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The impact of the new EU Emissions Trading System on households

How can the Social Climate Fund support a just transition?

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Key messages

- **Greenhouse gas emissions must be reduced in the transport and residential sectors to meet an EU target of a 55% reduction by 2030 from 2005 levels on a path to carbon neutrality by 2050. Across the EU and in Sweden, domestic transport is a consistently high-emitting sector that existing measures have struggled to change.**

- **The European Commission's proposed new ETS for fuels for road transport and buildings (ETS2), together with a deepening of the existing ETS that already applies to electricity, is expected to have strong regressive distributional impacts if not accompanied by policies to mitigate effects on European households.**

- **Not every individual or household has the same capacity to reduce their carbon footprint. It is not only a matter of willingness to modify consumption habits; there are structural factors at play shaped mainly by income inequality, but also population density and non-income factors like car ownership, age, and education.**

- **A Social Climate Fund proposed by the European Commission has potential to reduce distributional impacts, but a broader approach is necessary to address underlying causes of carbon-intensive consumption and to contribute to a just transition that includes the most vulnerable groups in society.**

- **A shift towards including the full cost of carbon in household energy bills is a necessary step if the EU is to meet its climate goals. With energy security, high fuel prices, and various supporting mechanisms at the forefront of discussions, EU policy design must ensure that the transition away from fossil fuels is inclusive and fair.**

- **An effective policy response to reduce carbon footprints in a fair way should go beyond income support to include complementary measures to provide vulnerable households with viable alternatives to fossil-fuel intensive energy.**

1. Introduction

Domestic transport and the residential and commercial buildings sector accounted respectively for 23% and 12% of greenhouse gas emissions in the EU in 2019. Transport emissions increased steadily between 2013 and 2019, while emissions declined in all other sectors, including buildings, for which emissions have decreased by 28% compared to 1990 levels. This trend for transport is diverging significantly from all other sectors in the EU and poses a risk to achieving the target of reducing greenhouse gas emissions from transport (including international aviation but excluding international shipping) by 2050 to 60% below 1990 levels (EEA, 2022).

In Sweden, an EU Member State focused on in this paper, the transport sector has the highest share of greenhouse emissions, consistently comprising around 30% of the national total over the period 2005–2020 (Statistics Sweden, 2021). While the carbon intensity of Sweden's economy is the lowest in the EU and is decreasing faster than the EU average, the transport sector's emissions remain among the most difficult to address (Simões, 2021).

Emissions from road transport and buildings are being targeted in new policy proposals by the European Commission to reach net-zero greenhouse gas emissions by 2050 and to reduce emissions by 55% by 2030 compared to 1990 levels (European Commission, 2021c). The Fit for 55 policy package aims to bring EU policy instruments into line with the 55% emissions reduction target. For the first time, these proposals include carbon pricing measures for the fuels used in road transport and buildings, adding to existing carbon pricing already in place for electricity and district heating. With energy security, high fuel prices, and various supporting mechanisms at the forefront of discussions (European Commission, 2021a) the stakes are high to design policies that ensure a transition away from fossil fuels that is inclusive and fair. This is important not only for moral reasons, but also political and practical ones, because perceived fairness is a key factor determining public acceptance of climate policy (Bergquist et al., 2022).

To address the social implications of the new ETS for road transport and buildings (ETS2), the EU Commission has proposed a Social Climate Fund of EUR 72 billion over eight years (2025-2032). The fund offers EU Member States additional resources to provide income support to the most vulnerable households and implement measures to reduce emissions in road transport and buildings sectors.

In this paper, we first describe how the EU is planning to reduce greenhouse gas emissions from road transport and buildings. Secondly, we discuss which groups in society are likely to be affected the most by the measures envisioned, building on the example of Sweden. We then discuss whether price signals alone drive a reduction in greenhouse gas footprints and how the proposed Social Climate Fund can contribute to a just transition for households across the EU. The conclusion presents policy recommendations.

BOX 1: CARBON PRICING IN SWEDEN

Sweden is among the few EU Member States where carbon pricing, in the form of carbon taxes, is already well-established in the sectors under discussion for the ETS2. Among the seven member states that currently have a national carbon pricing scheme, Sweden had the highest carbon price in 2020, at EUR 115 per tCO2 (Naturvårdsverket, 2021). The probability that the ETS2 will replace the national carbon tax is low, since introducing the ETS2 for transport and buildings would not directly mean that the Swedish climate targets would be achieved, even if the overall EU targets are achieved and the system is cost effective at the EU level (Naturvårdsverket, 2022).

The Swedish Environmental Protection Agency has investigated the impacts of increased carbon pricing for the transport sector and suggests that a national trading scheme in combination with the EU ETS2 could be a way to achieve the targets. This would be double taxation, however, which would make it difficult to implement (Naturvårdsverket, 2022). Regardless of how the country chooses to steer carbon pricing in the future, this paper focuses on households' consumption patterns, which could be seen as indicative of trends in other member states.

2. How is the EU proposing to address emissions from road transport and buildings?

Among the Fit for 55 policy proposals is a strengthening of the EU Emissions Trading System (ETS) and the introduction of a new ETS to drive emissions reductions in the road transport and buildings sectors. The prices paid by EU households to suppliers of gas for heating and cooking and fuel for vehicles will depend on their carbon content. The prices for electricity and district heating, which are already covered by the ETS, will also be subject to an increased carbon price as emissions allowances for electricity and heat producers are reduced under the proposed ETS revision. This development implies a movement of the ETS further downstream with wider and more tangible effects on households. In addition to the direct price effects of fuels for heating and transport, there are likely also to be indirect effects on the prices of consumer goods, including food, due to increased freight costs or increased wages, for example.

This is the reason the ETS and the Fit for 55 package need to be examined from a consumption-oriented perspective – because these policies directly affect household consumption.

BOX 2: WHAT IS THE EU ETS AND HOW WILL IT BE FIT FOR 55?

Established in 2005, the EU ETS is the world's first and largest carbon market. It operates across the EU and European Economic Area and works by setting a cap on the total amount of greenhouse gas emissions that can be emitted and reducing that cap over time so that emissions fall. The cap-and-trade system is based on emissions allowances that can be bought or sold by regulated entities to meet their mandated reductions. This allows the market to determine how and where it is cheapest to invest in cutting emissions.

The sectors covered by the existing EU ETS include power and heat generation, energy-intensive industrial sectors, and aviation within Europe. These account for around 41% of the EU's greenhouse gas emissions.

Proposals under the Commission's Fit for 55 package include extending the existing ETS to cover the maritime sector and reducing the cap at a faster pace. This would result in a 61% reduction in greenhouse gas emissions in EU ETS sectors by 2030, compared to 2005 levels, which is an increase of 18 percentage points on the current 43% reduction by 2030.

The Commission also proposes a new, separate, ETS to cover the emissions from fuels used in road transport and buildings. An emissions cap in the new ETS will be reduced annually to yield emissions reductions of 43% in 2030 compared to 2005 levels. Fuel suppliers to road transport and buildings, rather than car drivers and households, will be the regulated entities responsible for reporting and trading emissions allowances depending on the carbon intensity of fuels. The carbon price generated in the new ETS will affect the costs households and drivers pay for their fuels in the same way as is already the case for the electricity they buy under the existing ETS (assuming full pass-through of the carbon price to consumers). While it is one of the ultimate goals of the Fit for 55 package to apply the new ETS to private buildings and transport, the timing and conditions for doing so is a subject of debate within the EU legislative process.

3. Which households stand to lose most from decarbonizing buildings and road transport?

SEI research has been exploring how the transition to a fossil fuel-free society can impact different groups in society in Sweden, and who is most at risk from losing in the low-carbon transition. The approach combines sociodemographic profiling for calculating carbon footprints (and in this way consumption patterns) with geographical characteristics that affect accessibility to health, services, and education, and a review of the literature about the socio-economic impacts of climate, transport and food policy on different groups in society (Dawkins et al., forthcoming).

Different consumption patterns across households will determine the impacts of decarbonization policies. Recent research investigating household energy consumption in the EU showed that there are significant variations vertically (by income) and horizontally (by socio-economic characteristics), both between and within member states. For instance, the average energy expenditure of households in the EU varies between around 4% in Malta to almost 14% in Poland. With regards to horizontal variations, urban households tend to have lower energy expenditure shares than rural ones, while vertical variations in energy expenditures lead to energy expenditure representing "a significantly larger share of total expenditure of lower-income compared to higher-income households" (Gore, 2022).

In addition, not every household has the same capacity to adjust to the changes implied by decarbonization policies. Beyond individual values and willingness to modify consumption habits,

there are structural factors that influence households' consumption habits – and therefore their carbon footprint – such as socio-economic status and access to services (Ivanova et al. 2017; Sovacool et al. 2018) (See Box 3).

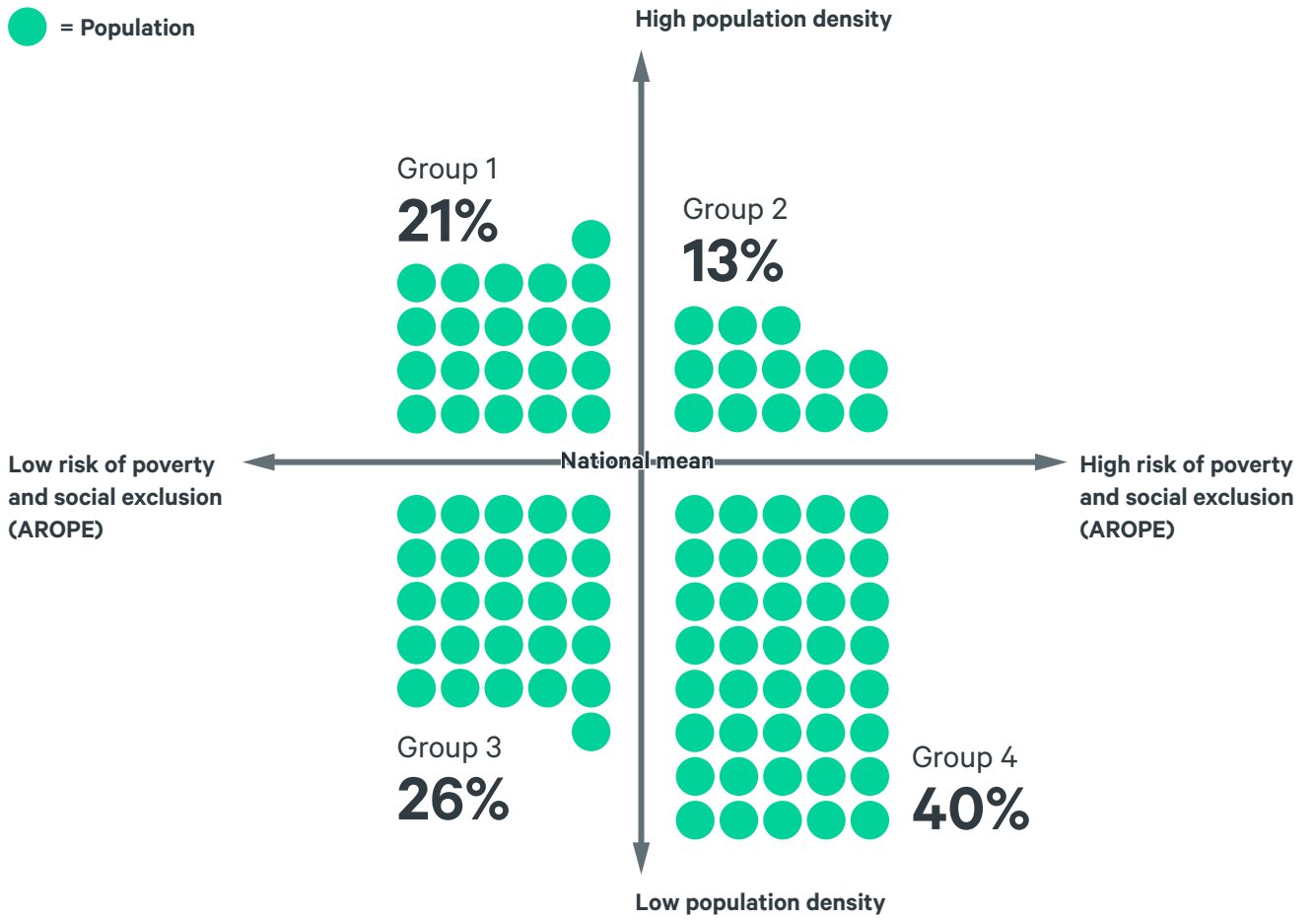
BOX 3: HOW DO CARBON FOOTPRINTS VARY BETWEEN GROUPS IN SOCIETY?

Research shows that there are large disparities between the highest and lowest carbon footprints, between and within countries. These inequalities are widening – with much of the growth in carbon footprint over the past two decades from the richest 10% of the global population (Kartha et al. 2020). Recent studies at the local scale found that average regional carbon footprints range between 5.5 and 16.8 tonnes CO_2e per capita in the EU (Ivanova et al., 2017), and between 8 and 20 tonnes CO_2e per person per year in Australian cities (Froemelt et al., 2021). In Sweden, new analysis at the postcode level shows an average range of 5 to 8 tonnes CO_2e per capita, with some postcode areas reporting carbon footprints of 3 tonnes CO_2e per person per year and others nearly 20 tonnes (preliminary data from SEI 2019). Carbon footprints instead need to be less than 1 tonne CO_2e per person per year by 2050 to be in line with climate goals of limiting warming to 1.5°C (Akenji et al., 2019). In order to align with the 1.5°C climate target, global average footprints per capita need to be 2.3 tonnes by 2030 (Gore, 2021).

High footprints are driven predominantly by incomes, but also population density, and other factors like car ownership, gender, age, and education. From a recent Swedish study (SEI, 2019b) we also see certain consumption items have high variation – emissions from car use (from 0.8 tonnes per capita up to 1.8 tonnes per capita) and air travel (from 0.7 tonnes per capita up to 1.6 tonnes) for example. Residential heating footprints also show variation from 0.2 tonnes per capita to 0.4 for district heating, and 0.1 tonnes per capita to 0.7 tonnes for house heating. Only a minority of consumer groups show very high emissions, while the majority of consumer groups are situated at the lower end of the distribution.

By mapping the size of greenhouse gas footprints, against population density and levels of risk from poverty and social exclusion, we can identify which groups in society are more (or less) at risk of losing out from decarbonization policy. People living in areas with low population density and that are at risk of poverty and social exclusion face more challenges in moving away from fossil fuels than the rest of the population. There are two main reasons for this. First, they typically rely more on car transport: in Sweden, people that live in areas with low population density have a higher footprint for car transport because of the need to travel further and a lack of alternatives (SEI, 2019b). Second, they have less capacity to afford the potential cost of decarbonization policy on everyday consumption items, including transport, heating, and food. This group makes up about 40% of the population (see Group 4 in Figure 1). This situation is not unique to Sweden: rural households in the lower income deciles across the EU are expected to be the worst impacted by the Energy Taxation Directive reform and the ETS2 (Gore 2022).

Figure 1: Illustrative distribution of the sociodemographic groups in relation to mean population density and mean risk of poverty and social exclusion (AROPE).



Source: SEI analysis of data from Insight One and Statistics Sweden

3.1 Potential effects of the low-carbon transition on wealth and access to services

The newly proposed low-carbon policies for the transport and residential sectors risk affecting households both from a wealth and access perspective. For instance, in Sweden, households in areas with low population density and a high share of the population at risk of poverty and social exclusion (Group 4 in Figure 1 above) are on average three times further from healthcare facilities than those in areas with a high population density. They also have a relatively high share of car-related emissions, as well as the largest share of people over 65 years old compared with areas with a high population density or a low share of population at risk of poverty or social exclusion. Potential fuel price increases might thus pose a risk to the quality and frequency of these households' access to essential services like healthcare.

This type of household is particularly at risk of losing out from transport-related decarbonization policies. However, households in areas with high population density and a high proportion of the population at risk of poverty and social exclusion (Group 2 in Figure 1) are also at considerable risk, given their limited capacity to cope with the expected increased costs of carbon-intensive goods and services. When considering the impacts of transport decarbonization policy on wealth and access to services, students, low-income singles in city peripheries, and older and retired couples in rural areas are particularly at risk of losing out from the transition in Sweden (Dawkins et al., forthcoming).

Energy poverty has been less of an issue in Sweden than in other European countries, thanks to high thermal insulation standards, robust social support policies and the inclusion of heating as a fixed cost within the rent in multifamily housing (von Platten, 2021). Only 2.3% of the population was unable to keep their home warm in 2018, compared with the EU average of 7.3% (EPOV, 2020). In this respect, building renovations will provide limited welfare benefits, and may even put at risk lower-income households in multifamily dwellings because of increased rents (von Platten et al., 2021).

Without any support mechanism, the new EU-proposed decarbonization policies may be regressive, but it is important to note that associated positive impacts from climate action are highly progressive. Indeed, these groups are likely to be among the worst impacted by climate change (Breil et al., 2018; Castaño-Rosa et al., 2022), and action to avert worsening climate impacts could mean they have a lot to gain. Low-carbon transition in the residential and transport sectors will also deliver air quality and health benefits, which is likely to benefit urban lower-income dwellers the most, because air and noise pollution are more present in areas with a higher population density and lower-income inhabitants tend to be more exposed to it (EEA, 2018).

3.2 The need for targeted support to affected households

From a social equity perspective, policies and measures that effectively direct support to most vulnerable households are thus necessary to avoid worsening social inequalities. SEI research shows that, in Sweden, the population most at risk of losing from the transition has a relatively low level of emissions per capita, compared with the rest of the Swedish population. But because of the size of this population, it represents a high share of total emissions (Dawkins et al., forthcoming). This indicates that support to the groups most at risk of losing from the transition can also help to enhance the environmental effectiveness of decarbonization policies and support progress in reducing aggregate greenhouse gas emissions.

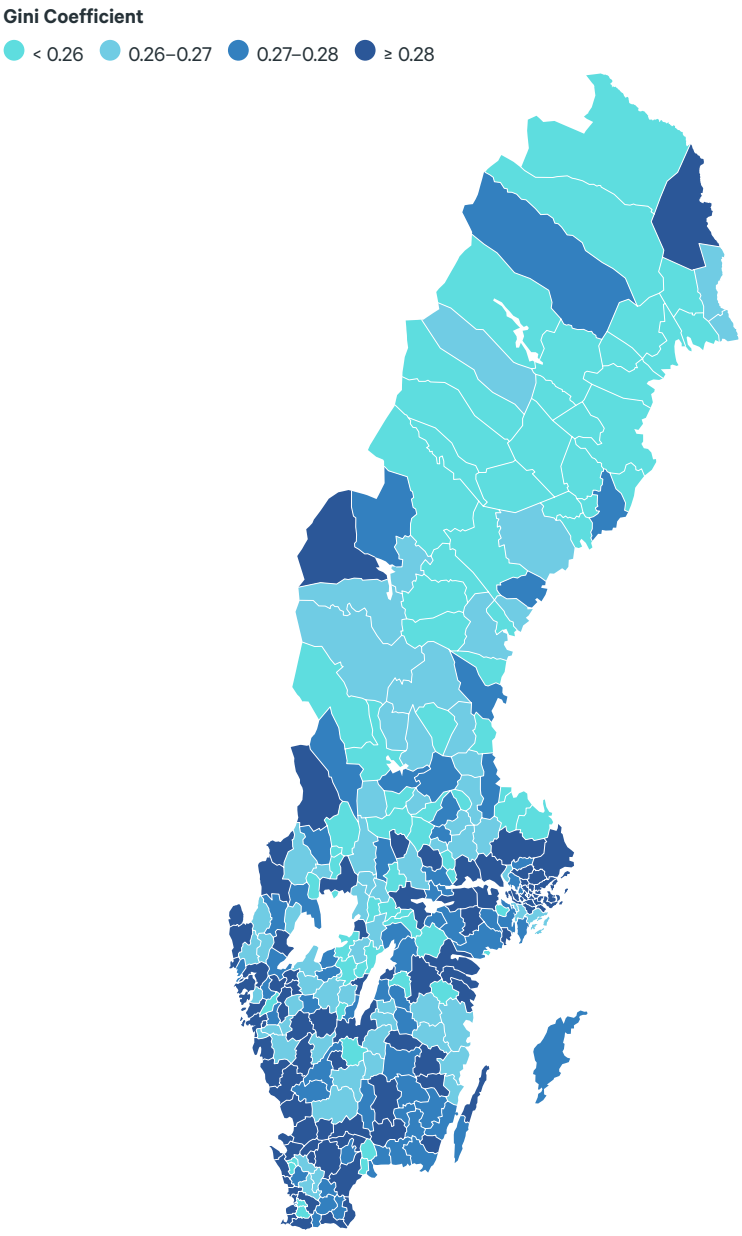
The Swedish example also shows that municipalities with a large share of the population at risk of poverty and social exclusion and a low population density will find it more difficult position to navigate the transition. Nevertheless, there can be large variations in households' socio-economic circumstances within a single municipality, for example in Malmö and Stockholm, which calls for targeted policy support rather than a blanket approach for whole municipalities. The Gini coefficient measures the statistical dispersion of wealth in a social group and is a useful indicator for income inequalities. Figure 2 shows the Gini coefficients of Swedish municipalities, where Gini coefficients indicating higher income inequality can be seen for the larger urban centres in central and Southern Sweden, including Malmö and Stockholm, while the North shows lower values of the coefficient.

4. Can price signals alone drive a reduction in carbon footprints?

The price signals set by a proposed new ETS would be most effective if developed alongside support measures for making fossil-free transport technologies and infrastructure broadly cost-competitive. It is thus crucial to prepare for ways people can adapt their consumption patterns in response to carbon pricing by including, for example, measures to facilitate emissions tracking and pattern analysis, digitalize energy use, upgrade or provide new infrastructure, and prepare for extensive capacity building among households and businesses.

A deeper knowledge on transportation patterns – which is currently lacking – would help to understand which measures could be taken to reduce demand for transport before proceeding to decarbonize it. In this context, it is important to harness the benefits of digitalization and connectivity to better understand transport patterns and then adjust energy and climate

Figure 2. Gini coefficient for Swedish municipalities. Source: (SEI, 2019b).



Source: (SEI, 2019b).

models to reflect emerging mobility trends with a focus on sustainability and well-being. Understanding transport better means that assumptions and data will be more robust, allowing for the price signals from the new ETS to have their intended effect on consumption while also reducing undue effects on the most vulnerable groups. Similar approaches could be applied in the building sector, where digitalization and "smart-readiness" levels vary between member states (BPIE, 2017).

It should be a high priority to introduce measures that promote digitalization, standardization, and interoperability of – especially fossil-free – transport solutions. Furthermore, a lack of data could compromise the design and calibration of allowances for auctioning that will lead the market to an appropriate carbon price for the new ETS and generate revenue for the Social Climate Fund. If the design of the new ETS is flawed, it could lead to extended planning cycles and delays,

which cannot be afforded at this stage where decarbonization initiatives in transport need to be scaled up fast and decisively. The original ETS experienced structural inefficiencies for several years (European Court of Auditors, 2020), and lessons should be learned from this to avoid delays in the new ETS.

Moreover, carbon pricing alone, while conceptually appealing, is often very challenging to put into practice (Rosenbloom et al., 2020). And transitioning to lower carbon transport systems requires not only technological changes but also social, cultural, material and economic change (Welch & Southerton, 2019). While pricing might incentivize incremental change, it might not challenge or transform all elements of the system to the extent needed to reach ambitious climate goals, or help tackle cultural, institutional, infrastructural, political or financial lock-ins that can be barriers to that transition (Vergragt et al., 2014).

The transformation of the heating sector in Sweden offers some interesting lessons. The latest EU statistics show that, Sweden has the lowest emissions per capita for heating in Europe, at 31 kg/capita, whereas the EU has an average of 696 kg/capita (Eurostat, 2021). Sweden is also the EU country with the largest share of renewable energy used for heating and cooling (66% compared with 23% at EU level) (Eurostat, 2020). In addition to the nature of the residential building stock, for which district heating prevails and thus enables pooled heating networks, a combination of policy measures enabled these remarkable results: both market mechanisms, such as carbon and energy taxes, as well as tradable green certificates, and other incentives, such as building code provisions and energy performance standards contributed to a substantial uptake of renewable energies (including biomass and heat pumps) and energy efficiency improvements in the residential sector (Nykvist & Dzebo, 2017). However, further emissions cuts are needed, and there are areas to improve on. For instance, household in Sweden keep a relatively high average temperature compared with other European countries. So, while the Swedish example illustrates how a broad approach that combines market mechanisms with other types of incentives and investments can help deliver rapid and significant technological change and lower emissions, it also highlights the need to work on the demand-side simultaneously.

Expanding the EU ETS is an important step to encourage a more rapid reduction of residential and transport emissions. However, climate mitigation needs to "move beyond market failure reasoning" and put more attention on transforming existing socio-technical systems (Rosenbloom et al. 2020, p. 8864).

5. The Social Climate Fund's contribution to a just transition for households

Together, the new ETS on road transport and the Social Climate Fund constitute a redistribution mechanism intended to stimulate climate action and at the same time compensate vulnerable households for the associated increased costs. The Social Climate Fund will be entirely funded by the EU ETS2. A quarter of the new mechanism's revenues will be dedicated to the Fund, a small portion will be allocated to the Innovation Fund (2.5%), and the rest will be distributed to member states, based on a combination of indicators which reflect average greenhouse gas emissions from 2016 to 2018, Gross National Income per capita, and energy and transport poverty.

To access the Social Climate Fund, member states will be required to submit Social Climate Plans alongside their national energy and climate plans. The plans must be at least 50% financed by member states, including from national revenues from the ETS on road transport and buildings. The plans can include:

"... temporary income support and measures and investments intended to reduce in the medium to long term the reliance on fossil fuels through increased energy efficiency of buildings,

decarbonization of heating and cooling of buildings, including the integration of energy from renewable sources, and granting improved access to zero- and low-emission mobility and transport" (European Commission, 2021b).

The Social Climate Fund proposal puts a strong emphasis on Social Climate Plans supporting first and foremost vulnerable households and businesses (European Commission, 2021b). This is important, because measures and investments aiming to reduce reliance on fossil fuels in the transport and residential sectors may not benefit vulnerable households. For example, different priorities may guide public transport improvements, such as increased frequency, expanded geographical reach, reduced price, or increased speed, which ultimately benefit different groups in society (Bureau & Glachant, 2011). Given that knowledge about distributional impacts of transport policy is limited, monitoring the effects of Social Climate Plans' on vulnerable groups is crucial to achieving the Social Climate Fund's main objective.

The fact that the Social Climate Fund can be used partly for direct income support brings a social dimension to the EU that has historically been limited mainly to member states. This is a key step in recognizing the distribution of benefits and costs of the low-carbon transition between and within EU countries and the associated implications for the political feasibility and speed of the transition. Nevertheless, its contribution to a just transition has some limitations, including the extent, focus and scope of support, as well as public perceptions of fairness.

Below we describe some challenges of the Social Climate Fund when it comes to addressing vulnerable households and the just transition.

5.1 Extent and focus of support

One challenge is that it is unclear whether the level of income support would be sufficient. The question has been investigated in a previous study showing that Social Climate Fund support per member state and per capita does not exceed EUR 400 for member states in the East and South, while for countries like Sweden this amount will not exceed EUR 100 per capita (Bellona, 2021). The Social Climate Fund alone (representing 25% of the revenues from the EU ETS2) would enable positive welfare benefits to the 10% of poorest households EU-wide, and for the poorest 30–50% in most member states in Central and Eastern Europe (Gore, 2022). If member states recycled all revenue collected from ETS2 to support the poorest half of households, those households would receive net positive welfare benefits across all EU countries. In practice, whether this will be enough "to support low-income households and avoid social hardship depends on how one defines a low-income household" (Held et al., 2022).

Moreover, energy and transport policies are deeply rooted in a broader landscape of socio-economic inequalities (Gates et al., 2019; Jessel et al., 2019), while in Europe "disparities in income, wealth, educational achievement, health status, nutrition, living conditions, occupations, social identity and participation in society have kept widening between and within countries" (Parliamentary Assembly 2021, p. 1). In this sense, Social Climate Plans must be accompanied by other policy efforts to address social inequalities in order to prevent energy and transport poverty.

5.2 Scope of support

To ease the financial burdens of transition in the transport and building sectors on the most vulnerable households, and to facilitate a societal shift to low-carbon alternatives in these sectors, the Social Climate Fund focuses on two types of transitional assistance (see Green and Gambhir, 2020). These are direct compensation and structural adjustment assistance through eligible investments in buildings and transport. These types of assistance are necessary, but not sufficient for a just transition.

Moreover, the economic transformation implied by decarbonizing these sectors (and others) will also affect employment. Accordingly, large-scale investments in reskilling and upskilling will be needed to prepare the labour force for change (D'Aprile et al., 2020). Transition in the transport and building sectors can also have health, social and psychological impacts. It could, for example, affect social and family networks, attachments to places and traditions, and mental health, among others. Therefore, a just transition requires comprehensive adaptive support; that is, a combination of adaptive financial measures and structural adjustment assistance combined with measures to adapt to non-financial impacts, such as community-level public investment in economic and non-economic infrastructure (Green & Gambhir, 2019). The EU has other programmes and funds that can be mobilized by member states to address a range of transition impacts on households, such as the European Skills Agenda, the Recovery and Resilience Facility, the European Social Fund+, and the European Regional Development Fund. These EU programmes and funds, combined with complementary measures by member states, are crucial to the success of transitional assistance. From a just transition perspective, it is important that these funds are used in ways that ensure they benefit those most vulnerable to the impacts of decarbonization and contribute to reducing existing social inequalities.

At the same time, subnational institutions also play a key role, because residential and transport planning is often conducted at this level of governance. In Sweden, for example, urban and transport planning is carried out at the local level by municipalities (Riksdaget, 2010). This is also the level where there tends to be more societal participation, which is an important component of just transitions (Atteridge & Strambo, 2020). The crucial role of actors at a subnational level has been highlighted in past cases of industrial transitions in carbon-intensive regions, where local leadership and capacities have been key in designing and implementing relatively successful transition responses (Atteridge & Strambo, 2021).

It is therefore essential to strengthen capacity at subnational level for designing, implementing, and monitoring measures that both reduce greenhouse gas emissions and social inequality. This goes beyond financial resources and includes the "capacity to steer long-term, participatory, cooperative processes that empower diverse local actors to recombine their existing knowledge, skills and competences in new ways" (Green and Gambhir, p. 914).

5.3 Public perceptions of fairness

Public perception of fairness is the third challenge to the effectiveness of the Social Climate Fund in supporting a just transition. A just transition is a transition where its costs and benefits are distributed fairly across society. The concept of fairness is substantially subjective (d'Hombres, Neher, et al., 2020), and research has shown that perceptions of fairness are tied more strongly to individuals' beliefs about income inequality than with its actual level (Niehues, 2014). And because these beliefs are influenced by a wide range of factors, such as personal values and preferences (d'Hombres, Neher, et al., 2020), the existence of a compensation mechanism by itself does not guarantee that the public will view climate policy as fair or lend it their support. For example, a study analysing the climate rebate programs of Switzerland and Canada showed that public perceptions of such climate policy instruments are based more on partisan values than informed assessment of economic interest (Mildenberger et al., 2022).

Research also shows that fairness perceptions of the process itself (rather than only its outcome) are likely to influence the political acceptability and sustainability of transition policies (Maestre-Andrés et al., 2019). So, when elaborating new decarbonization and transitional assistance policies, it is crucial to identify, empower, and involve those most at risk from losing out. It is also important to prioritize measures that people can easily relate to and which benefit them directly (as opposed to a focus on abstract emissions reductions, for example) and to communicate clearly and often about redistributive policies and low-carbon policy co-benefits. Smart, clear, and concrete communication can also help to combat harmful populist narratives and mis- or disinformation.

Conclusion

A shift towards including the full cost of carbon in energy prices paid by households is a necessary step if the EU is to meet its climate goals. Effective policies to reduce carbon footprints should also include complementary measures to provide viable low-carbon alternatives for consumers, particularly those vulnerable to price increases or who face access challenges in rural and remote areas. Without complementary measures that address the structural drivers of inequality, the low-carbon transition could ultimately worsen social inequalities. One way to identify those who are most at risk of losing out is to analyse the required scope of change in their household consumption patterns (accounting for greenhouse gas footprints and mitigation policies) together with their capacity to change (accounting for population density and population at risk of poverty and social exclusion).

Municipalities with a low population density and a high percentage of people at risk of poverty and social exclusion face bigger challenges. However, because footprints and socio-economic conditions can vary greatly within a given area, it is also necessary that municipalities carry out a more detailed assessment of how the required scope of change and capacity to change is distributed within their jurisdiction.

The proposed EU Social Climate Fund is an important step in providing support, through direct compensation and structural adjustment assistance, to those most at risk of losing from the transition. While compensation can help alleviate energy and mobility poverty, it is largely palliative. So, deliberate investment in infrastructure and measures that empower the most vulnerable households to choose alternatives to fossil-fuel intensive energy is key to reducing the need for compensation over time. A just transition for European households also requires addressing the structural causes of social inequality, empowering and involving vulnerable households, and recognizing a wider range of losses, including non-economic ones. Improved data collection and analytical tools for understanding sociodemographic variations are an important component of this approach.

The EU provides a range of mechanisms and funds to support member states and regions in designing and financing just transition measures. National and regional governments should make the most of these instruments to support and complement their own transitional assistance policies. Because subnational authorities have a central role in planning and implementing transitional assistance measures, it is vital to strengthen their institutional capacities, including through horizontal learning platforms and innovative planning tools, as a key step toward a just transition for households across Europe.

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