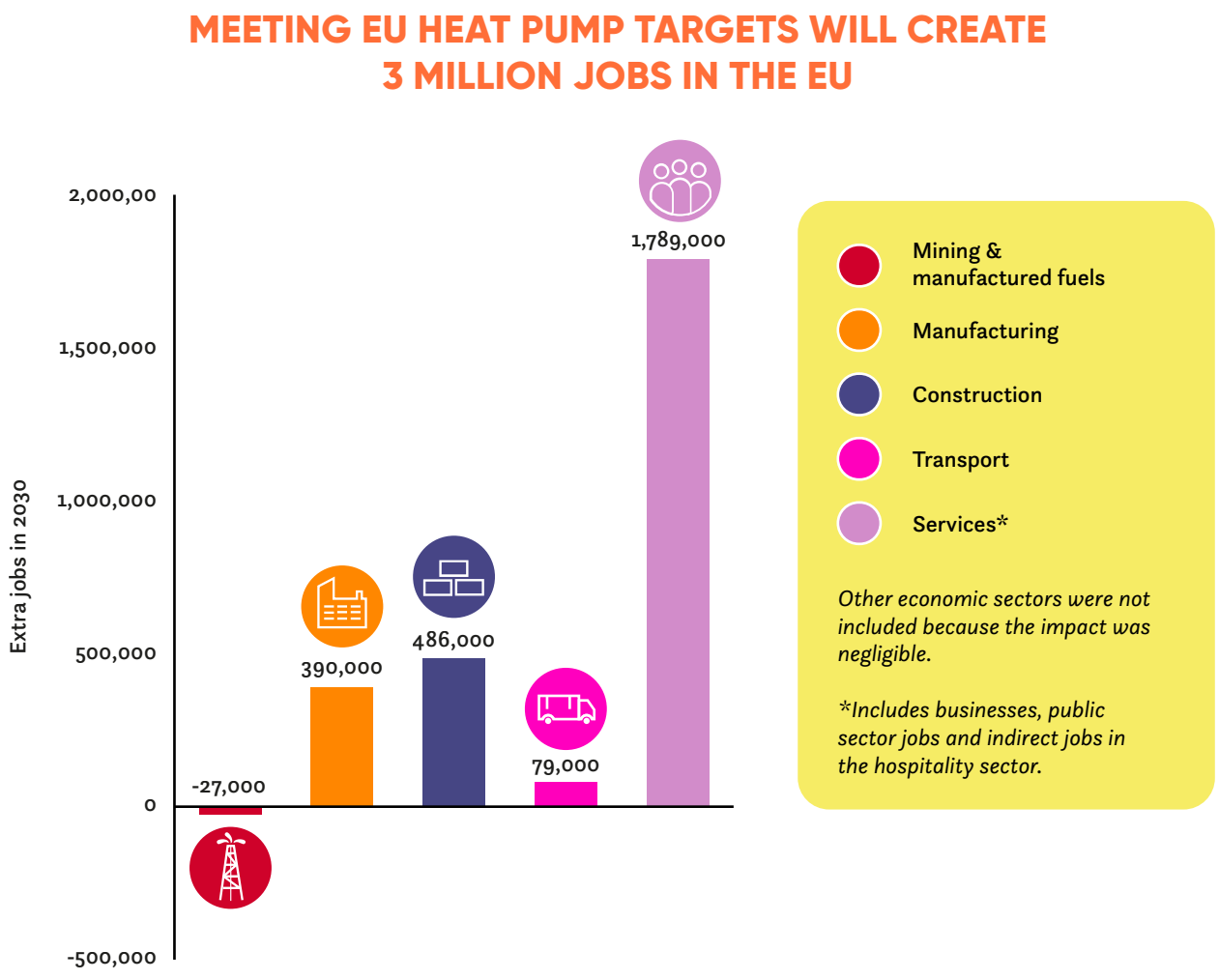


Figure 8: EU employment increases by sector in 2030 in the heat pump scenario compared to the business as usual scenario

COUNTRY FINDINGS

GERMANY

In 2022, heat pumps accounted for one in four of the heating appliances sold in Germany, leading to an over 50% growth in sales compared to the year before. Sales of gas boilers declined in 2022 but gas and oil boilers combined still made up two-thirds of total sales[15].

There are around 19 million oil and gas boilers in Germany[16]. To phase-out fossil heating, the country is planning to introduce legislation from 2024 that would require each new installation of a heating system to use 65% renewable energy. This would further increase the uptake of heat pumps.

The modelling by Cambridge Econometrics shows that the transition to heat pumps will boost Germany's economy, leading to an over **4% increase in annual GDP in 2030 compared to the business as usual scenario. Over 1 million net additional jobs** could be created by 2030, mainly in the services sector (+780,000).

The transition away from gas and oil boilers to clean heating such as heat pumps will also improve Germany's energy security. Gas demand in buildings could be reduced by almost 40% by 2030, compared to 2022. As a result, Germany could **cut its spending on energy imports by €26 billion between now and 2030**, of which €19 billion would be gas import savings.

Consumers also benefit from the transition to more efficient buildings and heat pumps, including from lower heating bills and a 5% increase in disposable income by 2030, compared to the business as usual scenario.

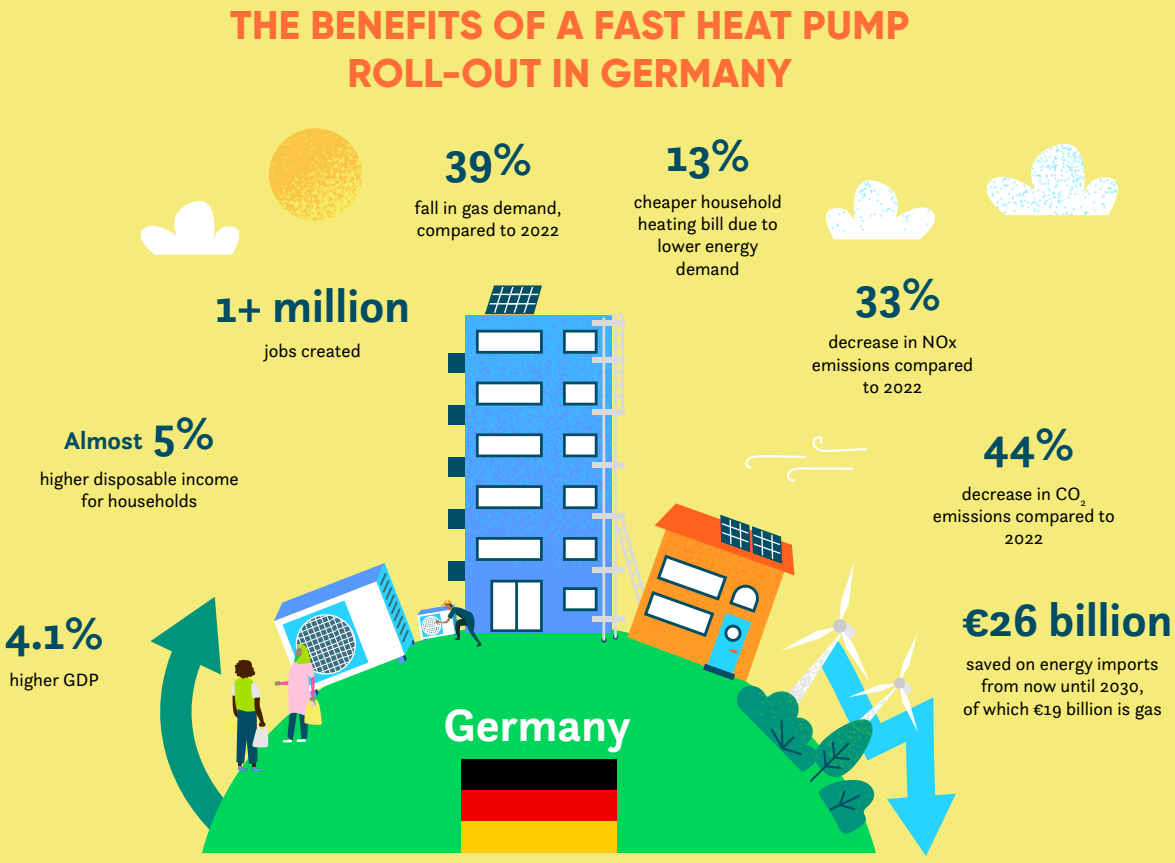


Figure 9: Illustration showing the main socio-economic and climate benefits of the transition to heat pumps in the German building stock by 2030, compared to the business as usual scenario (or 2022 when specified)

15 Welt (2023), Meth Gaskessel als Wämepumpen - Hausbesitzer setzen weiter auf fossile Brennstoffe, see here

16 Better Without Boilers calculation, see: https://betterwithoutboilers.eu/

POLAND

In 2022, heat pumps accounted for one in three of the heating appliances sold in Poland. Heat pump sales for heating buildings grew by an impressive 130% to over 200,000 units. Since the Russian war on Ukraine, the share of heat pumps in the Clean Air Program, a Polish subsidy programme to improve air quality, grew to over 60%.[17] However, there are still almost 2 million coal boilers[18] and around 3.6 million gas and oil boilers in Poland[19].

The modelling by Cambridge Econometrics shows that an accelerated transition to more efficient buildings and heat pumps will **be positive for the Polish economy**, leading to a 0.8% increase in annual GDP in 2030. Over 45,000 net additional jobs could be created by 2030, mainly in the construction (41,000) and service (28,000) sectors, while around 41,000 jobs could be lost in fossil fuel related industries[20].

The transition away from coal, oil and gas boilers to clean heating such as heat pumps will also **improve Poland's air quality**. By 2030, gas and hard coal demand in buildings could be reduced by 26% and 42% respectively, compared to 2022. Since heat pumps do not directly emit pollutants, NO_x and PM2.5 emissions would decrease by 33% and 100% respectively by 2030, compared to 2022. This is significant, as in 2020, exposure to PM2.5 concentrations in Poland was linked to over 35,000 premature deaths[21].

Consumers would also benefit from the transition to more efficient buildings and heat pumps, including from lower heating bills and an increase in disposable incomes. **Heat pumps will be cost-competitive options for consumers** as they are on average 60% cheaper to run over their lifetime than a gas boiler in Poland.

THE BENEFITS OF A FAST HEAT PUMP ROLL-OUT IN POLAND

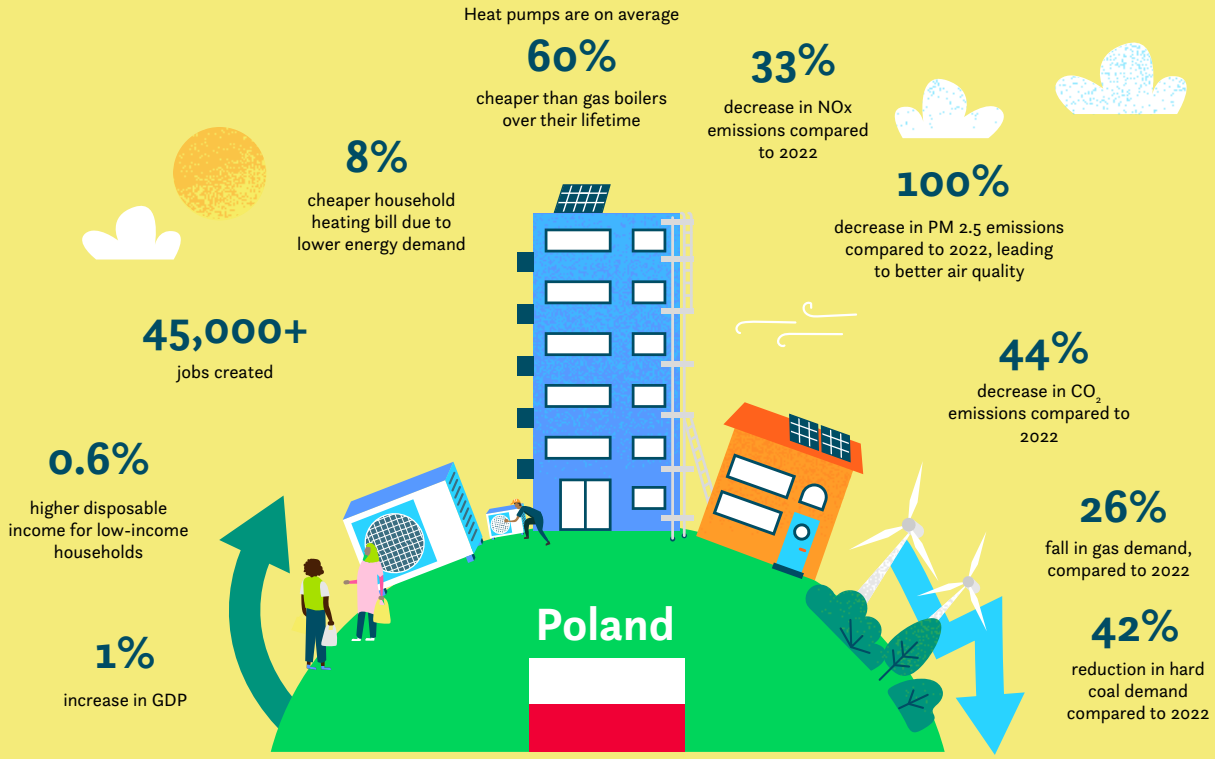


Figure 10: Illustration showing the main socio-economic and climate benefits of the transition to heat pumps in the Polish building stock by 2030, compared to the business as usual scenario (or 2022 when specified)

17 European Heat Pump Association (2023), PORT PC: 2022 was the year of heat pumps in Poland, see *here*

18 European Heating Industry (2022), Heating Market Report 2021, see *here*

19 Better Without Boilers calculation, see: *https://betterwithoutboilers.eu/*

20 Combining the job gains and losses in different sectors leads to the final figure of net additional jobs by 2030

21 Exposure above the 2021 WHO AQ guideline level of 5 µg/m3, see European Environment Agency (2022), Health Impacts of Air Pollution in Europe 2022, *here*

SPAIN

In Spain, heat pump sales in 2022 grew by over 20% compared to the year before[22]. The Spanish heating market is still dominated by fossil fuel boilers however, with an estimated 8.5 million gas and oil boilers in use[23].

The modelling by Cambridge Econometrics shows that an accelerated transition to heat pumps would boost the Spanish economy, leading to a **2.3% increase in annual GDP in 2030 compared to the business as usual scenario**. Over **250,000 net additional jobs** could be created by 2030, mainly in the services sector (160,000).

The transition to more efficient housing and heat pumps will also improve Spain's energy security. **Gas and oil demand in buildings could be reduced by around 35% by 2030**, compared to 2022. As a result, Spain could cut its spending on energy imports by €2 billion between now and 2030, of which €1 billion comes from gas imports savings.

Consumers also benefit from the transition to more efficient buildings and heat pumps, including from an over 14% reduction in heating bills and an almost 3% increase in disposable incomes by 2030, compared to the business as usual scenario. **Heat pumps will be cost-competitive options for consumers** as they are on average almost 50% cheaper to run over their lifetime than a gas boiler in Spain.

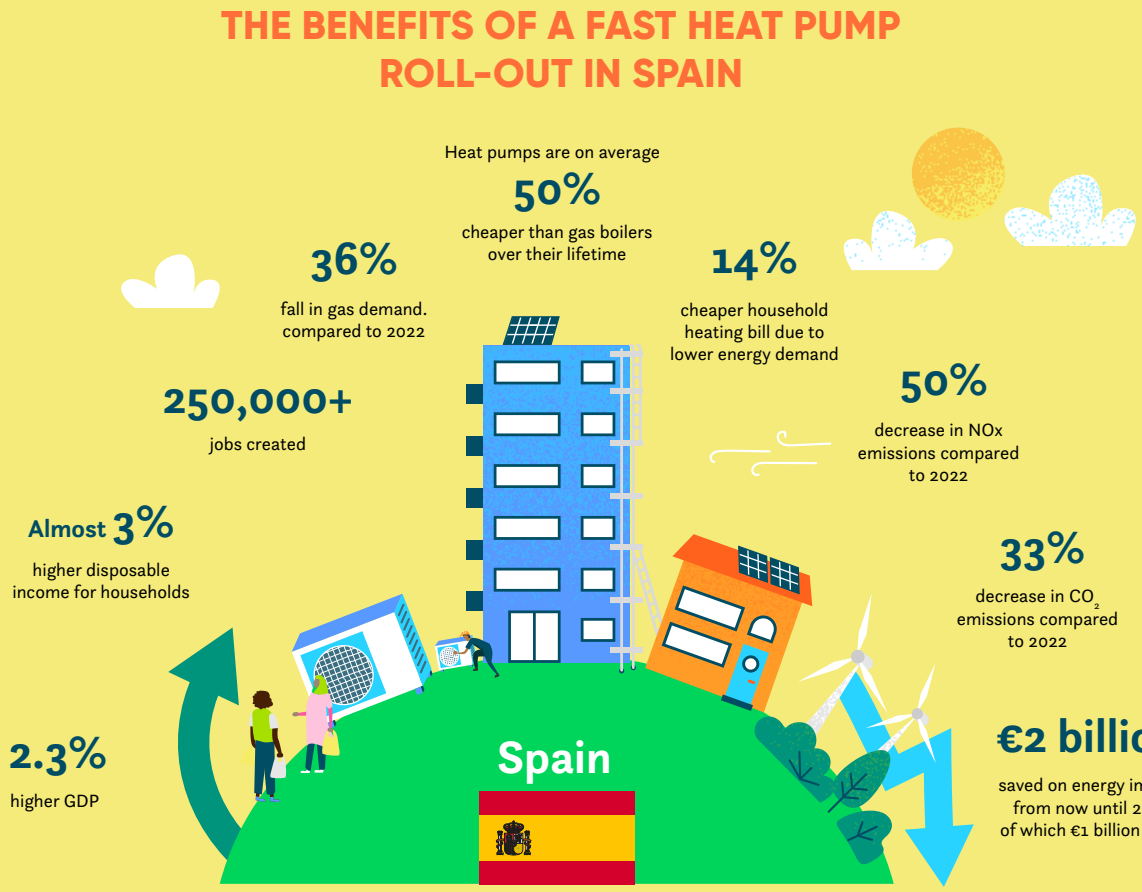


Figure 11: Illustration showing the main socio-economic and climate benefits of the transition to heat pumps in the Spanish building stock by 2030, compared to the business as usual scenario (or 2022 when specified)

22 European Heat Pump Association (2023), Heat pump record: 3 million units sold in 2022, contributing to REPowerEU targets, see *here*

23 Better Without Boilers calculation, see: *https://betterwithoutboilers.eu/*

FRANCE

France is the biggest market for heat pumps in Europe, with almost 500,000 heat pump sales in 2022, a growth of 20% from the year before[24]. At the same time, there are still around 14 million gas and oil boilers in use in France[25].

The modelling by Cambridge Econometrics shows that an accelerated transition to heat pumps will boost France's economy, leading to a 1.8% increase in annual GDP in 2030 compared to the business as usual scenario. Over 300,000 net additional jobs could be created by 2030, mainly in the services sector (180,000).

The transition away from gas and oil boilers to clean heating such as heat pumps will also improve France's energy security. **Gas demand in buildings could be cut by more than half by 2030**, compared to 2022. As a result, France could cut its spending on energy imports by €9 billion between now and 2030, of which €7 billion would be gas import savings.

Consumers also benefit from the transition to more efficient buildings and heat pumps, including from a staggering **40% drop in heating bills** and a 3.5% increase in disposable incomes by 2030, compared to the business as usual scenario. **Heat pumps will be cost-competitive options for consumers** as they are on average over 50% cheaper to run over their lifetime than a gas boiler in France.

Increasing the uptake of heat pumps would also help to reduce greenhouse gas and air pollutant emissions. Due to the increase in heat pumps, emissions from CO_2 and NO_x could be reduced by over 60% by 2030, compared to 2022.

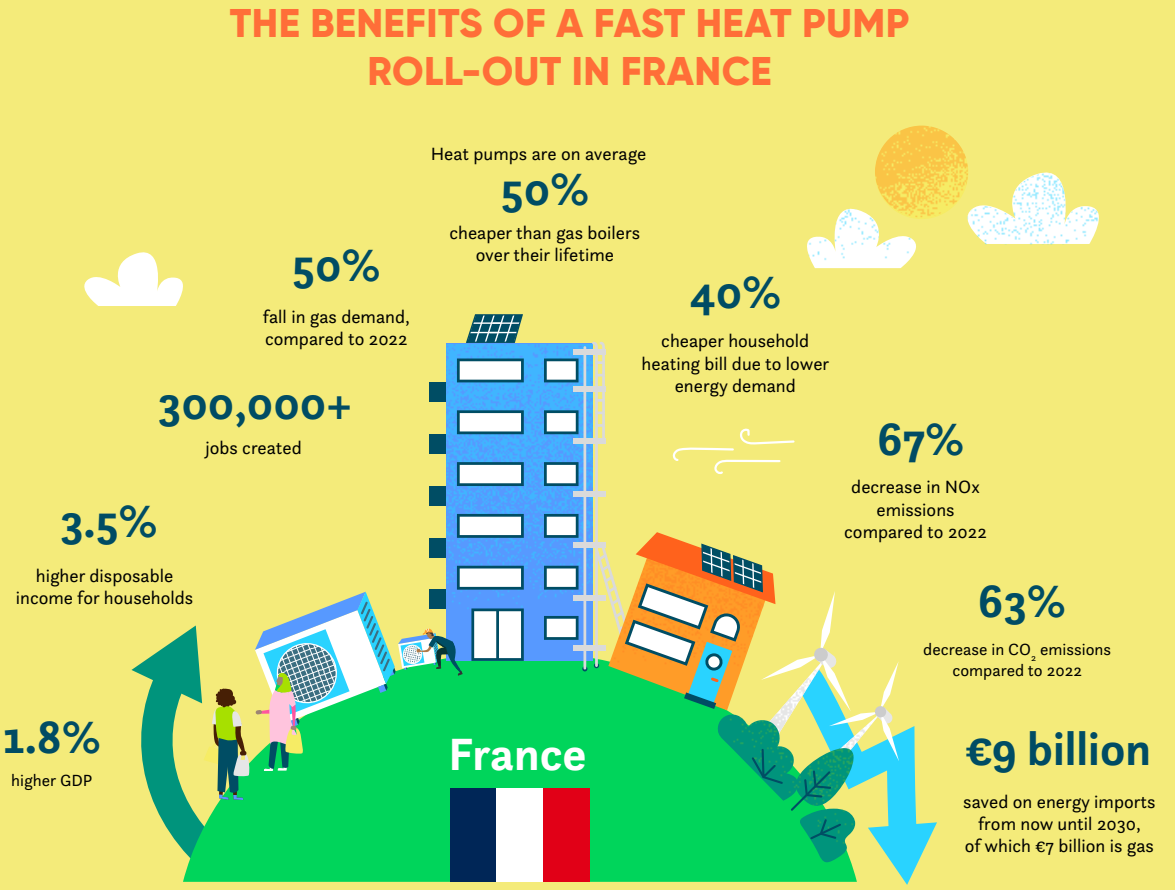


Figure 12: Illustration showing the main socio-economic and climate benefits of the transition to heat pumps in the French building stock by 2030, compared to the business as usual scenario (or 2022 when specified)

24 European Heat Pump Association (2023), Heat pump record: 3 million units sold in 2022, contributing to REPowerEU targets, see *here*

25 Better Without Boilers calculation, see: *https://betterwithoutboilers.eu/*

CONCLUSION AND RECOMMENDATIONS

Europe's buildings will only be climate neutral by 2050 if additional action is taken today. Under already adopted policies, CO_2 emissions will only be reduced by 11% by 2030, compared to 2022. Meeting the EU's climate objectives means that the current energy renovation rate and the deployment of heat pumps will need to at least triple up to 2030.

As part of the REPowerEU plan, the European Commission is working on a revision of its product policy (Ecodesign and Energy Labelling) to end the sale of stand-alone fossil fuel boilers from 2029. Most homes still use gas for heating and a new boiler is installed in the EU every eight seconds, making it very important to end new sales of fossil fuel boilers as soon as possible.

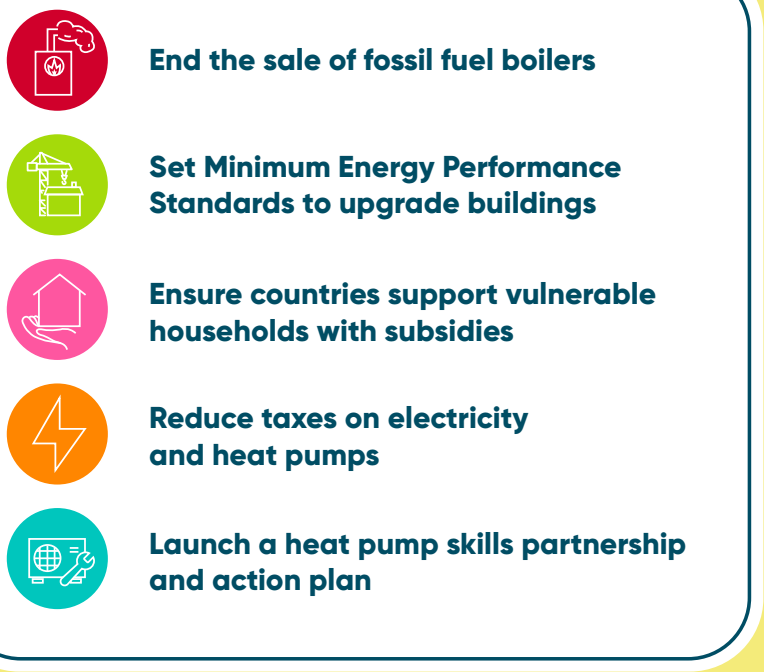
The ongoing revision of the EU's building legislation (the Energy Performance of Buildings Directive) can also help accelerate a phase-out of fossil fuel heating appliances and ensure that more buildings are renovated and at a faster rate. The introduction of Minimum Energy Performance Standards, to ensure that the worst performing buildings are upgraded, is very important to achieving this.

Policies that mandate higher energy renovations and a fossil heating phase-out must be complemented with financial support and innovative financing models to enable lower-income households in particular to benefit from the transition and cope with the high upfront costs. Reducing taxes and levies on electricity and lower taxes on purchasing and installing heat pumps can further improve the affordability of heat pumps.

There are several bottlenecks that hinder the rapid uptake of heat pumps that also need to be addressed. These bottlenecks can be tackled by developing and implementing an EU heat pump action plan in a partnership between policymakers, the industry and civil society. Ensuring that there are enough skilled workers in every part of the heat pump process, from manufacturing to planning and installation, is a barrier that will require specific attention. An EU skills partnership on heat pumps can enable job creation and career paths in Europe, advance skill development and involve relevant national authorities and educational and training institutions.

With these policies and related support, European and national decision makers will ensure that the EU and its citizens reap the climate and socio-economic benefits associated with the transition to zero-carbon homes.

FIVE WAYS FOR THE EU TO DELIVER A FAST HEAT PUMP ROLL-OUT AND HIGHER RENOVATION RATE



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