

Strategies for governing fair low-carbon transport transitions in Sweden and beyond

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HIGHWAY TRAFFIC IN CITY OF
STOCKHOLM

Key messages

- **Income levels, place of residence, and access to alternatives to cars affect how people will experience the low-carbon transport transition. Older and young people living in low-density areas in particular have equity and fairness concerns about the transition.**
- **As much as 40% of Sweden's population could be at a relatively high risk of being adversely affected by transition plans if they do not receive supportive complementary measures to ensure a just transition.**
- **Policy for transitions to a low-carbon society need to be tailored to different groups in society to better take into consideration differences in climate footprints and the ability of different groups to cope, according to socioeconomic and geographic factors.**
- **Solutions are available today to support those that would be negatively affected by the transition and would have a harder time adjusting.**

Sweden's goal to become fossil-free and reach net-zero emissions by 2045 calls for a deep reconfiguration in multiple sectors of its economy. It also challenges current consumption patterns, potentially disrupting the fundamentals of daily life such as food and transport. The effects of these changes will inevitably vary within societies depending on factors like age, gender, income and place of residence. Effects will also depend on whether mitigating measures are implemented.

If the transition away from fossil fuels threatens to exacerbate inequalities, it could be perceived as unjust, become politicized, and deepen social divisions. Fairness considerations have thus become central in climate policy debates in Sweden and Europe more broadly. Stakeholders have highlighted how social equity and fairness can support more ambitious climate action. At the same time, others have noted that fairness considerations have been used as a rationale for delaying action (Euronews Green, 2023).

To address fairness concerns, policymakers have been developing just transition measures. At the EU level, concerns about the implications for vulnerable groups of the extension of emissions trading to buildings and road transport led to the establishment of the Social Climate Fund. This will provide Member States with funding to support households in energy and transport poverty as a mechanism to work towards a just transition (Strambo et al., 2022). In Sweden, the Swedish Climate Policy Council has



emphasized the importance of designing climate policy in a fair way to improve its social acceptance. It has also highlighted the lack of analysis on climate policy impacts on different groups in society, and recommended the government develop its own approach to just transitions and concrete policies to achieve it (Klimatpolitiska rådet, 2024).

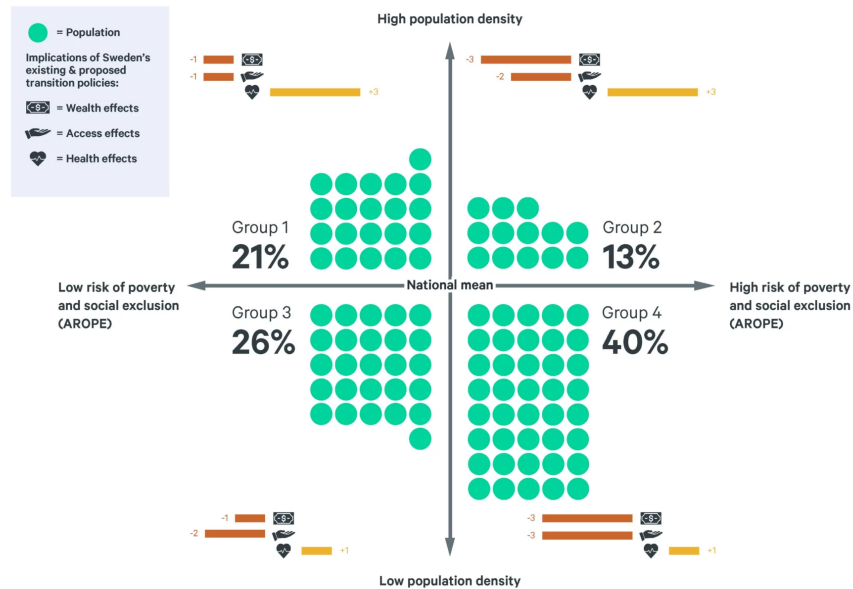
Within this context, this brief presents key findings and policy recommendations from the research project “Governing a fair transition to a fossil-free welfare society”, which investigated how Sweden can govern the transition to a fossil-free welfare society. Using mixed methods, the project first identified who is most at risk of losing from the low-carbon transition in the food and transport sectors, and why. It then investigated what equity considerations are raised by individuals likely to struggle to cope with the transition in the transport sector, and developed a framework to guide policy design to offset the risks and support a fair transition in said sector.

Who is most at risk of losing from the low-carbon transition and why?

We first explored the implications – in terms of wealth, access and health – of food and transport transition policies on households in Sweden, based on their consumption levels and patterns and factors that might impact their capacity to cope with the changes required by these policies (Dawkins et al., 2023). Our research shows that households living in areas with low population density and at risk of poverty and social exclusion are more likely to suffer from negative wealth and access effects. This is because this group of households depends heavily on cars and is less able to cope with the increased cost of using carbon-intensive goods, such as fossil fuel-powered cars or animal-based foods, that transition policies are anticipated to entail. At the same time, they typically face long distances to public services, with restricted public transport options to reach important services such as health, retail and education. Moreover, they will experience less of the health benefits from reduced air and noise pollution, compared to groups with higher population density. Without additional complementary support measures, these households will bear the brunt of negative effects of transitions while gaining few of the positive effects.

Figure 1 illustrates the distribution of risks of losing out from the low-carbon transition, organized according to population density and share of the population at risk of poverty or social exclusion.¹ We calculated the carbon footprint of different Swedish lifestyle types and combined this with data on inequalities, local circumstances and anticipated policy effects. This analysis shows that, at the aggregate level, the group most at risk of losing in the transition (Group 4) includes about 40% of Sweden’s population. This group represents the highest proportion of total greenhouse gas emissions, while at the same time having the lowest footprint per capita. Its composition is characterized by a significant share of older and retired individuals, but also some young singles, low-income students and young to middle-aged families.

Figure 1: Illustrative distribution of the sociodemographic groups in relation to mean population density and mean risk of poverty and social exclusion (AROPE), with transition effects on wealth, access, and health. Values for wealth, access, and health effects were assessed qualitatively on a scale from -3 (strongly negative) to +3 (strongly positive).



Source: Dawkins et al. (2023)

Households in denser areas with relatively high risk of poverty and social exclusion (Group 2) also encounter significant risks of negative wealth effects due to their limited capacity to manage the anticipated rise in the price of carbon-intensive goods. This group also faces the risk of negative access effects due to limited mobility options in low-income neighbourhoods on the periphery of cities. However, they are expected to reap greater health benefits from the transition, as areas with higher population density tend to have higher levels of air and noise pollution, and research indicates that lower-income residents tend to be more exposed (EEA, 2018).

Overall, our research indicates that efforts to transition to a low-carbon society need to be tailor-made to different segments of the population. This requires policy and planning to better take into consideration differences in climate footprints, socio-economic and geographic circumstances, as well as the ability of different groups in society to shift their food and transport habits and cope with the broader implications of transition policy.

What fairness concerns arise among those that are especially vulnerable?

We conducted fifteen interviews during the summer of 2022 to explore perceptions of fairness in relation to the low-carbon transport transition policies identified in Dawkins et al. (2023). These interviews targeted retired individuals living in medium-sized cities, small towns or rural areas, as well as young singles and low-income students in the

vicinity of large and medium-sized cities. The interviewees' main fairness considerations centred around three key areas: a) income; b) place of residence and access to alternatives to cars; and c) the pace of the transition.

1. Income

Transport decarbonization policies are likely to lead to increased costs of car use (Dawkins et al., 2023). Many interviewees found these policies unfair as low-income households would be obliged to use cars less, while high-income households could cope with the increasing costs and not need to change their driving behaviours to reduce emissions. Retired interviewees further perceived themselves to be at risk of reduced quality of life, social exclusion, and diminished independence if car journeys were to be rationed due to costs.

2. Place of residence and access to alternatives to cars

The interviewees recognized that not all locations have the same access to public transport, with only cities providing sufficient access. They believed that this disparity would lead to greater car dependency in rural communities and make the transition unfair to those dependent on cars with insufficient public transport alternatives, as the cost of car use would likely increase. As with access to public transport, retired interviewees highlighted the uneven availability of charging infrastructure, which particularly favours house owners. Furthermore, they saw their own group as disadvantaged by low-carbon transition policies because public or non-motorized transport options become less viable as their physical mobility declines. Additionally, they emphasized that the health benefits, such as reduced noise and air pollution, will mainly benefit those living in highly congested areas. The perceived imbalance between those who are affected negatively by the increased costs and those who benefit from the transition and have better access to transport alternatives heightened the sense of unfairness surrounding the transition process. Younger interviewees also saw a risk of reduced social life for people living in rural areas due to limited public transport.

3. Pace of the transition

While interviewees highlighted fairness issues in the transition, they generally believed that it would deliver a fairer transport system in the long term. Younger people cited the benefits of greater freedom of movement with accessible public transport in both urban and rural areas. However, retired people pointed out that older people may not experience the full benefits.

Overall, respondents' concerns highlight that their perceptions of fairness depend on the distribution of both negative and positive impacts across society. For example, for retired people living in rural areas, it is unclear how, if at all, they will benefit from the transition. This draws attention to the idea that compensatory measures – such as targeted subsidies or exemptions – are sometimes necessary but may not be sufficient. A just transition requires a broader approach.

How can policy support those groups?

The transition to sustainable transport promises significant benefits, including enhanced air quality, more livable urban environments, improved infrastructure for active transportation with associated health advantages, greater energy efficiency, and ultimately cost-effective solutions for households (Bassi et al., 2022; Jaramillo et al., 2022; Nieuwenhuijsen, 2020; Slowik et al., 2022). However, achieving these benefits requires substantial changes in infrastructure, transport modes and behaviors, and lifestyle adjustments, all of which can be disruptive and costly during the transition phase. We know that there is significant political resistance to the policies needed to bring about these changes (Ejelöv et al., 2022; Ewald et al., 2022; Harring & Sohlberg, 2017), and our research highlights how vulnerable groups can be negatively impacted during the transition.

To support groups most vulnerable to the transition in the transport sector, policy must incorporate comprehensive transition assistance policies (TAPs) (Green & Gambhir, 2020) focused on fairness, accessibility, and political acceptability. Drawing on a forthcoming publication, we propose that the policy support framework should consist of four key strategies:

- 1. Transport system design and structural measures:** Investments in public transport and infrastructure that ensure equitable transport access for all, particularly targeting rural areas and urban peripheries where vulnerable groups reside. This includes enhancing public transport services to improve accessibility for low-income, older persons, and disabled groups, alongside developing infrastructure that supports the adoption of electric vehicles (EVs) in underserved areas.
- 2. Group-tailored TAPs:** Tailoring policies to directly support identified vulnerable groups such as older persons, students and low-income individuals living in rural or urban periphery areas. This could involve differentiated pricing models for public transport, subsidies for EVs aimed at lower-income groups, and targeted investments in charging infrastructure in less commercially viable areas due to socio-economic conditions.
- 3. Mitigation of related vulnerabilities:** Addressing vulnerabilities that are linked to the transport system but external to it, such as housing affordability in transport-rich areas and access to essential services in different communities. Investments in urban green spaces and recreational facilities can indirectly support a more inclusive transport transition, even without direct investment into the transport system itself.
- 4. Evaluation, transparency and policy flexibility:** Continuous assessment of the impact of transition policies to ensure they meet fairness and effectiveness goals. Transparency in policy evolution and flexible mechanisms to adapt to unforeseen challenges are critical for maintaining public trust and support.

A key principle underpinning these strategies is the importance of focusing on developing a transport system that provides high quality access to work opportunities, healthcare, education, social networks and leisure opportunities, both through sustainable transport modes and by reducing the need for motorized transport to have access to essential goods. Further key principles are ensuring that no socio-economic

group is disproportionately disadvantaged by the transport transition, and preventing sudden, large-scale impacts so that people have the time they need to adapt to changes to the transport system.

Successful implementation of these TAPs requires a deep understanding of the specific vulnerabilities and needs of different societal groups across the country, and the responsibilities and policy options available at different governance levels. It also necessitates a responsive approach to emerging challenges and perspectives on fairness, effectiveness and trust, aiming for a transition that is not only environmentally sustainable but also socially equitable and politically viable. Additionally, it is crucial to effectively communicate these policies to the public to address perceptions of unfairness, misunderstandings, and low uptake of subsidies or benefits.

Why should policy provide targeted support for these groups?

Besides improving social equity, providing targeted support to those most at risk of losing in the transition makes sense from an environmental effectiveness and political feasibility perspective. Indeed, the population most at risk of losing in the transition is also the group with the highest share of the population – as much as 40% – and the group with the highest total greenhouse gas emissions in Sweden.

Efforts to transition to a low-carbon society need to be tailored to different groups in society. This requires policy to better take into consideration differences in climate footprints and the ability of different groups to cope with the implications of transition policy. Income levels, place of residence, and access to alternatives to cars affect how people will experience the transition.

Fairness considerations are crucial when designing transition policies, but they are not necessarily a reason to delay climate action. Doing so is fundamentally unfair, as it shifts the burden of the transition on future generations and ignores the unfair, unjust and extreme consequences of inaction, which may be far worse. Solutions are available today to support those that would be negatively affected by the transition, and policymakers can implement policies to assist those most at risk.

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Notes

- 1 These indicators allow for capturing both socioeconomic and geographical circumstances that shape households' capacity to cope with transition policy.