ETS2 101

An introductory guide to the ETS2 (Emissions Trading System for buildings and road transport), and the Social Climate Fund

LIFE Effect

CARBON MARKET WATCH

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1 Introduction

What is the EU ETS?

The European Union's Emissions Trading System (EU ETS) is a regulatory market, the EU uses to reach its climate targets by reducing carbon dioxide emissions in a cost effective manner. Not only does it function through market rules but it has been shaped by policymakers with the purpose of combatting carbon pollution. The EU ETS applies the 'polluter pays' principle, whereby the costs of pollution should be borne by those who cause it. By putting a cost on pollution a financial incentive is created to persuade polluters to minimise their climate impact, and a strong investment signal is sent to those covered by the market to commit to greener choices. A new source of climate finance is established as all ETS revenue is spent on climate action.

The ETS1, started operating in 2005 to cover emissions from heavy industry, electricity and heat generation, and – more recently – a limited amount from international aviation and maritime transport. The primary legislation setting out the Emissions Trading System's governance and functioning is the EU ETS Directive, which aims to set in motion a carbon market that is 'economically efficient' and 'scientifically necessary to avoid dangerous climate change'. By pricing pollution the ETS1, alongside other policy instruments and external factors,[1] has incentivised the reduction of emissions in covered sectors by 50% between 2005 and 2025.

The ETS has experienced many revisions over the years with the latest update finalised in 2023 as part of the 'Fit for 55' package. As a result of this revision, selected aviation and maritime emissions (inter EU) were added, and an entirely new carbon pricing scheme (ETS2) was created to cover emissions from buildings, road transport and small industrial installations that currently fall under the 20 megawatts thermal input threshold of ETS1.

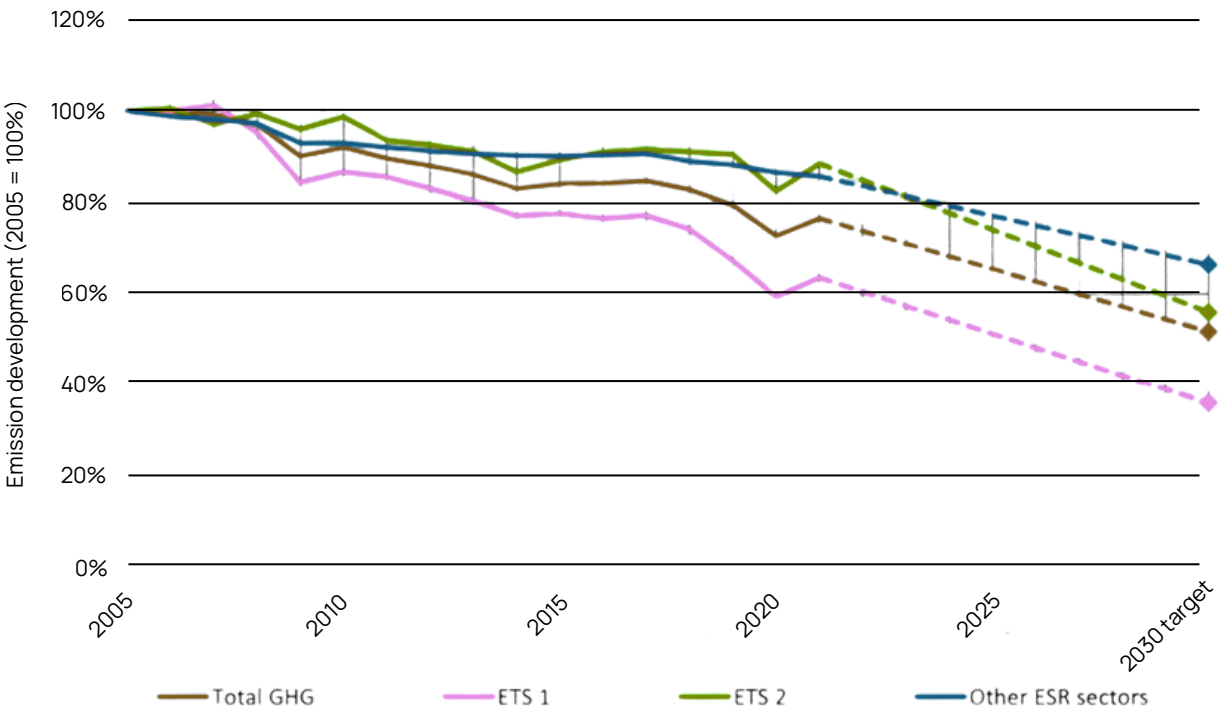
ETS2 was created as a result of lagging emissions reductions in buildings and road transport – CO_2 emissions from building energy use have decreased by only 14.7% since 2015, while emissions reductions from road transport have stalled in the last decades.

Pricing the carbon pollution of buildings and road transport will complement, rather than replace, emissions standards and existing policies to reduce these emissions such as the Energy Performance of Buildings Directive, CO_2 standards for cars and vans, and the EU Effort Sharing Regulation (ESR). Carbon pricing increases the effectiveness of these policies and also raises resources for their implementation.

Buildings and road transport sectors will need to increase the speed of emissions reductions by at least five times as fast as the current rates to remain under the 'cap' or the maximum number of pollution allowances (EU Allowances, EUAs) issued each year. The ETS2 emissions cap aims to result in a 42% reduction in the level of CO_2 vs 2005 levels by 2030.

1 Renewable energy targets and Industrial Emission Standards, as well as external shocks such as the COVID-19 pandemic and recession are also partially responsible for the reduced activity in covered ETS1 sectors.

Figure 1. Emission development since 2005 and 2030 target (EU27)



Source: Oeko-Institute with data from EEA (2023a)

What is ETS2?

ETS2 will enter into effect in 2027 and will apply a price on the carbon content of the fuel combusted in buildings, such as to heat and cool our homes, as well as the fuel used in our road vehicles. The ETS2 will also apply to small industrial installations below 20 megawatts thermal input.

Energy bills already reflect the cost of carbon from fossil fuels used for electricity generation to an extent due to the inclusion of electricity under ETS1. However, with the advent of ETS2, carbon pricing will become more noticeable in the lives of citizens who will have to pay for considerably more of their pollution. Although it is the fuel supplier that is regulated by ETS2 carbon pricing, citizens will incur the costs passed down from upstream through higher prices at the pump or in energy bills.

As the ETS2 price is applied uniformly across all member states it will have a disproportionate impact on lower income earners who spend a higher proportion of their earnings on energy. Furthermore, in countries without an existing carbon tax, ETS2 will lead to a more notable increase in fuel prices, therefore member states must take into account the potential social impacts of ETS2 to ensure the policy is implemented as fairly as possible to ensure that nobody will be left behind.

This guide will outline that although ETS2 is integral to EU decarbonisation efforts, it is not a silver bullet and additional measures and investments are urgently needed at both EU and member state level to achieve essential emissions reductions. Every additional measure to reduce buildings and road transport emissions will lower the ETS2 price as explored in section 3.

Why was ETS2 created?

1 Put a price on pollution

Currently, the true cost that fossil fuels have on our society, including the disease and death borne by air pollution or the human and economic cost of increasingly frequent natural disasters is not fully accounted for. Pricing carbon pollution is an important step towards ending Europe's reliance and dependency on imported and price-volatile pollutant energy. Fossil fuels will become gradually more expensive as the ETS2 cap lowers the amount of allowable emissions. The price of renewable energy and clean infrastructure solutions such as heat pumps or zero emission transport options must become relatively more affordable to incentivise people into switching to lower emission options. Even beyond the current cost of living crisis many people will lack the means to fully participate in the energy transition and must be supported to be able to do so.

2 Combat slow emissions reductions in buildings and road transport

CO_2 emissions in road transport have been slow to decrease over recent years, and it contributes the largest share of greenhouse gases from the transport sector, accounting for 73.2% in 2022, a share largely unchanged since 1990. Car numbers have risen steadily and growth in both passenger and freight activity continues to drive emissions despite improvements in the energy efficiency of vehicles.

CO_2 emissions in buildings account for 34% of the EU's energy-related emissions. Between 2005 and 2022, emissions fell by 34%, and preliminary data for 2023 shows a further slight decline. Yet, measured against the EU's 2040 target of a 92% cut, current policies are set to achieve only a 53% reduction, leaving a significant gap that must be closed.

The ETS2 target is to reduce 42% of emissions in buildings and road transport by 2030 relative to 2005 levels.

3 Send a strong investment signal

By installing a price on CO_2, the creation of the ETS2 will positively influence the development of a strong and certain investment signal that will increase the price of pollution as the market matures and fewer pollution permits become available. This will provide industry and people with the information they require to invest in lowering their emissions today as a sensible long-term and cost effective strategy for the future. This investment signal must be accompanied by the removal of all subsidies that facilitate continued use of fossil fuels and to ensure that the price signal remains strong.

4 Increase pressure for strong complementary policies

The ETS2 may be an important climate instrument, but to support its impactfulness, it must be paired with strong, complementary policies to lower emissions, as explored in section 3. Carbon pricing increases the pressure on member states to invest in the complementary policies necessary to lower emissions. Already agreed policies such as the European Performance of Buildings Directive, Minimum Energy Performance Standards, CO_2 standards and the Energy Efficiency Directive must not be watered down, with their implementation crucial to the success of ETS2. On top of this, member states should go further by investing in additional measures, like greening corporate fleets, accelerating deep housing renovation programmes and encouraging a modal shift away from private car use.

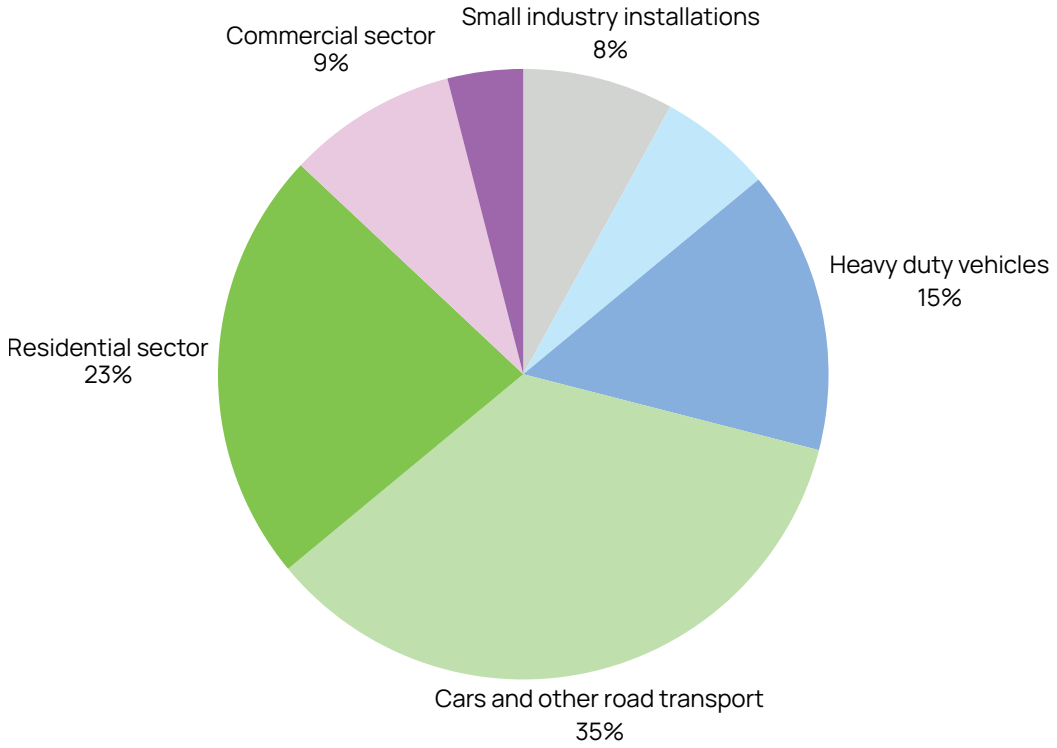
5 Create funding for climate action

The ETS2 will be an important source of climate finance. All ETS2 revenue is returned to member states to spend on climate action or socially targeted support under the Social Climate Fund program, as outlined in section 5. At a price of €55 per tonne of CO_2, revenue can expect to be a value of over €300 billion by 2032.

6 Break free from fossil fuels

The ETS2 will create significant pressure to reduce Europe's dependency on foreign imported fossil fuels by making it more expensive, which in turn strengthens the case for domestic renewables, energy efficiency, and greater energy security. Recent energy crises have shown that Europe's reliance on volatile fossil fuel markets has exposed households and businesses to sudden price shocks. Reducing this dependency not only stabilises costs, but also reinforces Europe's sovereignty and resilience in the face of geopolitical risks.

Figure 2. Sectoral emissions under the ETS2



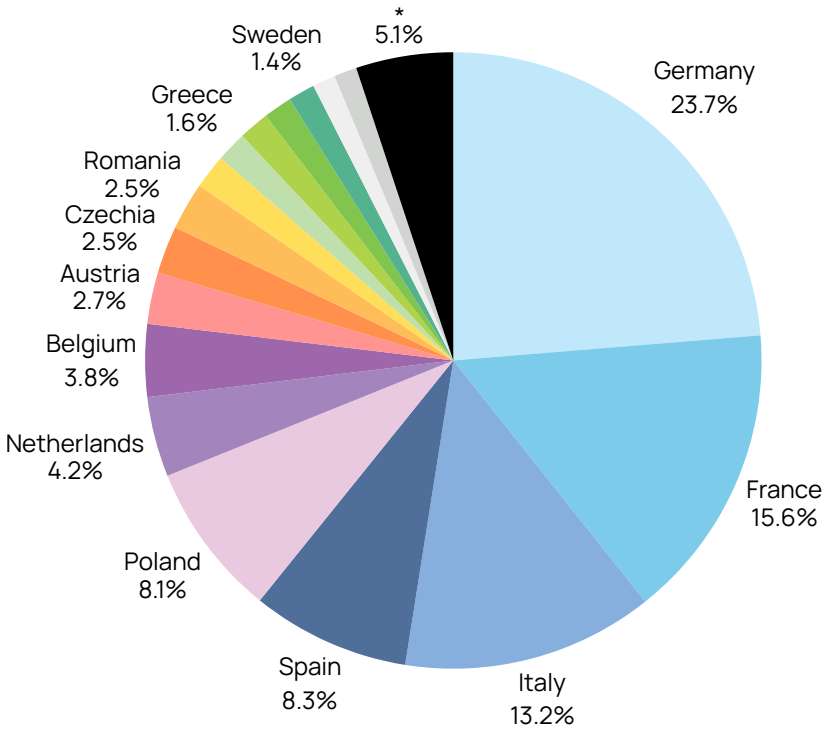
Source: Oeko-Institute with data from EEA (2023a)

As outlined in Figure 2 above, the largest share of CO_2 emissions covered by ETS2 comes from the road transport sector at 56%, over a third of which are from passenger cars. Just 8% comes from small industrial installations, of which roughly 40% are located in Germany. Member states are given the option to 'opt in' additional sectors to the ETS2 on a voluntary basis, and the total cap or number of EUAs for the ETS2 is then adjusted accordingly.

As of April 2026, the Netherlands, Austria, Finland and Sweden, have decided to activate the opt-in to extend the ETS2 to additional sectors. While varying between each member state, the sectors chosen include: fuel used in agriculture, off-road machinery and vehicles, forestry, fishing and rail. Austria has opted to include a share of global shipping and international aviation emissions, while the Netherlands opted to include airport ground activities, pipeline transport and harbours.

Member states with an already existing carbon price, set at a rate at least as high as the ETS2 price, can apply to the European Commission to opt out of the ETS2 price for a temporary derogation. At the time of writing, the European Commission has not confirmed if any member state opt out scheme has been approved.

Figure 3. Share of ETS2 emissions by EU member state



Source: Oeko-Institute with data from EEA (2023a)

* Remaining 10 member states, each with less than 1%

As is clear from Figure 3, the share of ETS2 emissions across the bloc is highly varied. Just five member states representing 66% of the EU population are responsible for 70% of all ETS2 emissions – Germany, France, Italy, Spain and Poland. Of these, Germany and France are responsible for almost 40% of ETS2 emissions alone. Therefore ambitious policies to lower emissions in these countries will have a much greater impact on the ETS2 price than in member states responsible for a smaller share of emissions. This highlights the responsibility that larger emitting member states have in implementing ambitious, complementary policies to lower emissions in order to stabilise the ETS2 price.

Each member state is required to prepare and submit National Energy and Climate Plans (NECPs), which outline how they plan to meet their emission reduction targets under the ESR by 2030. Assessments of submitted NECPs made by civil society and the European Commission in June 2025 both suggest that the biggest emitting nations are falling short – particularly in the building and road transport sectors, which will be critical to the success of ETS2.

Germany and Italy have the largest projected Effort Sharing Regulation (ESR) shortfalls, while France is also at risk of non-compliance.

Germany's NECP is expected to miss its ESR target by 9.2%. As the country is responsible for nearly a quarter of all ETS2 emissions, Germany's decarbonisation trajectory will have a disproportionate impact on the EU-wide ETS2 price. Yet, transport remains its most emitting sector, with fossil-fuel subsidies still in place for road vehicles, highlighting a lack of policy coherence. For buildings, existing financial support is not linked clearly to energy savings or renovation rates, and recent climate budget cuts raise further concerns about effective policy delivery.

Similarly, Italy is projected to fall 3.1% short of its ESR target while support continues for fossil-powered road transport without a phase out plan in place. Building measures described in NECP's are lacking a clear link to financing, renovation rates, and expected energy savings, and do not specifically target the worst-performing buildings.

France's shortfall is smaller, at 1.1%, however, its NECP lacks credible delivery mechanisms to reach the level of ambition stated within the plan. Despite prominent schemes supporting renovation of buildings like 'MaPrimeRénov', France's NECP does not sufficiently describe the link between renovation rates and energy savings, nor between measures and financing.

The submission of Poland's final NECP has been significantly delayed. The draft NECP projects a 14.1% emission reduction, well below its 17.7% target. and delays most major decarbonisation efforts until after 2030 when the impacts of ETS2 will already be felt by citizens. Plans for both road transport and buildings remain vague.

Across these five countries, not enough is being done to ensure the timely decarbonisation of buildings and transport sectors. Implementation pathways are often unclear, timelines are missing, and many policies are only loosely cost-estimated, or not backed by sufficient funding that undermines their ability to deliver the transition at the pace required. Importantly, each shows insufficient social safeguards. Energy and transport poverty are rarely addressed with targeted measures, and just transition plans too often lack detail on key factors including employment, vulnerable groups, or regional impacts. Most NECPs fail to integrate the gender dimension or the necessary coherence with Social Climate Plans (SCPs) under the Social Climate Fund (SCF) or the upcoming National Building Renovation Plans (NBRPs).

Without stronger action from these key member states, both in terms of reducing emissions and addressing social impacts, the ETS2's effectiveness, fairness, and public acceptance are at risk. The European Commission should increase pressure on countries to add new national policies to their NECPs and propose new EU-level measures with tangible pre-2030 impact on the ESR sectors. Furthermore, rules outlining the repercussions for non-compliance in meeting the emissions reductions and social impact targets in the announced review of the Governance Regulation should be strengthened, for example, to link negative outcomes to limitations in accessing EU funds.

2 ETS2 market mechanisms

'Cap and trade' and EU Allowances (EUAs)

Upon the commencement of ETS2 in 2027, 75% of the EU's CO_2 emissions will fall under the rules of a 'cap and trade' carbon market. ETS2 is a separate market from the ETS1, which was established in 2005 to apply the 'polluter pays' carbon pricing principle to emissions caused by heavy industry and power generation sectors. In later years ETS1 added aviation and maritime sector emissions to its portfolio.

A cap and trade system works by applying a limit or a 'cap' on the level of pollution that can be emitted within a given year based on an overall carbon budget. Relative to the capped total, a number of European Union Allowances (EUAs) are made available to regulated entities (fuel suppliers such as Shell and Engie within ETS2) through auctioning of the EUAs. The fuel suppliers need to purchase EUAs to cover the emissions of the fuels they sell and can save or 'bank' EUAs to use from one year to the next. On 1 January 2025, the ETS2 cap was set for 2027 at 1 036 288 784 EUAs. Of the total amount of EUAs auctioned, 150 million of these are allocated to the SCF up to a maximum value of €65 billion until 2032, which is the capped total amount for this policy (see section 5 for more on the SCF). Therefore the total amount of EUAs auctioned for the SCF is not set but is limited by the allowance price.

The number of EUAs available – each individual unit represents the price of one tonne of CO2 emissions – decreases each year in line with the scheduled emissions reductions, meaning that the level of pollution allowed by the market decreases by a set amount each year. EUAs may be traded on the open market, and either used to achieve that year's target, or banked for future compliance in another year. Under the current legislation, a 42% reduction of emissions in buildings and road transport is foreseen by 2030 compared to 2005 levels, and the number of new EUAs to enter the market each year is projected to reach zero by 2044.

The initial cap value is based on the Effort Sharing target for the EU for the year 2024 and the levels of emissions occurring in ETS2 sectors during 2016 to 2018. 50 million EUAs from ETS1 will be allocated to the SCF to fund it in its initial year before the ETS2 begins, from 2026-2027.

Unlike in ETS1, there will be no free allocation of pollution permits within the ETS2, which means that there is full auctioning of EUAs and all pollution by the market participants must be paid for.

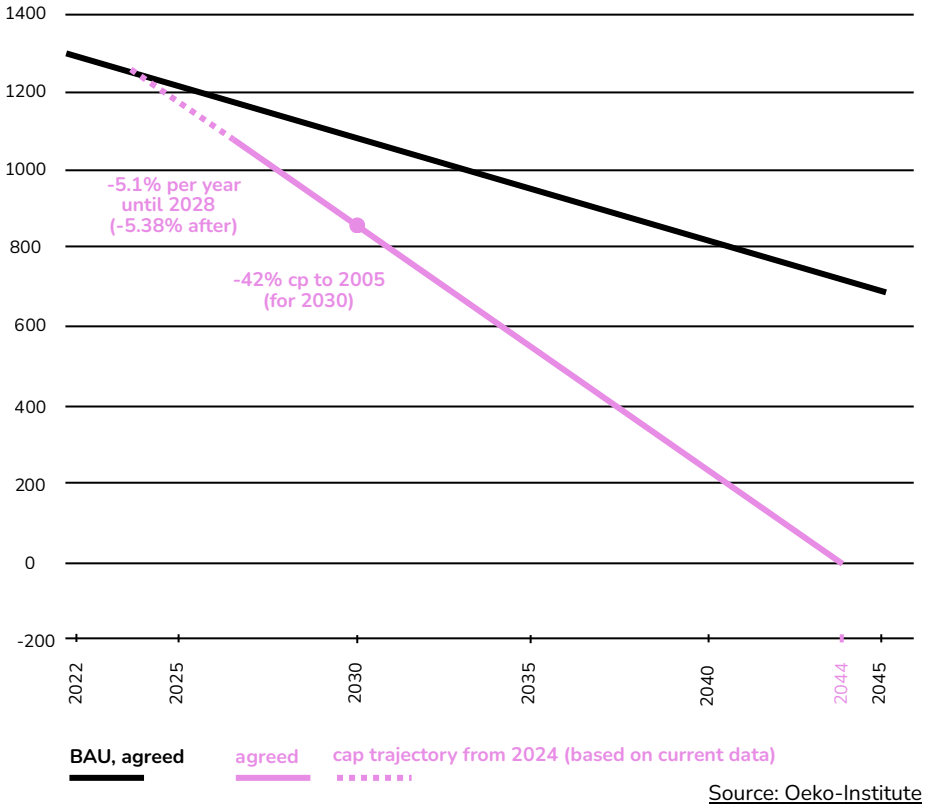
The Linear Reduction Factor

The cap on emissions decreases by a fixed amount each year, which is based on a so-called linear reduction factor (LRF). The LRF is expressed as a percentage of the total cap in the base-year.

There is a direct correlation between the LRF and the level of climate ambition, as a higher LRF will lead to a greater reduction in the number of pollution permits issued each year, ultimately resulting in less CO_2 emitted.

The LRF is initially set at 5.1% of the 2024 cap for 2027 and, when verified emission data is available, the cap is then recalculated for 2028 using 2024-2026 average emission data, with the LRF set at 5.38% onwards. The LRF in ETS2 implies that emissions in covered sectors will have to decrease five times as fast as emissions have reduced between 2005 and 2021, a reduction of 62 Mt CO_2 compared to 11 Mt CO_2.

Figure 4. EU ETS2 cap



Source: Oeko-Institute

The Market Stability Reserve

The ETS1 was plagued with an oversupply of EUAs due to international carbon credits and economic downturn, meaning that supply of emission EUAs consistently outpaced demand leading to prices that were too low to drive decarbonisation, hitting lows below €5 for a tonne of CO_2. As a result, the market stability reserve or MSR was introduced.

The MSR works by removing or adding EUAs into the market when certain thresholds of EUAs in the market are reached. Therefore, the MSR effectively maintains the level of EUAs within the market between quantities deemed conducive for the ETS1 market to drive decarbonisation.

Although a market stability reserve exists within ETS1, it is entirely separate from the MSR in ETS2 or the 'MSR2'. Upon the start of the ETS2 in 2027, 600 million EUAs will be available in the MSR2. It is important to clarify that these EUAs are additional to the ETS2 emissions cap of 1 036 288 784 EUAs. Therefore, the more EUAs that flow from the MSR2 into the market means the more the carbon budget for ETS2 sectors will be exceeded. The legislation stipulates that the MSR2 allowances are valid until the end of 2030 at which point they will be automatically deleted, a provision often referred to as the 'sunset clause'. This is an important step for combating oversupply in later years under high emissions scenarios.

The MSR2 works by responding to changes in the over- or under-supply of EUAs in the market. More specifically:

- If, in a given year, the oversupply exceeds 440 million EUAs in the market, the MSR2 will withhold 100 million EUAs from the market. These are then placed in the MSR2 over a period of 12 months starting on 1 September from the following year.
- If less than 210 million EUAs are in the market, then 100 million additional EUAs from MSR2 will enter the market, or all the available allowances if the MSR2 holds less than 100 million EUAs.

Obligations for regulated entities

Similar to ETS1, regulated entities within ETS2 must follow an annual compliance cycle. As of 1 January 2025, all regulated entities are required to hold a greenhouse gas emissions permit as well as an approved monitoring plan for how they will monitor and report their emissions annually.

Permit applications must include information about the nature of the business, the types of fuels released for consumption, their end uses, and a monitoring plan describing how emissions will be tracked and reported. Each year, by 30 April, regulated entities must submit an emissions report to account for their emissions in the previous year. From 2026, this data will be checked by an accredited verifier. This requirement is established under the Accreditation and Verification Regulation (AVR), adopted in June 2025.

The AVR defines the standards and procedures for the accreditation of verifiers, the scope and depth of verification activities, and the minimum competence requirements for verification bodies. The role of the verifier is to ensure that submitted emissions data is reliable, credible, and in full compliance with the applicable monitoring plan and regulations. From 2028 onwards, the reporting of annual verified emissions must be accompanied by a surrendering of an equivalent number of EUAs by 31 May that year.

The rules related to the ETS compliance cycle are set out in two regulations:

- Monitoring and Reporting Regulation (MRR)

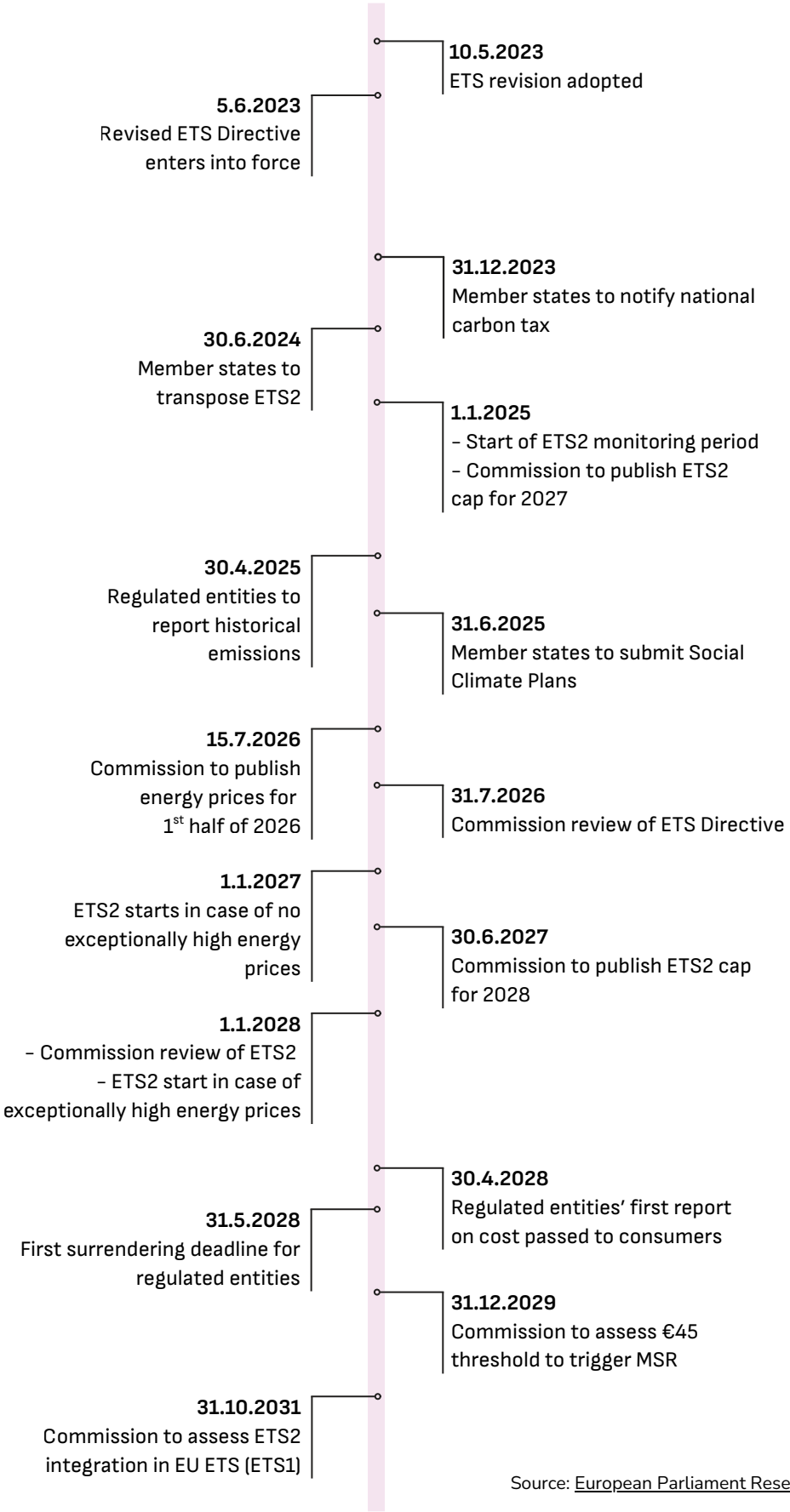
Emissions reports must comply with the MRR, which sets out detailed technical rules on how emissions must be calculated, documented, and submitted. The MRR aims to ensure consistency, transparency, and accuracy across all regulated entities and member states. It also allows for the use of standardised methodologies, default values, and emissions factors to simplify and harmonise reporting obligations.

- Accreditation and Verification Regulation (AVR)

Fuel suppliers or regulated entities, such as Shell or Total Energies, will have to purchase EUAs with each unit representing one tonne of CO_2. The fuel suppliers will then likely pass this additional cost downstream to consumers in the form of increased energy bills and prices at the pump. Fuel suppliers are obliged to report to the European Commission each year by 30 April to demonstrate that only the ETS2 price has been passed on to consumers and no windfall profits have been made.

The SCF and the wider ETS2 revenue-flows to member states are directly contingent on the effective operation and implementation of ETS2, as its revenues depend on the auctioning of EUAs within this system. Any delay in national transposition or compliance preparations risks undermining both the financing of climate and social policy and the ability of businesses and consumers to adapt to the new framework.

Figure 5. ETS2: Implementation and review timeline



Source: European Parliament Research Service

3 What will the price be?

Price control mechanisms

During the political debate over the creation of the ETS2, the need for price controls and safeguards was front and centre. As a result, the ETS directive and Market Stability Reserve decision (MSR) already contain several price control mechanisms for ETS2:

- The early auctioning of 30% more emission EUAs in the first three years, later deducted from future EUAs.

- If the average EUA price for three consecutive months is more than twice the average price for the six months prior, 50 million EUAs will be released from the MSR2 – Article 30h(1). Within 2027/2028 the rule is more sensitive and the price must only be 1.5 times higher than the average of the last six months for three consecutive months to trigger the release of the 50 million EUAs.

- The average EUA price for three months in a row is more than three times the average EUA price for six months before, 150 million EUAs will be released from the MSR2.[2]

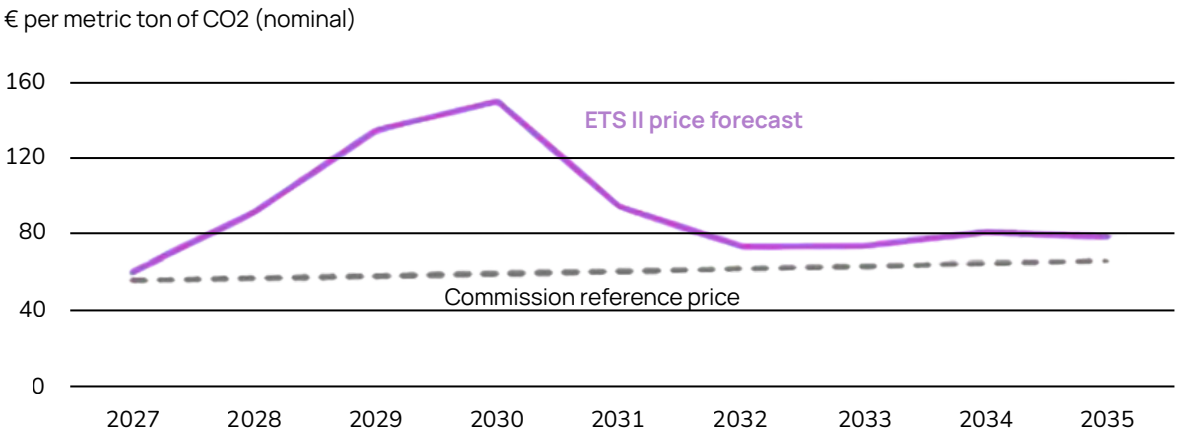
- A soft price cap is in place at an inflation adjusted rate of €45 (likely to be closer to €60 by 2027). If the average EUA price exceeds the price of the soft cap for more than two months, an additional 20 million EUAs are released by the MSR2.[3]

- In the case of very high oil or gas prices in mid 2026, the ETS2 will be postponed by one year[4] to 2028.

- Finally, an additional clause also allows the European Commission to respond to high ETS2 prices by issuing an implementing act if a certain low volume of EUAs is met twice within a 12 month period.

These price controls are in place until 2029 when the European Commission is required to report on their functioning, and could propose to extend and expand price controls following their review, if needed. In 2028, the European Commission must review the functioning of the ETS2 to ensure proper market functioning and stable pricing. This timing is important as many of the models predicting ETS2 prices, including that from BloombergNEF below, show a price increase up to 2030, which can be addressed by this review process in 2028 if needed, depending on the outlook once the market is up and running.

Figure 6. Forecast EU ETS2 emissions allowance price



Source: BloombergNEF Note: The reference price is based on €45 per metric ton of CO2 in 2020 that is indexed to consumer price inflation.

2 Article 30h(3)
3 Article 30h(2)
4 The average price for natural gas from January-July 2026 must be higher than the average price in February and March 2022, or the average Brent Crude Oil price from Jan-July 2026 must be more than double the average price during the last five years. As these metrics are quite high, it is quite unlikely that this cause would be triggered, unless the EU experienced an external shock such as the Russian invasion of Ukraine in 2022. The Commission will publish in the Official Journal by 15th July 2026 if these conditions are met.

Many market analysts are predicting a wide variety of price expectations highlighting the difficulty in accurately predicting the future ETS2 price as clear by the table below:

Price Prediction (€ per tonne of CO2 in 2030)	Source
48-80	EU Commission
71-261	PIK
150	Veyt
122	BloombergNEF
69-100	Clear Blue Market
111-259	Vertis
126	Energy Aspects

The great variation in expected prices can be attributed to the difference in the underlying assumptions within the models, predominantly around the levels of ambition foreseen for the implementation of complementary measures to strengthen emissions reductions beyond the reach of the carbon price, such as Energy Performance of Buildings Directive or CO_2 and cars standards. The more emissions are reduced in European homes and road transport, the lower the ETS2 price will be. Implementing these complementary measures is both feasible and necessary.

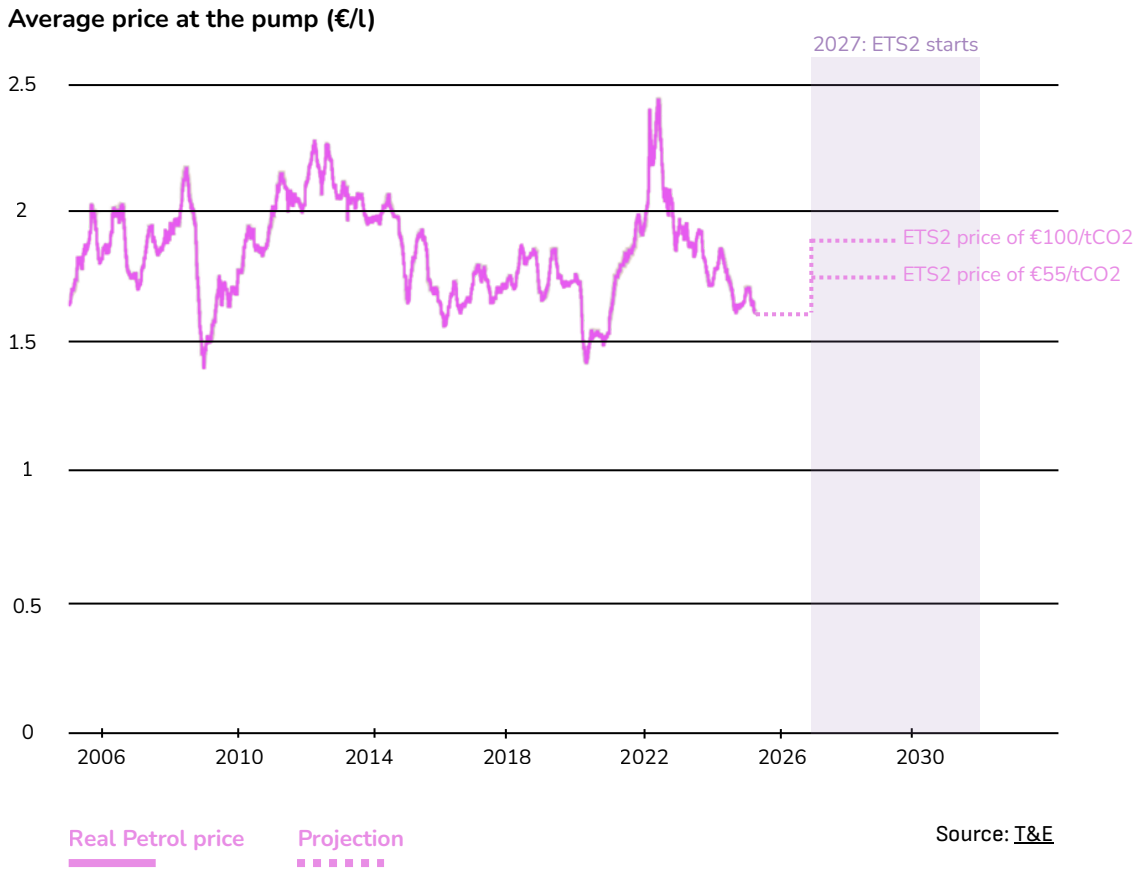
A price of €45 per tonne of CO_2 translates into €0.01 per kWh of fossil gas heating. While the concerns over the potential social impact of a volatile ETS2 price are valid, they should not serve as justification for a premature weakening of the ETS2 or to distract from the necessary work that member states must do to improve the fairness of the system. The ETS2 should be allowed to function in its initial years to allow price discovery to take place, incentivise decarbonisation and to raise much needed resources for the energy transition.

As evidenced by Figure 7 from Transport and Environment the fluctuating price of fossil fuels in recent years remains far higher than the effect of an ETS2 price of €100 per tonne of CO_2. This highlights that the real danger and threat to the cost of living is not a carbon price but continued dependency on dirty fuels as fossil fuel companies have proven that they are willing to extract windfall profits.

Any attempt to control the price through increasing the supply of EUAs means more carbon emissions. In order to meet the European climate targets, any weakening of the ETS2 would need to be matched by increasing ambition in either ETS1 sectors or the remaining ESR sectors; agriculture - which remains politically difficult, or land use sectors where the effectiveness of carbon sinks is already at risk.

Ultimately, the most effective way to manage ETS2 price dynamics without undermining ambition is through strong implementation of complementary measures. By reducing emissions in homes and road transport, these measures lower demand for EUAs, which in turn helps to moderate ETS2 price while accelerating decarbonisation.

Figure 7. Real EU average petrol price and ETS2 premium



Role of complementary measures

Complementary measures are essential to the success of ETS2, both in reducing emissions and ensuring a socially acceptable ETS2 price. Both the buildings and road transport sectors are distant from their necessary decarbonisation trajectories.

Fuel used in buildings and road transport is the cause of almost 40% of the EU's carbon dioxide pollution. The building sector accounted for 34% of total EU energy-related emissions in 2022 and is more than 40% off track for meeting key decarbonisation indicators, while road transport remains the EU's largest transport emitter, with emissions projected to peak at nearly 800 million tonnes of CO_2 in 2025.

Carbon pricing alone cannot deliver the rapid emissions reductions required in the buildings and road transport sectors. Structural barriers such as low price elasticity, limited investment capacity among vulnerable households, and a shortage of skilled workers limit the carbon price's ability to stimulate the necessary decarbonisation. Without complementary action, ETS2 risks being both less effective and socially regressive. A coherent and proactive policy mix is required to unlock the full decarbonisation potential, mitigate ETS2 price volatility, and ensure a just transition. It is therefore the responsibility of member states to put complementary policies in place as soon as possible, before ETS2 takes effect.

Buildings

The EU aims to cut emissions by 92% in the building sector by 2040. Yet, if effectively implemented, current policies are only expected to deliver a reduction of around 53%, ranging to 62% in the most optimistic outlook. Today, nearly 75% of the EU's building stock is energy inefficient, and with renovation occurring at a rate of around 1% per year, full decarbonisation of buildings would take centuries without significant intervention. Closing this gap requires full implementation of the EU's key legislative frameworks, particularly the Energy Performance of Buildings Directive (EPBD), Renewable Energy Directive (RED), and Energy Efficiency Directive (EED). These regulations set the foundation for a comprehensive transformation of the sector and are critical to keeping ETS2 price impacts manageable.

The 2024 revision of the EPBD has introduced several key measures to decarbonise the sector. It mandates a gradual phase-out of fossil fuel boilers, starting with a ban on subsidies for stand-alone fossil heating systems from 2025, and introduces Minimum Energy Performance Standards (MEPS) for the worst-performing buildings. Member states have until May 2026 to transpose the provisions of the updated EPBD and successful implementation will be crucial.

The 2023 revision of the EED now includes higher annual energy savings obligations, rising to 1.9% from 2028, and a binding 3% annual renovation target for public buildings. But even with these stronger legislative tools, member states are far off track. No member state currently meets the renovation rate required to achieve the 2030 and 2040 targets. A strong ETS2 carbon price signal will help to deploy energy saving measures in the building sector at an increased pace.

To deliver on climate goals while containing the ETS2 price, member states must focus on two critical areas that have the highest potential to reduce CO_2 emissions and mitigate the cost burden on households.

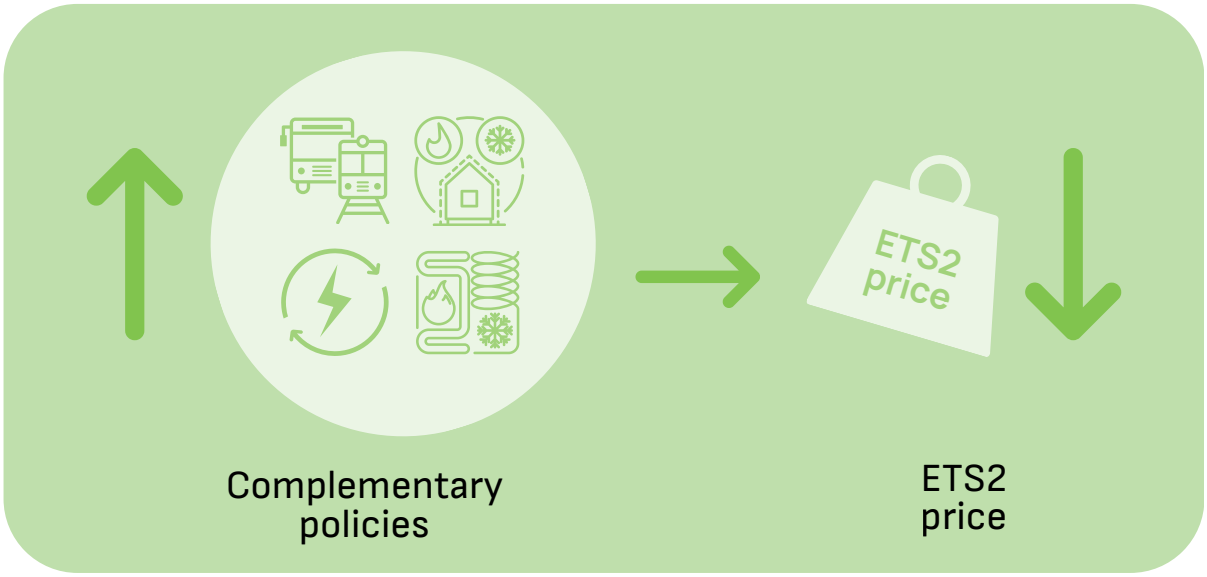
First, increasing the rate and depth of renovations is essential for improving energy efficiency. Research shows that if all residential buildings in the EU were renovated to targeted efficiency standards, 44% of the final energy used for heating could be saved. By substantially lowering overall energy demand, deep renovations directly reduce the need for fossil fuel heating, thereby cutting emissions and the associated costs from carbon pricing under ETS2. Particular emphasis must be placed on renovating the worst-performing buildings, as this is both a highly cost-effective and socially progressive measure, targeting support where it is most needed. Vulnerable households are often the most exposed to energy poverty and the least able to invest in upgrades themselves, requiring the total cost to be subsidised. Programmes like France's 'MaPrimeRénov', which covers up to 90% of costs for modest-income households, and Belgian city Ghent's 'Gent Knapt Op', offering renovation grants repayable only upon resale, show how well-designed financial schemes can help to remove upfront barriers and ensure fair access to energy improvements.

Second, accelerating the deployment of renewable heating systems, such as heat pumps and decarbonised district heating, is crucial. The REPowerEU plans to deploy 30 million heat pumps by 2030 compared to 2020, yet this ambition could be scaled up further. A recent EEB study shows that dedicating just one third of the SCF could subsidise the installation of 20 million heat pumps by 2032, enough to reach 65% of EU energy-poor households and cut EU gas demand by 11%, nearly as much as was imported from Russia in 2024.

However, as this would still leave many households uncovered, tapping into broader ETS2 revenues would help to close the gap. Transitioning to zero-emission buildings will require stricter rules for new construction and retrofits, alongside a clear strategy for reaching renewable heating and cooling targets.

Replacing fossil-fuel-based heating and cooling with clean alternatives can effectively eliminate the emissions priced by ETS2, shielding households from rising fuel costs. However, this shift must also account for social and technical realities. Around 15% of EU citizens live in poorly insulated homes, and many of these buildings cannot support clean heating systems like heat pumps due to their high energy demand. In these cases, electrification without renovation risks being wasteful and regressive. That's why renewable heating deployment must go hand-in-hand with targeted housing upgrades. Energy communities also represent a great opportunity in this regard: they can provide access to clean electricity for neighbourhoods, benefit from economies of scale, facilitate collective renovation projects, and often include dedicated support for vulnerable households. Here again, EU legislation plays a role: the EPBD requires consideration of vulnerable groups in renovation requirements and promotes their access to funding, while the EED mandates member states to identify and prioritise vulnerable consumers in energy efficiency programmes.

Figure 8. The stronger the complementary policies, the lower the ETS2 price



Going further, binding fossil fuel phase-out plans in national renovation strategies in the next EPBD revision cycle, coupled with stringent MEPS for residential buildings, would secure long-term progress towards decarbonisation. With only 6% of EU households using heat pumps in 2021, additional measures are needed. Heat pump subsidies could be deployed in many forms, such as a support mechanism like the 'Heat Pump Grant System' in Ireland, or government-backed heat pump leasing schemes that lower upfront costs, particularly in early-stage markets, and offer flexible packages that cover maintenance options to make clean heating more accessible.

To unlock greater renovation rates, the tenant-landlord split must also be addressed. Legal frameworks enabling cost-sharing, fiscal incentives for landlords, and safeguards against eviction or energy disconnection post-renovation can provide a fair foundation for upgrading the housing stock. For example, Germany has introduced a scheme that covers rental increases linked to renovation costs for tenants receiving basic income support, paying landlords directly via existing welfare channels. In parallel, member states must address less visible but significant drivers of building emissions, like growing floor area and underused buildings. Repurposing existing buildings, curbing floor area growth and promoting more effective use of existing stock are critical strategies, given the slow pace at which the existing stock can be decarbonised.

Together, these measures can significantly cut building-sector emissions, contain ETS2 price impacts, and deliver real, lasting improvements in people's lives – warmer homes, cleaner heating, and lower energy bills.

Road transport

Road transport accounts for almost all greenhouse gas (GHG) emissions from domestic transport, and is a growing emitter. Current projections forecast the decrease in transport emissions by 2050 at only 22%, far behind current ambitions of 90%. The sector's transformation requires a robust policy framework, including upgrading the existing transport system, shifting transport activity to lower emission modes, and avoiding unnecessary journeys.

Large-scale electrification of road transport is identified as the fundamental factor for decarbonising domestic transport, reducing GHG emissions through a direct shift from fossil fuels to electricity.

The most impactful policy is the current 2023 CO_2 regulation for cars and vans, which mandates a 100% emissions reduction for new models by 2035. This single regulation is expected to reduce transport emissions by 57% in 2040 compared to 2015. For Heavy Duty Vehicles (HDVs), the emission standards provisionally agreed for 2030, 2035, and 2040 are equally critical. Future revisions should further tighten these post-2030 standards to maintain a positive trajectory.

Accelerating the electric vehicle (EV) uptake in corporate fleets is another important lever. Corporate vehicles tend to have higher mileage and turnover rates, making them ideal for early electrification. According to Transport and Environment, company fleets account for six out of ten new cars sold every year and over 73% of new-car emissions. Modelling indicates that achieving 50% EV sales in corporate fleets by 2027 and 100% by 2030 would significantly boost overall EV adoption and help reduce emissions covered by ETS2. Moreover, electrified corporate fleets would increase the number of used EVs on the second-hand market, improving access for lower-income households.

Despite these measures, internal combustion engine (ICE) vehicles will remain on the road for decades, making e-retrofits and scrappage schemes essential given that 73 million ICE vehicles are projected to remain in circulation by 2050. These tools offer affordable and rapid emissions cuts for low-income households, especially in Eastern Europe. Policies to reduce the residual value of ICE vehicles such as zero-emission zones, congestion charges, higher parking fees, export restrictions, and ICE sales bans can further support this transition, but policymakers must be aware of the risks they pose towards social inclusion and address this proactively.

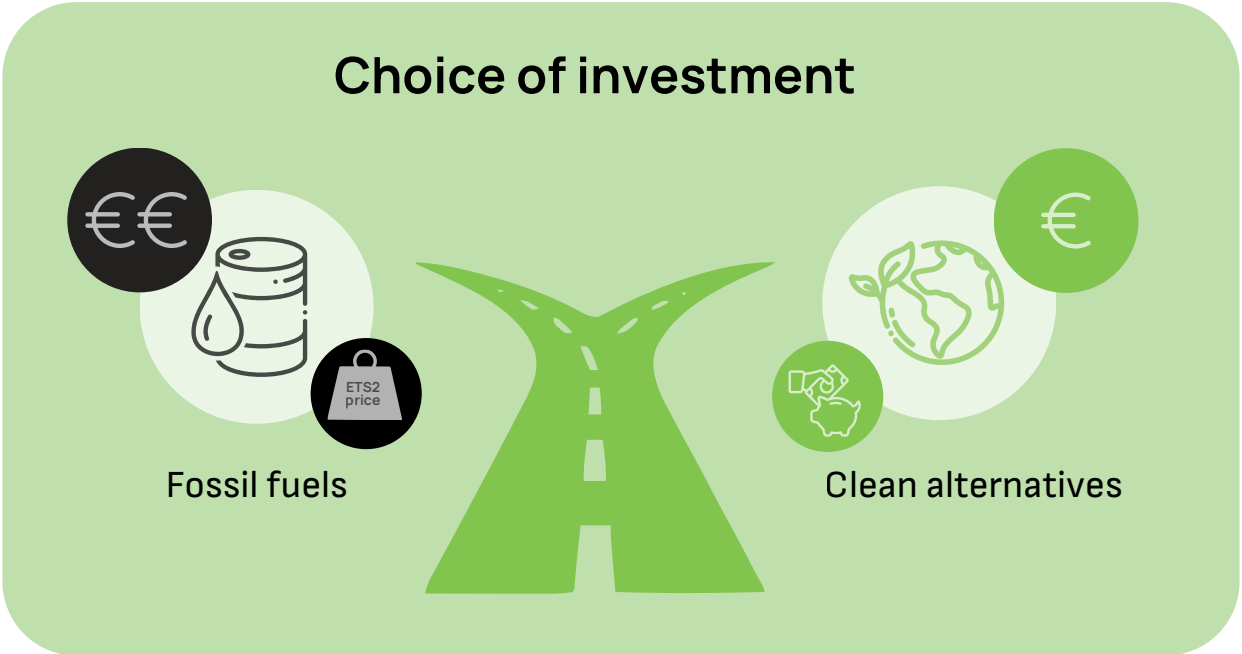
At the same time, the electrification of transport must be backed by major infrastructure expansion, including charging stations and grid development. Thus, to complement electrification, energy efficiency targets for EVs should be introduced. While EVs don't emit, they will use a lot of electricity, and there are currently no rules on how efficient they must be. Introducing energy efficiency standards as well as demand-determined flexible pricing for EV charging, will ease pressure on the electricity grid, lower energy costs, and support smoother decarbonisation.

Equally important are demand-side measures to limit overall road traffic. This involves stopping new road construction, promoting modal shifts to zero-emission public transport, active mobility (walking, cycling), and rail for longer distances, and increasing car occupancy (e.g., carpooling). Shifting just 5% of car trips to public transport throughout the EU could reduce oil demand by around 7.9 million tonnes, equivalent to 25 million tonnes of CO_2. According to the ESABCC, previous attempts to promote public transportation at the member state level lacked ambition and consistent implementation. To drive meaningful change, member states should prioritise strategic infrastructure investment such as upgrading rail and public transport networks. Urban planning can increase the livability of cities, reduce car dependency, and reallocate space for walking, cycling, and green areas.

Promoting shared mobility, on-demand services, and fair pricing or free transport passes for low income groups will ensure a just transition that benefits all citizens. Luxembourg offers a good example by choosing in 2020 to make all public transport free. The policy cut road transport CO_2 emissions by about 8.3%, with car use falling by roughly 6.8% and public transport use rising by around 38%. By removing fares, Luxembourg has not only cut fuel consumption and associated emissions, but also promoted fairer access to mobility and better quality of life with less traffic congestion and air pollution.

Addressing transport poverty requires tackling both the affordability of EVs and ensuring access to sustainable mobility. Social leasing schemes can help make EVs accessible by removing the upfront cost barriers. New targeted financial tools should also be examined to support low-income households and small and medium-sized enterprises in accessing greener mobility, with support tailored to location and needs. For example, some programmes chose to target rural low-income households. A just transition also depends on better urban and regional planning.

Figure 9. The ETS2 price signal makes clean alternatives more economically attractive

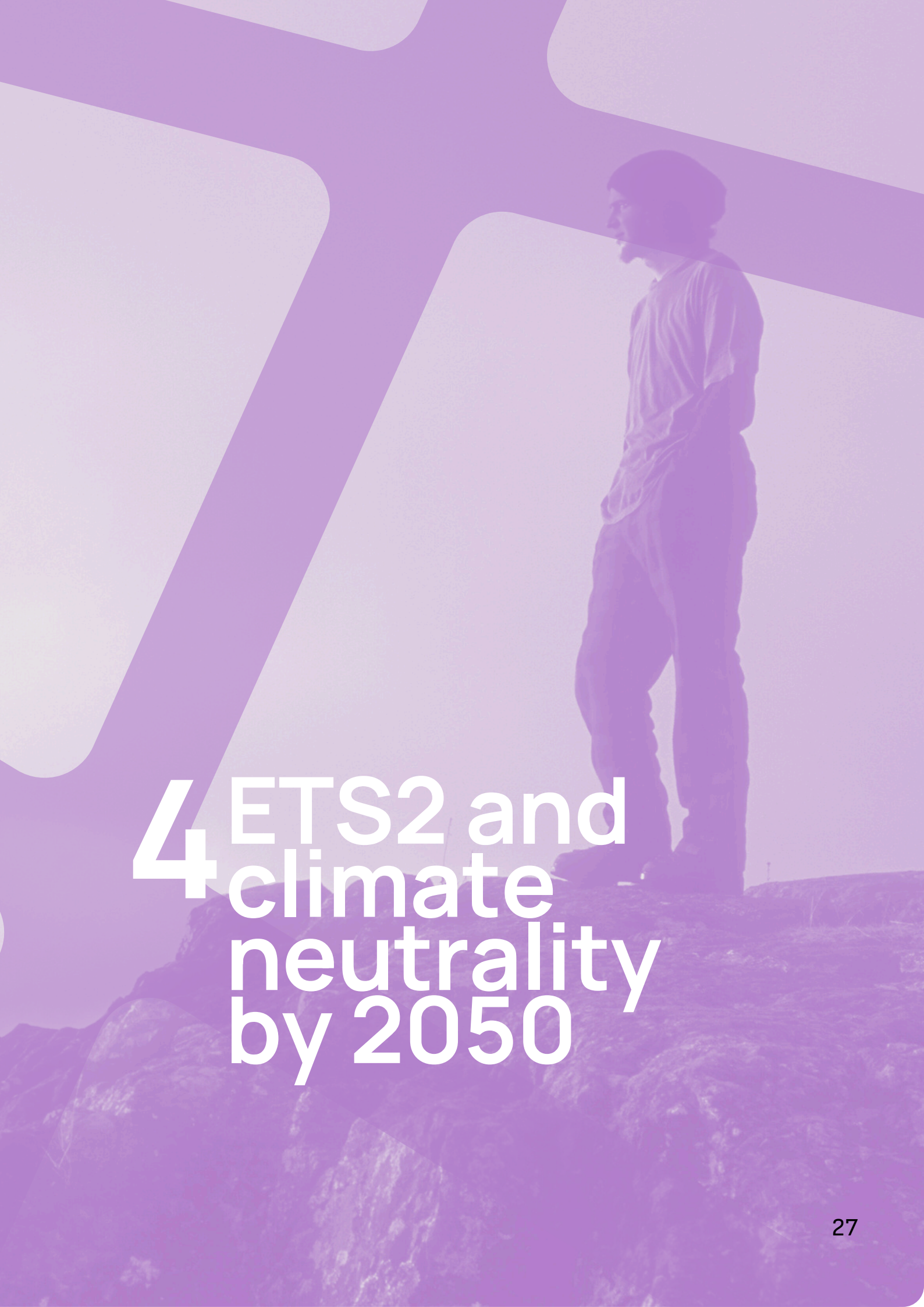


Shifting the focus from mobility to accessibility – by promoting shorter trips, and less car dependency – can deliver both climate and social benefits. Expanding public transport, cycling, and shared mobility options, especially in rural or urban areas underserved by access and availability, will improve quality of life and ensure that no one is left behind in the shift to cleaner transport.

It's vital to develop measures to avoid distorting the ETS2 price signal. Within the road transport sector, ETS2 also provides a levelling effect, as EVs are already exposed to the ETS1 price signal via electricity, whereas ICE vehicles will only now face a carbon price with ETS2. The goal must be to make cleaner options cheaper than polluting ones. Yet fossil fuel subsidies and misaligned energy prices continue to work in the opposite direction.

In 2023, EU fossil fuel subsidies reached €111 billion, with over 60% concentrated in Germany, Poland, and France, the largest buildings and road transport emitters. Actions in these countries are pivotal to stabilising the ETS2 price. Almost half of these subsidies have no planned end date, and many measures resulting from the energy price crisis of 2022 – sparked by Russia's invasion of Ukraine – remain in place despite falling fossil fuel prices. Equally damaging is the imbalance in how energies are taxed. In most member states, households pay more than twice as much for electricity as for fossil gas. This distortion stems largely from levies to fund the energy transition being loaded into electricity bills, while fossil gas production remains lightly taxed. Electricity prices are also inflated by Europe's continued dependence on fossil fuels, which exposes consumers to volatile global fuel markets. In Belgium, electricity is nearly six times more expensive per unit of energy than gas, and in countries like Germany or Denmark, taxes and levies on electricity are more than €0.14/kWh higher than on gas. Such price structures discourage the shift to electric systems, undermining decarbonisation efforts. Once renewable energy systems are scaled up, together with storage and demand-side response, electricity prices will decline, making electrification both clean and affordable.

Member states can reinforce the ETS2 price signal and make it less regressive by removing harmful subsidies, taxing windfall fossil fuel profits, applying progressive levies on high-emission sectors, and ensuring fair contributions from the wealthiest. Revenues should be channelled into protecting vulnerable households and accelerating clean energy investment.



4 ETS2 and climate neutrality by 2050

ETS2 and the 2040 Climate Target

The EU will not meet its 2040 or 2050 climate target without the ETS2. In accordance with the EU Climate Law, the bloc must legally achieve climate neutrality by 2050. By 2030, an interim target is in place to achieve a 55% reduction in greenhouse gas emissions compared to 1990 levels. At the time of writing, the political process to set an interim 2040 climate target is underway. In July 2025, the European Commission released its proposal for a 90% emissions reduction by 2040 vs 1990 levels but with a worrying long list of 'flexibilities' for member states to avoid their responsibility to combat climate change.

Any weakening of the ETS2 will have to be compensated by increasing total emission reductions from ETS1 or non-ETS sectors to remain in line with the EU 2040 climate target. This concerns predominantly industrial and agricultural sectors where additional emission reductions come with their own set of political and societal challenges.

It is important to reaffirm that while the ETS2 is considered essential to meeting the EU's climate targets, it will only work as a central part of a policy mix. The 2021-2030 ESR sets out national targets for each member state to contribute to emissions reductions based on solidarity and fairness with wealthier nations with a greater level of historic emissions needing to contribute a larger share of CO_2 reductions. The ESR should be extended beyond 2030 to continue incentivising member states to design and deliver complementary climate policies at local and national level to fulfil their specific needs and push for ambition supported by the ETS framework.

Progress on transposition

In June 2025, the European Commission launched an infringement process against 25 member states, excluding Austria, for failing to transpose the updated ETS directive into national law by the agreed deadline, June 30 2024. Since then, significant progress has been made with additional sectors opted into the ETS2 by Austria, the Netherlands, Sweden, and Finland. Although several member states are still under the infringement process, most member states have transposed fully or at least partially ETS2.

Any delay to the start of the ETS2 means a reduction in the funding available for the SCF as well as the amount of revenue returned to member states for financing climate action. A one year delay of the ETS2 would result in reducing the SCF from €65 billion to €58 billion. Changing the ETS2 components of the directive risks undermining the functioning of the ETS2 and its ability to contribute sufficiently to meet Europe's climate targets.

In June 2025, several member states launched a joint non-paper to call on the European Commission to provide additional information on the expected prices for ETS2 and to allow market participants earlier access to the auction process and support price discovery. These helpful suggestions were also accompanied by a more jeopardous request for the European Commission to assess the feasibility of weakening the ETS2 by adding more pollution permits to the market through the market stability reserve (MSR2).

Due to the nature of the MSR, the number of EUAs in the market can be controlled, but not the resulting carbon price that is determined not only through the supply but also the demand for EUAs. Without clarity on what the expected price levels will be in reality, adding additional EUAs to the market risks an oversupply, creating an ineffective price signal. The non-paper has a strict focus on supply side measures to limit the ETS2 price, while member states seem to ignore the inclusion of stronger complementary measures which would present a demand side solution that limits prices while driving emissions reductions.

Any measure which increases the number of EUAs in the ETS2 market needs to be approached with extreme caution as each additional allowance means one extra tonne of pollution in ETS2 sectors and one fewer tonne which can be polluted in ETS1 or non-ETS sectors, if the EU is to remain within its carbon budget.

Due to the uncertainty around how well the new market will function and the level of emissions reductions in ETS2 sectors it will deliver, the system should be allowed to operate as designed for a few years to gather appropriate data before any changes are made to the MSR2.

Merging ETS1 and ETS2

Within the ETS directive there is a clause that the European Commission must assess a merging of ETS1 and ETS2 by 2031. Policymakers should fully understand and discuss the consequences of combining the ETS1 and ETS2 before merging them. Experiences with the ETS1 have shown that it takes time to establish a functioning system. Since the ETS2 will only become operational in 2027, a merge should not be considered before the system is established and better understood.

In theory, merging the systems should improve the efficiency of the market as it allows the cheapest mitigation options to be realised first. However, in practice the merger represents several major risks and fundamental changes to how both systems operate. For example, a joint Linear Reduction Factor, the price containment mechanisms under ETS2 and the differences in the MSR1 and MSR2 would need to be fully analysed.

Fundamentally, the elasticity of demand for EUAs in both systems is different with actors in ETS2 showing a higher willingness to pay which may also increase the carbon costs for industrial actors. Any abatement benefits of merging the markets depends on the ability of actors to prioritise the cheapest mitigation options. However, as described above, the entities regulated under the ETS1 and ETS2 differ significantly in their ability and willingness to pay. This heterogeneity could result in sectors with high decarbonisation potential, like the transport sector, opting to pay to offset their emissions instead of reducing them, because they can afford to. If that were the case, merging these two systems might even have adverse impacts and urgently delay essential climate action. Combining systems also means that the effect of complementary measures for ETS2 sectors may have a diluted impact on reducing the ETS2 price, of particular importance considering the social implications of rising energy costs for households.

5 Social Climate Fund

Levels of energy poverty are already unacceptably high across the EU. The European Commission estimates that 9.2% of the EU population are unable to sufficiently heat their homes, with the figure likely much higher due to the difficulty in collecting accurate data. With rising global temperatures, the number of people unable to keep their homes cool is also an increasingly dangerous concern.

While less data exists on the topic, there is a growing understanding of the levels of transport poverty experienced in Europe, impacting the lives of up to 25 million citizens. Overall, both energy and transport poverty are complex issues, interlinked with social vulnerabilities such as low income, old age, disability, health and regional disadvantages.

At the same time, there are clear inequalities in carbon footprints across the EU: the richest 10% emit about four times more than the median person and up to 16 times more than the poorest decile. For road transport and buildings, higher incomes usually mean more or bigger homes to heat and cars on the road. Wealthier households not only cause more emissions, but also have the money to absorb higher carbon prices or to switch to cleaner heating systems and vehicles. This makes it essential to protect vulnerable groups, while ensuring those most responsible for pollution pay their fair share.

The amount available in the SCF is insufficient to combat the systemic inequalities at the root of energy and transport poverty, but as the first fund of its kind specifically targeting energy poverty, it is a positive step in reinforcing financial support that addresses the social impact of climate policy.

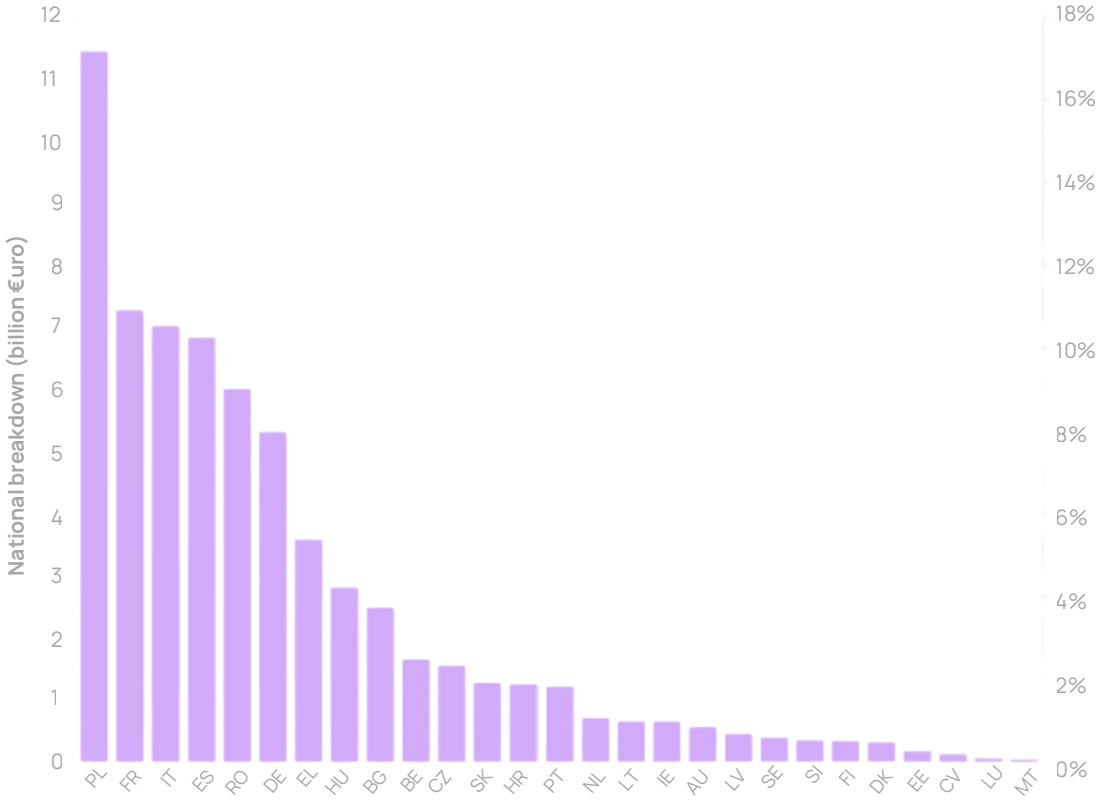
Financing the Social Climate Fund

As a result of the increased fuel and transport costs posed by ETS2, the SCF was created as a response to any negative socio-economic impacts caused by ETS2 on vulnerable households. The SCF is the first EU fund developed with the explicit purpose of alleviating potential energy and transport poverty occurring from the transition away from fossil fuels. From 2026-2032, the fund will channel €65 billion in targeted support to all EU member states. As the SCF starts to disperse funds from 2026, one year before ETS2 begins, the SCF is financed by 50 million EUAs from ETS1 and 150 million EUAs from ETS2, up to the value of the cap at €65 billion. 25% of the financing of projects within the Social Climate Plans must come from member states, bringing available SCF funding to €86.7 billion in total. Member states are free to co-finance the plans using ETS2 revenue and to increase the co-financing rate beyond 25%.

Allocation of the Social Climate Fund

Each member state receives an allocation of the SCF based on an assessment of need that considers the percentage of the population at risk of poverty in rural areas, CO_2 emissions from fuel in homes, houses at risk of poverty with arrears on utility bills, total population, and GNI per capita. As a result, Poland (17.6% of the SCF's budget), France (11.2%), Italy (10.8%), Spain (10.5%), and Romania (9.3%) will receive the most funding. There is an inbuilt solidarity mechanism in the SCF as member states with a higher need will receive proportionately more funding in comparison to the ETS2 price they pay. For example, Bulgaria is a net beneficiary of the fund, receiving a bigger allocation of funding relative to their share of emissions.

Figure 10. SCF revenues (national breakdown and respective share)



Source: T&E, WWF and CMW

Spending the Social Climate Fund

The SCF can be spent on green investments to increase the affordability and accessibility of emissions reductions. Green investments can include energy saving renovations, decarbonisation of heating and cooling systems, zero carbon vehicles, and participation in energy communities. Member states can fashion fiscal incentives or financial support to enhance the affordability of zero emission vehicles and bicycles, or to modernise infrastructure. The SCF Regulation specifically mentions the development of a second-hand zero-emission vehicles market, incentivising the use of affordable and accessible public transport and supporting private and public entities to provide sustainable mobility on demand, shared mobility services and active mobility options.

A limited amount, up to 37.5% of the fund, can be spent on temporary direct income support, as many investments, such as the renovation of a home, or the improvement of a public transport line, can take multiple years. Over that time, vulnerable households dependent on public support for those investments are exposed to the carbon price, and monetary support may be needed.

A further 2.5% is available for undertaking public consultation, communications activities, conducting studies or providing technical assistance and capacity building for implementing bodies. This category can cover training to ensure the proper management of the fund and the achievement of its objectives or the creation of 'one stop shops' to help citizens overcome difficulties in benefiting from government schemes relating to home renovation.

Social Climate Plan process

Member states can access the SCF funds through the submission of national Social Climate Plans, which were due in June 2025, a deadline met only by Sweden and Latvia. The SCPs must be approved by the Commission, following a mandatory consultation process with local and regional authorities, representatives of economic and social partners, civil society, and youth organisations, as well as other stakeholders. Once submitted, the Commission has two months to seek additional information or make observations and then the member state may revise the plan if needed. Plans are assessed based on their relevance, effectiveness, efficiency, and coherence. A final decision is made within five months of submission.

A positive assessment leads to a Commission act outlining all the information related to the implementation of the SCP, including the maximum financial allocation and the national contribution. The disbursement of the funding is conditional on the achievement of milestones and targets outlined in the plan. Member states can request payments twice per year, with first payments starting in 2026. Member states are required to amend their SCPs if they are no longer achievable or require significant adjustment. The Commission can reject the amended plan after giving the member state the opportunity to report its findings and provide explanation for discrepancies.

The Social Climate Plan for each member state must include:

- An estimate of the anticipated effects of price increases resulting from the introduction of ETS2, particularly in relation to energy and transport poverty.
- Estimated number and identification of vulnerable households, micro-enterprises and transport users (across public transport and private vehicles).
- Concrete policies and investments planned to reduce the negative effects of the price increase on these target groups, including temporary income support and long term decarbonisation measures.
- Milestones, targets and indicators to track implementation and completion by mid-2032.
- Costs of the plan, and an explanation of how cost efficiency is ensured.
- Explanation of how the plan fulfills the 'do no significant harm' principle.
- Information detailing the public consultation processes used to create the plan. A public consultation with local and regional authorities, representatives of economic and social partners, relevant civil society organisations, youth organisations and other stakeholders must be undertaken. The plan itself must contain a summary of such consultations, which will be considered in the Commission's assessment.

6 ETS2 revenue

The EU must close annual investment gaps of at least €137 billion for the building sector and minimum €147 billion for the domestic transport sector to meet their 2030 targets. ETS2 revenues can play a pivotal role in closing this gap.

ETS2 is expected to generate significant revenue, projected to be between €342 billion and €570 billion between 2027 and 2032, depending on the carbon price. However, its success hinges partly on how its revenues are used to offset its impacts, by redistributing to those most affected and funding clean, affordable alternatives to fossil fuels.

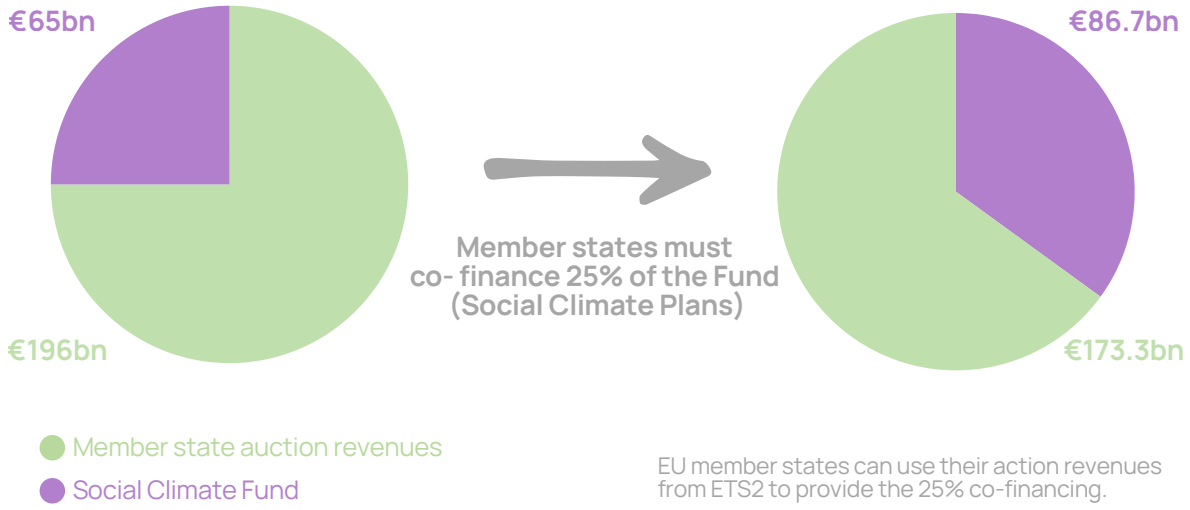
The total revenue is distributed through several channels. Up to €65 billion is allocated directly to the SCF, later distributed to member states according to GDP, population, and energy poverty. Another €21.6 billion is allocated to member states, which they can use towards SCF co-financing as they need to co-finance at least 25% of their SCF projects. The largest share – estimated between €209 billion to €448 billion, depending on the carbon price – is returned to member states for 'climate and energy-related activities', with less constrained guidelines on how it should be targeted, and more discretion allowed over its spending.

5 Articles 4(2) and 4(3) of Regulation (EU) 2018/842

This remaining revenue from the auctioning of EUAs is allocated based on each member state's reference emissions from the period of 2016-2018.[5] Germany will receive 23.7% of the EUAs member states can auction, by far the largest share, followed by France (15.6%) and Italy (13.2%) – the only other countries with more than 10%. 17 member states will receive less than 2% of auction quantities and revenue.

Member states will start receiving ETS2 revenues from the auctioning of EUAs in 2027 while the SCF will already kick in 2026. However, funding from ETS2 is contingent on the proper functioning of the system. Fuel suppliers are only obliged to buy and surrender EUAs once member states transpose the directive into national law. Without this transposition, there is no legal basis to require permits, monitoring, or compliance, meaning fuel suppliers in that country would not participate in ETS2, and that member state would not receive ETS2 revenues. In practice, the Commission can initiate infringement proceedings before the European Court of Justice against non-compliant member states, which could result in substantial fines. The timing of ETS2 disbursements, therefore, depends directly on national implementation and enforcement, ensuring that only those countries that transpose and operate ETS2 effectively benefit from the revenues.

Figure 11. Distribution of ETS2 auction revenues



EU member states can use their action revenues from ETS2 to provide the 25% co-financing.

Source: T&E, WWF and CMW

As a result of the latest ETS revision, after the SCF contribution, 100% of revenues allocated to member states must be spent on 'climate and energy-related activities' as specified in Article 10(3) of the ETS directive, giving priority to social aspects (Article 30d(6)).

This includes measures intended to contribute to:

- Decarbonising buildings: reduce heating and cooling emissions and energy needs, including the integration of renewable energies and related measures, as well as financial support for low-income households in worst-performing buildings.

- Accelerating zero-emission mobility: support the uptake of electric vehicles, and provide financial support for the deployment of recharging infrastructure.

- Promoting public transport: encourage a shift to public transport and improve multimodality, with financial support to address social aspects concerning low- and middle-income transport users.

- Financing their SCP: support measures outlined in national SCP.

- Preventing double counting: Providing financial compensation to final consumers of fuels in cases where double counting of emissions cannot be avoided.

However, while member states are free to decide what constitutes climate action, previous investigations have uncovered that historically much of ETS revenue was allocated to non-additional spending and used to account for already existing spending, or even to finance fossil fuel investment. According to findings by WWF, between 2013 and 2021, only 71.9% of the €88.5 billion in ETS revenue was reported as being spent on climate action – a figure that itself is misleading as analysis suggests that at least €12.4 billion of this so-called climate spending went toward activities that were either unhelpful or even counterproductive in climate terms.

This reduces the share of ETS revenue spent on genuine climate action to just 57.8%. Poland has the highest volume of ETS revenue not allocated to climate action – exceeding €6.5 billion, with Italy following closely behind. Moreover, member state reporting is riddled with inconsistencies, opaque classifications, and in many cases a lack of transparency. Countries such as Austria and the Netherlands reported zero climate spending in some years, citing national budgetary rules that prevent earmarking. Others, like France, ambiguously transferred ETS revenues into their general budgets labelled as "climate action" without justification. These misallocations contradict EU climate objectives and risk locking in high-carbon energy systems.

With the introduction of ETS2, citizens, unlike industry, won't receive free EUAs, meaning that the full cost of carbon pricing will be passed on to them. If member states continue to invest their ETS revenues in high-carbon energy systems, they risk entrenching dependence on pollutant and increasingly expensive energy sources. This not only delays the transition to clean alternatives but also imposes disproportionate financial burdens on citizens as carbon prices increase – particularly in lower-income member states. Without enforceable earmarking and clearer rules on eligible climate spending, the transformative potential of ETS revenues remains at risk.

Investment in cleaner alternatives and income support

Structural measures aiming for long-term change must go hand in hand with temporary relief and protection for vulnerable consumers. A mix of direct transfers and targeted investments can reduce energy and transport inequality, but income support must be targeted within reasonable resource efficiency and accompanied by transformative investments to address the root cause of energy poverty: reliance on fossil fuels.

Targeted direct payments provide immediate relief from the impact of carbon pricing by protecting households' purchasing power and can help to maintain public support for the transition. If delivered visibly and regularly, they help maintain public trust that revenues are being returned to citizens rather than absorbed into general budgets. Importantly, as these payments are not linked to fossil fuel use, they don't weaken the carbon price signal.

There is no one-size-fits-all approach; member states have the flexibility to design payment schemes that suit their national context. Some may opt for income-based targeting, while others may use geographic or demographic criteria, or combine universal payments with progressive taxation. What matters is that support reaches those who need it most, in a way that is visible, fair, and administratively feasible. Well-designed, socially targeted direct payments are not a substitute for structural investment but rather a necessary pillar of a just transition.

EU legislation offers multiple avenues to support targeted payments for those most impacted by energy poverty. The SCF allows up to 37.5% of its envelope to be used for temporary direct income support, yet its capped size limits its impact, especially if prices rise unexpectedly. Therefore, ETS2 revenues outside the SCF – allocated directly to member states – become a critical funding source. The ETS Directive already encourages prioritising uses that address the social aspects of emissions trading, including specific provisions for financial support to address social aspects concerning low- and middle-income users.

Climate social benefit

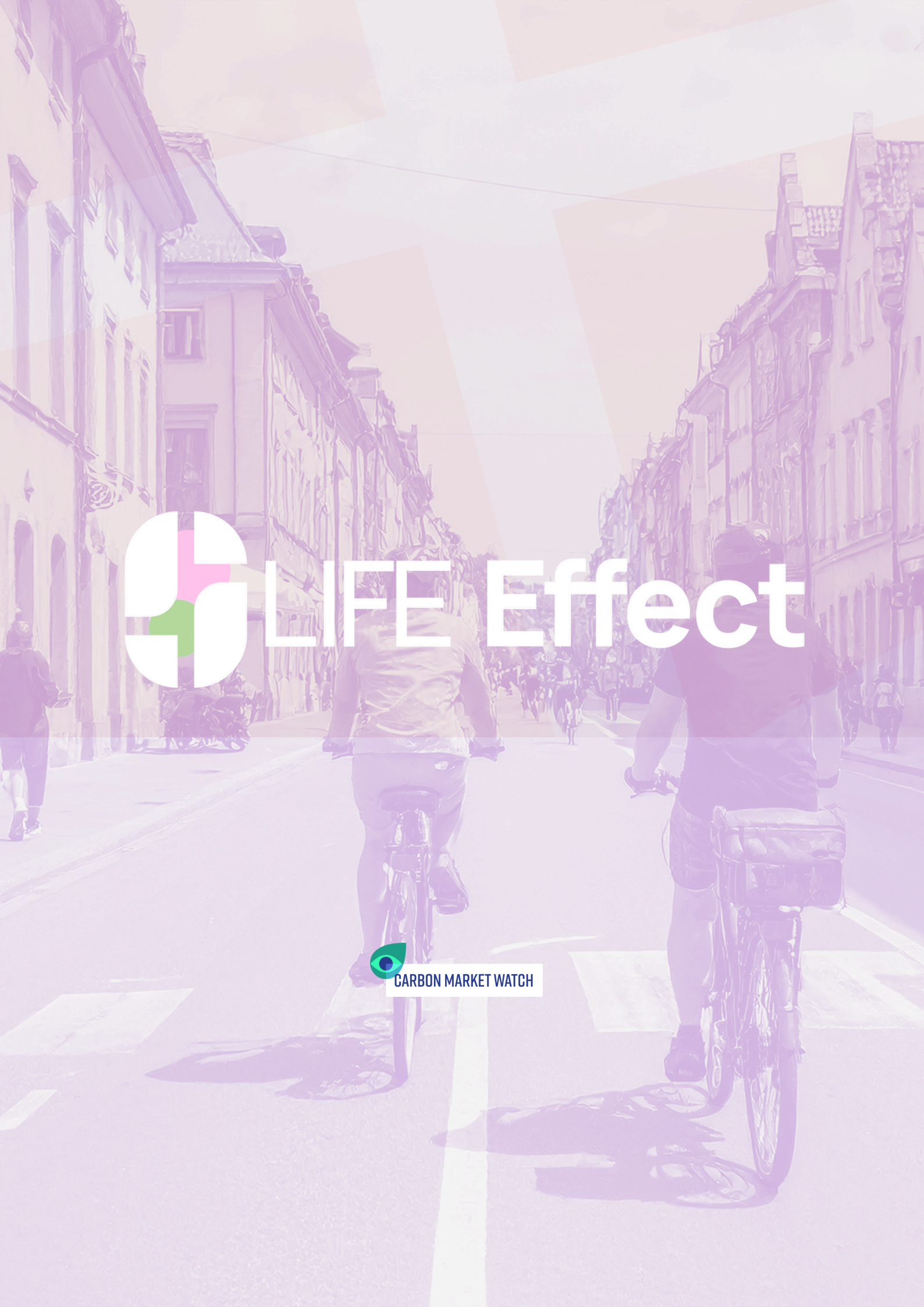
With the EU facing a €240 billion annual investment gap to decarbonise buildings and transport, ETS2 revenues offer a crucial opportunity to fill this deficit while delivering real improvements in people's daily lives – warmer homes, cleaner air, and lower energy bills.

When used strategically, these revenues can go beyond easing the cost of carbon pricing and help drive long-term social and economic progress. Today, many households face energy poverty: in 2024, 9% of EU households are unable to keep their home adequately warm, with the share exceeding 15% in Greece, Bulgaria, Lithuania, Spain and Portugal. By targeting energy and transport poverty, particularly among vulnerable groups, the transition is not only low-carbon but also socially beneficial.

Investments in energy efficiency, public transport, and renewables also deliver major health gains by cutting air pollution, which still causes hundreds of thousands of premature deaths in the EU every year. They also strengthen Europe's energy security by cutting dependence on imported fossil fuels, protecting citizens from price shock, and strengthening Europe's sovereignty. Well-directed investment can support local job creation, improve competitiveness, and strengthen regional development. The construction sector alone makes up more than 10% of EU GDP and is dominated by SMEs, meaning that large-scale energy renovations can unleash significant business opportunities and create thousands of future-proof green jobs. Similarly, accelerating EV uptake in road transport could sustain current automotive jobs and production levels in Europe while also creating new opportunities. T&E found 100,000 new jobs could be created in the battery supply chain and 120,000 in charging infrastructure by 2035. Studies conclude that the EU could generate more than one trillion euros in socio-economic benefits by 2030, if it invests in a more ambitious transition pathway.

Policy recommendations

1. Dedicate all ETS2 revenue to targeted investment to lower emissions in buildings and road transport, and targeted direct payments until these investments are in place.
2. Extend the Social Climate Fund – increase the co-financing rate beyond 25% and extend the SCF to beyond 2032, and ensure the fund grows proportionally to the ETS2 price, without a fix cap.
3. Implement strong complementary policies for a steady ETS2 price.
4. Ensure transparency in reporting for ETS2 revenue spending on climate and social investments.
5. Remove all fossil fuel subsidies and ensure taxation on electricity is favourable to strengthen the price signal.
6. End free allowances in ETS1; if people have to pay for their pollution, so should companies.


LIFE Effect
CARBON MARKET WATCH