

How to make the ETS2 socially acceptable

Lessons from national CO₂ price systems
for well-designed carbon revenues
redistribution and investments

• Abstract

The introduction of a CO₂ price for housing and mobility is a key measure to ensure that the EU will be able to achieve its climate objectives. However, without adequate accompanying compensation and investment measures, additional costs for citizens will not be socially acceptable and might lead to a reversal of climate policies. This policy paper thus sets out to make recommendations on how to best design such policies in the context of the introduction of the second European Emissions Trading System (ETS2), which will broaden the scope of the EU ETS to new economic sectors (road transport, buildings and small industries), and the accompanying Social Climate Fund (SCF). To draw lessons from already existing instruments, this policy paper studies the carbon taxation schemes of France, Germany and Austria as well as a selected regulatory, redistribution and investment measures linked to national CO₂ prices. Based on this analysis, this paper makes recommendations for the design of social climate plans and national measures financed by ETS2 revenues. It highlights the importance of strict earmarking of ETS2 revenues, the visibility of support measures, and discusses how to best target citizens through redistributions mechanisms, ensure effectiveness through well-designed regulatory measures, combine compensation with investment tools, and coordinate such investment support to provide a demand stimulus to EU cleantech industries.



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Andreas Eisl,
Senior Research
Fellow in European
Economic Policy at
the Jacques Delors
Institute

Phuc-Vinh Nguyen,
Head of the Jacques
Delors Energy Centre,
Research fellow,
French and EU
energy policy

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• Introduction

Following its postponement by a year, the second carbon market on buildings, road transport and small industries is expected to enter into force in 2028 (Nguyen, 2025). This European ETS2 (Emissions Trading System) will make fossil fuels significantly more expensive for many citizens across EU Member States. The key objective of ETS2 is to induce behavioral changes, switching from carbon intensive uses (fossil fuel boilers, internal combustion engine cars) to decarbonized ones (heat pumps, electric vehicles). However, without targeted support mechanisms to trigger these behavioral changes, the cost of decarbonization may disproportionately fall on the most vulnerable households, who lack the financial capacity to transition on their own. For instance, an impact assessment from the European Commission (2021) estimated that with a €48 CO₂ price in 2030, fuel prices would increase by 11ct/l (gasoline) to 13ct/l (diesel).

By design, the Social Climate Fund (SCF) should fulfill this role. It was created alongside the ETS2 as a social safeguard and solidarity measure, channeling financial support towards the most affected Member States (mainly situated in Eastern Europe) and ensuring a fair redistribution of ETS2 revenues to vulnerable households and micro-enterprises to facilitate political buy-in. However, its limited temporal scope (2026–2032) and capped funding envelope of €86.7 billion (or €76.3 billion as the exact amount still need to be clarified by the European Commission) constrain its capacity to properly help foster social acceptance regarding carbon pricing. Of this amount, depending on the aftermath of the postponement of the ETS2 until 2028, either up to €65 billion (art 10) or €54,6 billion will stem from the auctioning of emission allowances – 50 million from ETS1 and 150 million from ETS2 – while the remaining 25% are expected to be covered through mandatory national co-financing. As a result, complementary use of broader ETS2 revenues will be indispensable to meet the scale of investment required to achieve a just transition.

Based on the assumption of a conservative CO₂ price level of €45 over the 2027–2032 period, (Eden et al., 2023) calculate that the ETS2 would generate more than €170 billion for Member States. A €60 CO₂ price, which appears to be the central scenario, would generate more than €250 billion, while a €100 CO₂ price would generate more than €480 billion (Jüngling et al. 2025). The ETS2 revenues that belong to Member States would have to be allocated to climate action and social measures. Combined with SCF spending, and under several conditions (discussed within the recommendation section), the remaining ETS2 revenues offer a unique opportunity to turbocharge investments and mitigate the social impacts of carbon pricing while driving the transition by supporting the uptake of cleaner alternatives. In that regard, the introduction of different carbon pricing systems in France, Germany and Austria together with their respective social redistribution and climate investment programmes provide valuable lessons on how to effectively design carbon revenues uses.

I • The French carbon tax and social leasing for electric vehicles

In 2014, France introduced a progressive carbon tax on fossil fuels based on their carbon content (see Table 1). The tax covers around 40% of French emissions, e.g. the transport, residential, and service sectors, as well as industries outside of the ETS1, and is paid directly by households and companies. Initially it was supposed to reach 100€/tCO₂ by 2030. Until 2017, the gradual increase of France's carbon tax remained largely unperceived by citizens, as it was offset by favorable international market dynamics. Specifically, geoeconomic shifts triggered a sharp drop in

global oil prices – with Brent crude falling from \$111 per barrel in June 2014 to \$31 in January 2016 – cushioning the fiscal impact at the pump following the introduction of the carbon tax. However, this equilibrium was disrupted in 2018, sparking social protests known as the “Yellow Vests movement”. The surge in fuel prices – a rise of 21ct/l (INSEE, 2025) for diesel and 8ct/l (INSEE, 2025) for gasoline between November 2017 and November 2018 – stemmed from a convergence of three factors. First, the carbon tax increased significantly, from €30.5/tCO₂ to €44.6/tCO₂, accounting for roughly half of the rise. Second, global oil prices rebounded, with the average Brent price in 2018 rising by over 30% compared to 2017, amplifying the cost burden for households. Third, a tax adjustment, initiated in 2015, aimed at having gasoline and diesel prices converge, led to a 2,6c/l increase in 2018.

TABLE 1. Overview of the French CO₂ price

Year	CO ₂ price*		CO ₂ price revenues***
2014	7€/t		0.3bn
2015	14.5€/t		2.3bn
2016	22€/t		3.8bn
2017	30.5€/t		5.4bn
2018	44.6€/t		9bn
2019	44.6€/t (frozen)	55€/t (initially expected)	8bn
2020	44.6€/t (frozen)	65.4€/t (initially expected)	7.2bn
2021	44.6€/t (frozen)	75.8€/t (initially expected)	8.2bn
2022	44.6€/t (frozen)	86.20€/t (initially expected)	7.7bn
2023	44.6€/t (frozen)	>86.20€/t (initially expected)**	8.3 bn
2024	44.6€/t (frozen)	>86.20€/t (initially expected)**	8.3bn
2030	Replaced by ETS2?	100€/t (initially expected)**	tbd

▲ * The carbon tax remains subject to VAT.

▲ ** The 2030 target price was set within the 2015 Energy Transition Law alongside a 56€/tCO₂ target for 2020. The latter was amended within the 2018 [Budget Law](#) and raised at 65.4€/tCO₂, for 2020 and up to 86.2€/tCO₂, for 2022 (but no beyond). The raise was frozen following the Yellow Vests movement. This still hints that the 100€/tCO₂ target for 2030 would have been updated at a 169,4€/t level had the tax not been frozen.

▲ *** Revenues from the carbon tax are an estimation as the carbon tax is a calculation method, not a full-fledged levy.

▲ Source: Authors based on figures from the Ministry of Energy, French Court of Auditors and I4CE.

This triple shock was perceived as unfair by French citizens especially as the revenues from the tax were neither being redistributed nor directly allocated to investments related to the green transition, following the French principle of [universal budgeting](#) (Moysan 2017) that prevents an explicit earmarking of the revenues to a dedicated spending item, unless a specific exception were to be made. Ultimately, the government’s lack of consideration for carbon revenues redistribution as a tool to foster social acceptance led to the rise of the Yellow Vests movement in November 2018.

Originally, France’s carbon tax was conceived less as a climate tool than as a fiscal one, [designed to fund tax relief for businesses](#) (De Perthuis 2013) rather than the energy transition. In other words, since its inception, the question related to carbon revenues redistribution was left outside of the equation by policymakers. Against that backdrop, in 2016, out of the €3.8 billion in revenues raised through the carbon

tax, €3 billion facilitated – even though no direct affectation was made – the financing of the Competitiveness and Employment Tax Credit (CICE), a flagship measure to reduce labor costs. It wasn't until 2017 (DGEC 2017) that a shift began: €1.7 billion out of €5.4 billion in carbon tax revenues were earmarked – as an exception to the principle of budgetary universality (Beaufils 2019) – for a special account dedicated to the energy transition, primarily to support renewable energy deployment. Still, both the absence of public awareness and dedicated communication regarding the special account in addition to the lack of significant and direct redistribution schemes, contributed to fuel arguments of the Yellow Vests movement claiming that the carbon tax was set up to increase budget earnings at the expense of households. As a matter of fact, this discourse was reinforced when, despite the 2018 price increase that generated an additional €3.7 billion revenues compared to 2017, only €181 additional million were allocated to compensatory measures through either an energy voucher or a conversion bonus (ADEME 2021).

These empirical observations confirm the findings from recent public opinion polls and academic literature – notably Carattini et al. (2017) – which highlight earmarking as the most effective strategy to build public support for carbon pricing. In the French case, earmarking was too little and too late in addition to being too poorly advertised. The upcoming implementation of the EU ETS2, which targets a similar scope as the carbon tax (and could eventually substitute it) presents a unique opportunity to apply the lessons learned from these past shortcomings. Given that the ETS2 price is expected to exceed that of the French carbon tax (€60/tCO₂ vs. €44.6/tCO₂), it will generate substantial revenues for France, estimated at €7.2 billion yearly on average (Cour des Comptes 2024) over the 2027-2030 period in addition to around €1.2 billion coming yearly from the SCF. With households bearing 62% of the carbon tax in 2022 (Ministère de la transition écologique, 2025) redistribution schemes will have to target them as a priority, especially low-income ones and residents of rural and suburban areas that will be the most exposed to the new carbon price.

In that regard, a 2024 French public opinion poll by ADEME (that is updated yearly) documents that support for a carbon tax (51% in 2024, +6% compared to 2023) significantly increases provided that *“this does not penalize the purchasing power of households in the middle and lower classes, and that the revenues from the tax are used to finance ecological transition measures, particularly in territories”* (69% in 2024, +4% compared to 2023). The 2025 update however signals a noticeable drop in the overall support of the carbon tax instrument (44%, -7% compared to 2024) with 66% (-3%) when the aforementioned conditionality is referred to. Against that backdrop, a 2022 opinion poll (DREES 2024) highlighted that more than 6 out of 10 residents in France were in favor of an increase of the carbon tax if a redistributive, fiscal or environmental measure were to be implemented in return. Yet, that support was lower among residents of rural communities whatever the compensation mechanism was, with *“the creation of local transport, jobs and services”* as the favored option by respondents. This signals that particular attention should be paid to that segment of the population, especially given the fact that it represented, together with the suburban population, the core of the Yellow Vests movement.

To address some of these concerns, in 2024, the ‘social leasing’ of electric vehicles (EVs) was introduced. The objective of the instrument was to provide poor and isolated households, without an initial contribution being required, with an electric vehicle for monthly rental rates starting at around €70 for city cars to under €150 for family cars (excluding insurance). The scheme was restricted to applicants with a reference tax income under €15,400 (targeting the poorest 50% of the French population) that would either be driving more than 8,000 km a year or living more than 15km away from their workplace. The rental would last for a three-year period

that could be renewed once and de facto primarily applies to vehicles produced in France or the EU thanks to a requirement of a minimum environmental score taking into account the impact of vehicle usage, in addition to having to weigh less than 2.4t and cost less than €47,000. The system is applied in the context of a long-term lease or a lease with an option to purchase.

The social leasing scheme is designed for drivers having to use their car frequently, with the monthly fee being lower than the cost that would otherwise be spent on fuel. For instance, estimates have shown that a beneficiary that would drive 13,000 km/year would save around €130 a month (I4CE 2023) which enables households to finance the leasing through fuel savings while also circumventing the upfront cost associated with the purchase of a new EV.

The French social leasing of EVs exceeded expectations. Initially, only support for 25,000 vehicles was supposed to be made available. However, with over 90,000 applications within a six-week timeframe, the French state finally decided to provide support for up to 50,000 EVs. Based on this experience, a few shortcomings can be identified and improved upon. Subsidies for the scheme amounted to up to €13,000 per car, which remains costly for the State especially given the budgetary constraints EU Member States are facing. As the French budget provided for a strict €1.5bn envelope to the greening of the vehicle fleet, the €650m instrument had to be financed by reducing other schemes such as the cancellation of purchase subsidies offered to companies or reducing the bonus granted to private individuals when purchasing an EV by €1,000 (IMT 2024).

This example shows that a poorly anticipated over-subscription can create collateral damage at the expense of other relevant instruments related to the electrification of the fleet. A more targeted approach that would *de facto* limit the potential for over-subscription must therefore be favored, especially given the fact that less than 20% of all contracts were awarded to the poorest households. Indeed, only 3.3% of the social leasing beneficiaries were in the 1st income decile and 14.3% in the 2nd (DGEC 2024), thus mostly benefiting middle income households (22.1% for 3rd decile, 27.8% for the 4th, and 32.6% for the 5th). Moreover, a fixed and dedicated envelope for the scheme (like the SCF) would prevent the instrument having to rely on the general State budget, instead receiving support from an earmarked financing scheme, making it more immune to deficit reduction policies.

The second round of social leasing was launched in September 2025, partly to fix earlier shortcomings. This time, 50,000 cars are eligible from the outset, including 5,000 cars reserved for people living in low emission zones. This focus reflects both the challenge of reaching isolated households (only 45% were beneficiaries previously) and strong political contention over low emission zones as illustrated by the National Assembly' first reading vote for their abolition in June 2025. With the renewal of the social leasing of EVs, the government is supporting a popular programme and using it to respond to widespread concerns: 70% of French respondents in a recent [public opinion poll](#) (Odoxa 2025) saw low emission zones as an “*unfair measure for the less well-off*” that leads to excluding the poorest households from cities.

Similar to the first round of social leasing, monthly rental prices range from €95 to €200 (VAT incl.) for three years. The income threshold rises to €16,300 and the environmental score is strengthened to better take into account specific aspects (battery footprint, recyclability, etc.) but other eligibility criteria (weight, price) remain unchanged. The scheme now costs €370m, with a maximum aid of €7,000 per EV (down from €13,000), and is not funded through the French budget but via Energy Savings Certificates (‘CEE’) a scheme designed to meet obligations

contained in the European Energy Efficiency Directive that forces energy suppliers to finance actions aimed at reducing energy consumption and improving energy efficiency. This polluter-pays system, also used in Italy, Denmark, and Ireland, could be replicated elsewhere.

Despite being successful, the mechanism has no guarantees to be reconducted next year according to the French Agency for Ecological Transition. In that regard, the Social Climate Fund offers a window of opportunity for the French government to perpetuate the scheme while increasing the overall envelope and for other Member States to replicate the social leasing based on the French feedback. This feedback could give food for thought to EU policy makers when designing their compensation and investment schemes. Indeed, while these are complex instruments that sometimes take time to materialize, as illustrated by the upcoming German case study, their effectiveness relies on obtaining a broad consensus among the population.

II • The German carbon pricing system and cost redistribution mechanisms

In 2021, Germany introduced a national emissions trading system for heating and transport, which, however, largely corresponds to a CO₂ price (see Table 2). For the period 2021-2025, the country has set an annual price, increasing from 25€/t to 55€/t. For 2026 and 2027, the system will move towards a market-based system but will be kept in a corridor between 55€/t and 65€/t. Due to the increasing CO₂ price, its revenues have almost doubled since its introduction, going up from €7.2bn in 2021 to roughly €13bn in 2024. This increase is also based on the gradual extension of the covered fuels and emissions sources (see the note in Table 2). The revenues of the national CO₂ price do not flow into the general budget, instead they are filling up the country's climate and transformation fund (KTF), which can finance actions towards climate neutrality and sustainability, and compensate for additional costs caused by climate measures.

TABLE 2. Overview of the German CO₂ price and related spending

Year	CO ₂ price	CO ₂ price revenues	EEG levy spending
2021	25€/t	€7.2bn	€18.7bn
2022	30€/t	€6.4bn	€5.0bn (€19.8bn ^{est})
2023	30€/t	€10.7bn	€14.1bn (-€3.64bn ^{est})
2024	45€/t	€13bn	€18.5bn(€10.6bn ^{est})
2025	55€/t	tbd	€17.2bn ^{est}
2026	55€/t - 65€/t (Corridor)	tbd	€17.2bn ^{est}
2027	55€/t - 65€/t (Corridor)	tbd	tbd

▲ Note: Until 2022, only gasoline, diesel, petroleum, LNG, and gas were included in the CO₂ price. Since 2023, all other fuels, such as coal, are also covered, and since 2024, also the emissions of waste incinerators.

▲ Sources: Umwelt Bundesamt (2025), Verbraucherzentrale Bundesverband (2023), Interview BMWK (2025)

Since 2023, the German CO₂ price system is accompanied by a mechanism to share heating-related costs-between landlords and renters according to their areas of responsibility and influence on the CO₂ emissions of a building (CO₂KOstAufG). Depending on the amounts of emitted CO₂ per m², landlords and renters have to pay varying shares of CO₂ price-related costs, divided up into ten categories (see

Table 3). To calculate the respective shares, the German government provides an [online tool](#), which takes into account energy consumption, the size of the apartment, the type of used fossil fuel and the CO₂ price. The more climate-friendly a heating system is, the lower is the share the landlord has to pay. For very low and emissions-free heating, the landlord has to pay 0%, while the amount goes up to 95% for the most polluting heating systems. The share paid by landlords can be reduced or even completely cancelled when existing rules prohibit them from replacing existing fossil fuel heating systems or from upgrading insulation (see the note in Table 3).

TABLE 3. Distribution of CO₂ price costs between landlords and renters

Annual CO ₂ emissions per m ²	Share Renter	Share Landlord
< 12kg	100%	0%
12 < 17 kg	90%	10%
17 < 22 kg	80%	20%
22 < 27 kg	70%	30%
27 < 32 kg	60%	40%
32 < 37 kg	50%	50%
37 < 42 kg	40%	60%
42 < 47 kg	30%	70%
47 < 52 kg	20%	80%
>= 52 kg	5%	95%

▲ Note: If municipal statutes require the use of an existing district heating system or if monument preservation orders prohibit insulation measures, landlords can reduce their share up to 0%.

This mechanism to redistribute CO₂ price costs between landlords and renters is supposed to achieve two objectives. First, it aims at incentivizing landlords to replace fossil fuel heating systems with more climate-friendly alternatives. Second, it avoids that renters, who cannot choose the heating system an apartment is equipped with, have to fully bear the owner’s choice of the heating system through the CO₂ price.

Since the introduction of the CO₂ price, politicians have repeatedly discussed the establishment of a direct redistribution mechanism of the revenues, a so-called ‘Klimageld’. In their 2021 coalition agreement, the social democratic SPD, the Greens and the liberal FDP stated that they would “*develop a social compensation mechanism (...) in order to compensate for a future price increase and ensure acceptance of the market system*” (Koalitionsvertrag 2021). But while this and other public announcements by policymakers suggest broad support for such a measure across party lines and among various stakeholders (Deutschlandfunk 2024), the Klimageld has, however, not materialized until today (Bauchmüller & Hulverscheidt 2024). This has been due to various budgetary, political, and administrative reasons.

First, the KTF, which is fed by the ETS1 and national CO₂ price revenues, did, until 2025, not possess sufficient resources for providing funding for a large financial compensation mechanism. KTF expenditures were already earmarked for numerous subsidy schemes when the German Constitutional Court, at the end of 2023, annulled the government’s plan to reallocate €60bn of credit authorisations from a pandemic response package to the KTF, deeming it incompatible with the German

constitution (Bundesverfassungsgericht 2023). This caused major problems for the KTF's capacities, especially as the government had also decided that the levy to support renewables energies (EEG-Umlage) would not be paid by consumers directly anymore but would be financed through the KTF instead. With EEG-related costs amounting to €18.5bn in 2024 alone, this strongly hampered the ability of the KTF to finance a direct Klimageld. To avoid cutting other subsidy schemes, the German economy and climate protection minister Robert Habeck subsequently argued that the abolition of the EEG levy actually constituted a compensation mechanism towards residents, already fulfilling the function of a Klimageld.

Second, administrative difficulties have repeatedly been mentioned as hindering the rapid introduction of the Klimageld. When the national CO₂ price was introduced in 2021, no national state agency in Germany, in contrast to other countries, did possess the necessary information to carry out payments to all concerned residents (Bohmann et al. 2025). It took until 2025 for the German government to put such a system in place, linking the individual tax-ID database to bank account data (Deutsche Bundesregierung 2024, Deutschlandfunk 2024).

Public opinion polls conducted over the course of the last years on the German CO₂ price and a potential redistribution mechanism of its revenues paint a differentiated picture, depending on the posed questions and the broader political context. A 2022 poll found that while 33.9% of respondents found the German CO₂ price to be effective only 22.1% considered it to be fair. In contrast, 45.2% of the population found the CO₂ price to be ineffective, while 52.8% thought it to be unfair (Holzmann & Digulla 2024:12). When asked about a policy bundle consisting of a CO₂ price and a compensation mechanism (Klimageld), support for a CO₂ price increases, as shown by Bohmann et al. (2025:75). The opinion poll they conducted tested different combinations of CO₂ prices and compensation payments. They found that 48% of citizens would support a CO₂ price at €45/t if 80% of the CO₂ price revenues would be used for compensation (with 52% still not supporting such a model). When asked about higher CO₂ prices and lower compensation levels, respondents' support decreases. This highlights the need for socially acceptable CO₂ prices linked with generous compensation levels.

The conservative-socialdemocratic coalition that formed in 2025 addressed a few of the key problems of the KTF with a modification of the Constitution to bypass the existing German fiscal rules without risking another repeal by the German Constitutional Court. This allows the government to endow the fund with an additional €100bn in the coming years. In addition, EEG-related costs will not be covered by the KTF anymore but instead will have to be paid through the general budget (Greive et al. 2025). This will significantly increase the capacity of the fund to support a potential redistribution mechanism. However, the new coalition agreement does not explicitly mention a Klimageld any longer. Instead, it mentions measures to redistribute CO₂ price revenues towards citizens and enterprises through unbureaucratic and socially adapted support for housing and mobility and through electricity price reductions and investment support towards climate neutrality (Patermann & Rathai 2025). A more general Klimageld approach could thus potentially be substituted by a more targeted but complex system, in contrast to the Klimabonus, a general compensation mechanism that was in place in Austria from 2022 to 2024.

III • The Austrian carbon tax and the Klimabonus

In 2022, Austria introduced a national CO₂ price, accompanied by a mechanism to redistribute the expected revenues to citizens, the so-called 'Klimabonus' (climate bonus). These measures were part of the eco-social tax reform, a major reform

effort to remodel the national tax system towards the green transition. The reform was initiated by a coalition government of Conservatives (ÖVP) and Greens, that led the country since the 2019 parliamentary elections.

The national CO₂ price was set at €30/t, starting to apply by October 2022, and supposed to rise based on annual pre-fixed increases until reaching €55/t in 2025, moving to a market-based price in 2026 (see Table 4). The accompanying Klimabonus was designed to compensate citizens for increased costs, while incentivizing the adoption of zero- or low-carbon alternatives to fossil fuel-based heating and transport. To do so, the Klimabonus consisted of an annual cash payment to each Austrian resident, adding a regional component to account for differences in the availability of fossil fuel-free alternatives up to doubling the base payment.

TABLE 4. Overview of the Austrian CO₂ price and Klimabonus

Year	CO ₂ price	CO ₂ price revenues	Klimabonus spending	Klimabonus base level
2022	30€/t	0.27bn**	4.07bn***	250€ + 250€ (100€ - 200€)***
2023	32,5€/t (35€/t)*	1.05bn	1.47bn	110€ - 220€
2024	45€/t	1.4bn	1.96bn	145€ - 290€
2025	55€/t	(1.7bn) ^{est}	0bn (2.0-2.3bn) ^{est}	...
2026	Market price	tbd

▲ Note: * The originally set CO₂ price for 2023 was 35€/t, but the price increase was halved due to the activation of a price stability mechanism in response to strongly increasing fossil fuel prices.

** In 2022, CO₂ pricing started only in October, leading to comparatively low annual revenues.

*** In 2022, the Klimabonus was increased to €250 for every citizen, without any regional differentiation and further doubled through an anti-inflation bonus, thus reaching €500.

▲ Sources: BMK (2025), ORF (2025)

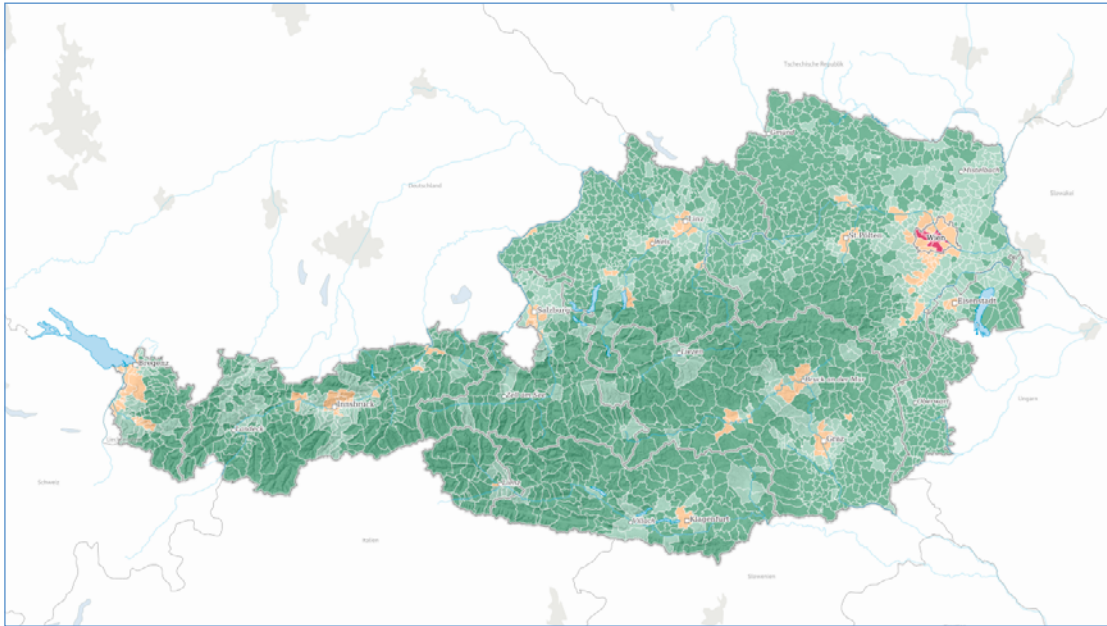
The regional component of the Klimabonus was based on two variables, a measure for the urbanity-rurality of a given locality and a measure for the quality/availability of public transport. Taken together, these allowed for the construction of four categories to regionally differentiate between localities in terms of access to public transport but indirectly also to heating-related offers, such as district heating (Figure 1). The full amount of the Klimabonus was paid out to each adult, while every person under 18 received half the amount.

Along the increasing national CO₂ price path, the legislation also laid out the criteria to raise the Klimabonus every year, ensuring a full compensation of the additional costs. However, due to the design of the Klimabonus, but also for political reasons, the annual costs were generally higher than the associated revenues (see Table 3). For 2023 and 2024, the gap between revenues and expenses was around €500 million annually, with another gap expected for 2025. In addition, the gap reached almost €4 billion in 2022, when the CO₂ pricing was started later than originally planned, leading to lower revenues, and the Klimabonus was strongly increased to respond to the energy-price crisis related inflation shock. Instead, of €100 (in the base version), the Klimabonus was increased to €250 for every adult citizen (without any regional adaptation), with an additional €250 paid out as an anti-inflation bonus. Citizens thus received €500 in 2022 through the Klimabonus instrument.

This mixing of temporary economic and structural CO₂ price-related support provided by the Klimabonus, however, likely undermined its political and budgetary acceptability and blurred the link of the Klimabonus with the national CO₂ price.

Following the 2024 legislative elections, coalition talks between parties focused heavily on the budget and how to cut expenditures, as a prolonged recession following the energy price crisis had created a significant public deficit, finally reaching -4.7% in 2024. Due to its size, the Klimabonus rapidly became a focal point for expenditure-cutting measures, especially as the initial coalition talks took place between the right-wing populist FPÖ and the conservative ÖVP, with the former having heavily campaigned on cutting the Klimabonus as well as the national CO₂ price.

FIGURE 1. Regional differentiation of the Austrian Klimabonus



▲ Note: The areas in red, covering only parts of the Austrian capital Vienna, received the base-level Klimabonus. Areas in orange (mainly urban centers beyond Vienna) received an additional 33%, areas in light green (mainly smaller town and peri-urban areas) received an additional 66%, while areas in dark green (rural areas with little access to public transport) received an additional 100%.

▲ Source: Statistik Austria (2025)

The Klimabonus seemed to be a relatively easy target as opinion surveys highlighted little attachment to it (Hager 2024). In a survey published at the end of 2024, 41% of respondents called for a ‘social differentiation’ of the Klimabonus, 36% supported its abolition, and 13% wanted it to be used for other purposes. In addition, only 4% saw it as the best measure of the outgoing government, in comparison to 38% for the abolition of the income tax bracket creep, 21% for the Klimaticket (an annual subsidized ticket for all public transport) and 16% for the electricity price brake (Hager 2024).

When the initial coalition talks collapsed, however, the ÖVP, the SPÖ and the liberal NEOs resumed negotiations, originally aiming to reform rather than remove the Klimabonus. As the budgetary data for 2024 and forecasts for 2025 continuously worsened, the three parties, however, finally decided to completely cut the Klimabonus to reduce the public deficit, while keeping the CO₂ price in place. For 2025, the abolition of the Klimabonus alone accounts for about one third of the country’s fiscal consolidation of €6.3 billion. The new government justified the complete abolition of the Klimabonus based on a broader narrative of stopping the ‘over-subsidising’ and ‘over-compensation’ provided by the public budget since 2020 (Kern & Winter 2025). To at least partly compensate for the discontinuation of the Kli-

mabonus, the new government plans to triple the existing, and already generous, commuter tax allowance (Pendlerpauschale). In practice, this, however, basically constitutes a fossil fuel subsidy, as it also supports the use of fossil fuel-powered cars, which still dominate the Austrian car market (Kontext 2025).

Beyond the size of its spending, the Klimabonus was also criticized for its design. First, the Klimabonus was originally paid out independently of the revenues of recipients. While this still meant that people with lower incomes received a proportionally higher percentage than people with higher incomes, it was nevertheless questioned whether residents with high incomes would need to receive any compensation at all (Burtscher 2024). To at least partly respond to this critique, the Klimabonus became taxable income in 2024 for annual gross incomes above €66,612.

Second, many administrations, organizations and citizens criticized various aspects of the regional differentiation mechanism of the Klimabonus (Österreichischer Städtebund, 2024, Burtscher 2024). Some considered that the Klimabonus was insufficiently differentiated, as the availability of public transport could vary strongly also inside individual municipalities, which was not taken into account even if more granular data would have been available (Pilch 2024). Another line of critique concerned the fact that while a higher dependence on individual car-based transport needs was acknowledged for rural areas, requiring more support to ensure sufficient compensation, higher housing prices in cities were not considered as a criterion (Österreichischer Städtebund 2024). This argument is related to a broader questioning of the design of the Klimabonus, stating that the regional differentiation mechanism actually favored climate-harming behavior, overcompensating for higher fossil fuel costs especially in rural areas (TU Wien 2024). The Klimabonus could thus be constructed as an instrument fostering housing sprawl and the use of individual transport instead of more climate-friendly behaviour. Finally, the design of the Klimabonus was also criticized because the exclusive focus on redistribution did not allow for sufficient support for directly promoting climate transition. The Austrian Association of Cities and Towns claimed that while the federal government was promoting car-oriented mobility behaviour through the Klimabonus, cities and urban regions were lacking around €1bn annually to support the expansion of public transport towards the achievement of climate targets (Österreichischer Städtebund 2024). Overall, criticism on the regionally differentiated version of the Klimabonus was more pronounced than on the undifferentiated 2022 version (BMK 2025).

• Policy recommendations

Based on the French, German and Austrian case studies presented above, this final section lays out a set of policy recommendations to make sure that ETS2 will be socially acceptable and that it can effectively support the green transition across the EU. To do so, the design of social climate plans and national measures financed by ETS2 revenues should integrate the following elements.

I STRICT EARMARKING

The three country case studies highlight the usefulness of clear and visible earmarking of CO₂ price revenues towards measures to compensate residents and provide support for the investment in green technologies for housing and mobility. First, it is important that there is a clear link (from a budgetary to the communication perspective) between the size of CO₂ price revenues and climate/redistribution-related spending. In the French case, the lack of this link aggravated the rise in living costs for lower-income citizens in the late 2010s. A redistribution mechanism, whose

payouts would automatically increase with growing CO₂ price revenues, could have potentially avoided a backlash that also resulted in a freezing of the French CO₂ price.

To the contrary, also redistribution payments beyond actual CO₂ price revenues can at least partly undermine climate policies as shown in the Austrian case. Given the perception of ‘over-subsidising’, the Klimabonus became a politically opportune spending item to cut in a period of budgetary difficulties. While the national CO₂ price was kept in place, the missing redistribution mechanism makes the carbon instrument more vulnerable to political dismantling. To make matters worse, the CO₂ price revenues will partly serve to finance climate-harming behavior through a reinforcement of the commuter tax allowance. The Austrian example also highlights that carbon revenue distribution mechanisms should not be used for additional objectives, such as a broader response to energy price shocks (e.g. the one initiated the summer 2021 gas shock (Nguyen & Pellerin-Carlin 2021)), as this blurs the line between distinct measures and risks conveying the image of ‘over-subsidising’.

In Germany, finally, a national redistribution mechanism hasn’t become a reality until today as the national CO₂ price revenues were not directly accompanied by a Klimageld. The earmarking towards the KTF ensured that (a majority of) revenues would be used to finance climate-related investments, but the inclusion in a broader scheme with multiple revenue sources and spending objectives created complications for the financing of a redistribution scheme and targeted investment support for citizens.

To address these issues in the context of the introduction of ETS2, we thus recommend that Member States put into place a dedicated fund that covers all national and SCF-based revenues and that serves exclusively to finance compensation and green investment mechanisms, in line with the criteria set out by the SCF Regulation for the respective share of SCF funding. This means that as the price goes up, which is expected to happen, especially starting 2030 onwards, the amount of redistributed carbon revenues from the fund must correspond fully to the exact price increase observed on the market.

I VISIBILITY

The visibility of policy measures towards the green transition is not solely a communication issue – it is central to social acceptability. While Member States might be tempted to draw on already existing redistributive schemes to spend parts of national or SCF-based ETS2 revenues, this strategy could hinder citizens’ ability to clearly identify the schemes as being financed by these revenues. Indeed, if support measures cannot clearly be linked to the CO₂ price, it might lower the social acceptability of the latter. If the public perceives that the burden of carbon pricing is not offset by transparent and targeted support, especially for the most vulnerable ones, opposition could arise. Eventually, setting up new redistributive schemes or rebranding existing ones under a new name, in addition to increasing them, would create more visibility, highlighting their use to offset additional costs for citizens.

To reinforce the visibility of earmarking of ETS2 revenues for compensation and green investment measures, Member States should create a public platform that tracks and presents the use and spending of ETS2 revenues in an easily accessible manner. This would increase transparency, trust and social acceptance towards ETS2. It would also help ensure that strict earmarking is followed through and not watered down over time.

In addition, public opinion polls conducted in late 2024/early 2025 in Germany, France, Italy, Poland and Spain show that “a reduction in electricity bills” is the most favored item by citizens when asked how CO₂ tax revenues should best be used (Arregui et al. 2025). In that regard, direct action on electricity bills might be a relevant solution to ensure the visibility of the redistribution scheme, therefore increasing social acceptance of carbon pricing while offering the possibility of targeting vulnerable households, which is part of the following policy recommendation.

I TARGETING OF REDISTRIBUTION MECHANISMS

How to best design the targeting of redistribution mechanisms is a key issue to address for any CO₂ price system. For instance, should the universality principle that implies that every citizen (including children) benefits from a redistribution scheme be applied or not? Or should we rather consider that only carbon price payers (de facto excluding children) are eligible?

Independently of the exact system, we believe that especially vulnerable citizens (leaving small industries out in the context of this paper) with financial difficulties to rapidly switch from fossil fuel heating and mobility to decarbonized options should be fully compensated for CO₂ price increases. But while the SCF rules are geared towards this approach, for some countries the size of the allocated funds and the – over time – decreasing 37.5% limit for redistribution instruments included in national social-climate plans will not suffice to adequately compensate all vulnerable households. Thus, in addition, funding from the national ETS₂ revenues will be needed.

In practice, however, it might be difficult to adequately identify vulnerable households and to compensate them individually according to their level of vulnerability. First, this might be due to difficulties in available data, as precise targeting would require knowing not only information about revenues but also cross-matched data on fossil fuel dependence for housing and mobility. Second, even if a country would possess individual data for these variables, there might, however, be difficulties in easily paying out support to them, as highlighted by the German case. The result of such practical difficulties has been that actual redistribution mechanisms have been based on less precise or little targeting or could not be put into place at all.

One of the simplest approaches to deal with problems in data availability is to pay out a lump sum to each resident, which would correspond to a certain amount of CO₂ emissions. While this is, in principle, an untargeted approach, as higher-income households typically have higher CO₂ emissions, it is, in practice, regressive (IEA 2023). This means that when set at the right level, most lower income households would be fully compensated for a CO₂ price while higher income households only get partial compensation. This has been the case for the Austrian Klimabonus in 2022. This approach can then be made further regressive by capping compensation to specific income levels or making it taxable from a specific income level onwards. The latter was applied in Austria in 2024.

More targeted approaches can try to take into account specific vulnerabilities, e.g. regarding fossil fuel mobility. This has been the case for the Austrian Klimabonus from 2023 onwards, putting into place a regional differentiation. However, this incomplete targeting approach, not considering the housing sector, was criticized strongly by various organizations and citizens, which felt that it did not adequately reflect real vulnerabilities and would reduce incentives to move towards climate-friendly alternatives to fossil fuels (Österreichischer Städtebund). In the Austrian case, the 2022 version of the Klimabonus, providing the same amount of compensation for each resident was criticized considerably less (BMK 2025), raising the question of model preferability.

Based on these observations we make the following recommendations regarding the targeting of redistribution mechanisms. First, while precise targeting would be the preferred option, in the absence of sufficiently granular data, a non-targeted generic lump sum payment might be the best initial option by default. Indeed, given the expected entry into force of the ETS2, time is running out and partial targeting measures might undermine the legitimacy of redistribution mechanisms, an issue which repeatedly came up in the Austrian case. But even an untargeted mechanism requires a country's administrative capacity to actually identify and pay all eligible residents in a quick and easy manner. It should be an absolute priority for all Member States to put such systems in place, which can also serve more broadly in crisis situations, through distinct instruments, to provide financial support to citizens, as highlighted by the Covid-19 and energy price crises.

Second, in countries where sufficient data is available, we recommend directly providing more targeted support to residents, taking into account key aspects of the housing and mobility sectors. The concrete design should be based on in-depth consultations with key stakeholders to identify potential criticisms and ensure that the applied targeting is considered socially acceptable and fair. For those Member States that lack the necessary comprehensive and cross-matched data on residents, we recommend them to start out with a more general scheme but then move towards a more targeted one in a second step.

I LINK CO₂ PRICE INCENTIVES WITH ACTUAL RESPONSIBILITIES

For CO₂ price systems to be socially acceptable, they need to be designed in a manner that adequately links their decarbonization incentive effects to actual responsibilities for heating and mobility choices. The German system to redistribute CO₂ price costs between landlords and renters (discussed in the country case study above) constitutes an interesting approach to ensure such consistency, as landlords have to bear the majority of CO₂ price costs if they provide housing with fossil fuel heating. As renters cannot decide on a flat's heating system, it would be unfair if they had to fully bear their heating-related CO₂ price costs. EU Member States should thus adopt such regulatory measures accompanying the introduction of ETS2.

To maximize the steering effect of such a measure and minimize unwanted side effects, it is, however, important to address two potential issues. First, landlords might be tempted to simply increase rents to move CO₂ price costs to renters, which would reduce incentives to change heating systems and could have regressive effect on households. This might constitute a risk especially in countries with liberal rent legislation. Second, simply increasing costs for landlords through a participation in CO₂ price costs might not be sufficient to push them towards changes in heating systems. As landlords are typically among the wealthier deciles of the population, they might not feel the necessity to invest in decarbonized heating solutions. Cheap credit lines for such system might, however, be a cost-efficient means to allow landlords to reduce and smooth expenditures across time. In exchange, in countries with liberal rent legislation, such support could be linked to obligations to not have rents increase beyond inflation. In addition, such investment support should be linked to minimum requirements for the reduction of an apartment's energy consumption.

I COMPENSATION SCHEMES AND INVESTMENT SUPPORT

Another key issue is how to best balance redistribution mechanisms that protect vulnerable citizens from rising CO₂ prices with investment support that help citizens move away from fossil fuel heating and mobility towards decarbonized options. Indeed, any type of CO₂ price compensation could, in the long run, be assimilated to a fossil fuel subsidy if it were to only be used to compensate for the price increase

instead of also helping to finance the switch to low-carbon alternatives. It is not necessary to consecrate 100% of ETS2 revenues for redistribution to residents to compensate for CO₂ price costs for large parts of the population due to difference in CO₂ emissions between poor and rich households. There is, thus, significant space to provide investment support, for example by co-financing leasing and purchasing schemes for electric vehicles and heat pumps.

To accelerate the green transition in the housing and mobility sectors, investment support should be frontloaded. Now that the SCF is supposed to enter into force in 2026, two years prior to the start of the ETS2 the initial dotation should fully be dedicated to investment support as no compensation scheme would yet be required to compensate for higher CO₂ costs. Second, investment support during the early years of the ETS2 could be further strengthened by bringing more of the expected revenues forward through a limited public debt instrument (see Agora 2024, EPICO & Frontier Economics 2025, T&E 2025), with repayment being strictly linked to the ETS2. Doing so would also require Member States to quickly and fully transpose the ETS2 into national law given that as of November sixteen countries effectively did so.

In that regard, the proposal mentioned in a letter from the Commissioner Hoekstra released on October 21st assessing the opportunity to set up a Frontloading Facility together with the European Investment Bank goes into the right direction and should be supported, and even enhanced. To even increase the order of magnitude of the frontloading dedicated to investment support, we believe that the EU should consider frontloading ETS1 revenues alongside ETS2 revenues. This proposal is further discussed in a dedicated policy paper (see Nguyen 2025).

I COORDINATED INVESTMENT SUPPORT AS A DEMAND STIMULUS TOOL

The development of a European green industry does not only require measures to increase supply but also to bolster demand. However, uncoordinated national support instruments – often drastically changing support levels from year to year – cannot provide sufficient and consistent investment support for citizens, and thus industry. Cuts and volatility in public support have been a key factor in falling or stagnating sales for key green transition technologies such as heat pumps and electric vehicles in 2024. To illustrate this point, according to the EHPA (2025), heat pump sales dropped by 24% year-on-year across 16 EU Member States. Particularly sharp decreases in heat pump sales happened in Czechia (-64%), Germany (-48%), Estonia (-43%), Belgium (-40%), and Poland (-36%). The importance of supportive government policies was highlighted by Ireland, where heat pump sales grew by 19% in the same year (see Irish Government 2025). Similarly, academic literature (Edlaine Correia Sinézio Martins et al. 2024) has demonstrated that purchase incentive policies are associated with increased registrations of EVs in Europe.

A coordinated use of social climate plans, national ETS revenues and other national funds help to create a more stable demand stimulus for specific sectors and technologies (batteries and electric cars, heat pumps) over the course of the coming years, supporting European industries if set up adequately. This demand stimulus would drive private investment in these areas, allowing for product and process innovation that would make these green technologies more affordable in the medium term.

To increase demand in European green technologies beyond the CO₂ price itself, various financial and regulatory incentive mechanisms should be put in place. National best practice examples from different EU Member States should be listed by the European Commission as they could serve as an inspiration for demand policy-related measures to be rolled out across the Union, e.g. for electric vehicles (Tordoir

et al. 2025). These best practices could be discussed during strategic implementation dialogues that would gather the interested Member States' administrations to facilitate their appropriation at national level.

The Clean Industrial Deal Communication (European Commission 2025) provides for the presentation of a guidance on social leasing for zero-emission vehicles, heat pumps and other clean products in 2025. As these schemes will be eligible in the context of the Social Climate Fund, taking stock of the French social leasing experience on EVs would help facilitate the implementation of such an instrument in other Member States especially since several of them such as Poland have already expressed their interest in replicating the mechanism.

A guiding principle of the French social leasing for EVs that is valid throughout Europe is that as long as the instrument is targeted towards frequent drivers, it allows to circumvent the upfront cost associated to the purchase of an EV by enabling the financing of the leasing through fuel savings. This effectively helps overcome one of the main entry barriers to EV purchasing. In France, it has been estimated that an EV allows for annual savings amounting to €1,600 compared to internal combustion cars or plug-in hybrids (Charge France 2025). We thus recommend calculating and communicating the economic gains provided by social leasing mechanisms over the duration of the leasing, especially within the framework of the proposed platform (see above) to increase visibility.

While effective, the French social leasing mechanism for EVs remains a costly instrument (€370m for 50,000 cars in France) at risk of being cancelled in case of budgetary constraints, especially if not financed through a dedicated scheme. In that regard, the Social Climate Fund could help Member States ensure the sustainability of the scheme overtime, at least until 2032. Overall, the establishment of social leasing would help stimulate the uptake of EVs at EU level. Moreover, this scheme should not benefit foreign car manufacturers but Europeans ones instead. Therefore, similarly to France, we recommend that Member States replicate the environmental score logic by establishing strict criterion to favour the origin of production (at EU level) coupled with others such as weight thresholds to foster the development of light vehicles and reduce dependency to critical materials being refined abroad. Having visibility over such a timeframe could encourage manufacturers to commercialize a lighter and European produced electric vehicle on the market, giving substance to the "E-car" concept mentioned by President von der Leyen in the 2025 [State of the Union speech](#).

More generally, as the EU is leaning increasingly towards the concept of European preference, we recommend that the technologies eligible for investment under the SCF (EVs, heat pumps, etc.) must all contain an EU production criterion. As for the use of the rest of the carbon revenues (outside of the SCF scope) we recommend the disclosure of the origin of the technology and have the European Commission issue guidelines on how to favour the use of the ETS2 revenues for EU cleantech during the second iteration of the Social Climate Plans in 2029.

Bringing all these elements together would considerably help improve the social acceptability of the ETS2, create more support from industry, and make it less vulnerable to dismantling as the carbon pricing system remains a crucial tool to meet the 2030 climate targets. However, broader changes (for instance to avoid the occurrence of too many price spikes due to excessive volatility) to the ETS2 will be required to ensure that it will survive the political battles expected for the upcoming months.

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Penser l'Europe • Thinking Europe • Europa Denken
17 rue d'Antin, 75002 Paris, France
www.delorsinstitute.eu • info@delorsinstitute.eu



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