RESEARCH REPORT

Eurofound

Living conditions and quality of life

Delivering on the promise of leaving no one behind: Ensuring a just green transition for EU citizens



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Eurofound

European Foundation for the Improvement of Living and Working Conditions

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Executive summary

Introduction

Europeans are navigating a period of intersecting pressures, experiencing the direct impacts of climate change while simultaneously adapting to fundamental shifts in how they live, move and consume. These changes in how they live their daily lives are driven by policies designed to accelerate the green transition through fast-approaching, legally binding targets, notably climate neutrality by 2050 and a 55 % reduction in net emissions by 2030, and have been further sharpened by recurring external shocks.

The European Commission has made it clear that accelerating the clean energy transition is both an environmental and a strategic economic imperative. Yet the costs, benefits and disruptions of this transition may not naturally fall equitably across the economy and the population. With this in mind, the commitment that no person and no place should be left behind during the green transition reflects a dual imperative: climate policy must be effective, but it must also be equitable.

This report examines how people are experiencing the just green transition in their daily lives by analysing citizen attitudes, behavioural adaptation and policy reach across two domains: home energy efficiency and green mobility.

Policy context

The insights from this research come at a pivotal moment for the European Union. The Social Climate Fund began operating in 2026, mobilising over EUR 86.7 billion to support vulnerable people, microenterprises and transport users. The start of the new emissions trading system for buildings and road transport (ETS2) was postponed from 2027 to January 2028, giving EU Member States additional time to prepare without removing the underlying pressure to achieve climate goals. The European Affordable Housing Plan, presented on 16 December 2025, reinforces the Renovation Wave Strategy's ambition to deliver 35 million renovated buildings by 2030. An integrated framework for European climate resilience and risk management is scheduled for adoption in late 2026.

These instruments are now operating in a context of renewed disruption in the energy market. In response to the fossil energy crisis triggered by the escalation of conflict in the Middle East, the Commission's AccelerateEU package, presented in early 2026, combines short-term measures to shield households and industries from price shocks with a renewed push to accelerate the shift to clean, homegrown energy. It builds on the Clean Energy Investment Strategy adopted in March 2026 and reflects the Commission's view that reducing fossil fuel dependence is now both a climate imperative and a matter of immediate concern in terms of household and economic security.

Key findings

- Climate awareness is high across the EU, but does not necessarily or uniformly translate into action. While 85 % of people in the EU consider climate change a serious problem and 84 % recognise its roots in human activity, only 59 % report taking any personal climate action.
- Unsurprisingly, incentive-based policies enjoy markedly broader public support than restrictive measures: nearly 89 % of respondents to Eurofound's Living and Working in the EU e-survey support at least one incentive-based policy, compared with 56 % for restrictive ones. The gap widens among financially vulnerable respondents.
- Beyond income, attitudinal and relational factors are the strongest predictors of support for green policy. Citizens who trust EU institutions and those who feel seen, valued and fairly treated by their governments are significantly more likely to adopt green behaviours and endorse climate initiatives.
- Deep retrofits, designed to drastically increase energy efficiency in a home, are very rare, and private renters are at risk of being left behind. There is considerable untapped potential for meaningful energy savings. Renters, who account for 32 % of the EU population, are at severe risk of being left behind due to the 'split-incentive' problem.
- Rural and low-income populations face structural mobility barriers. Rural residents are heavily car-dependent and lack access to denser public transport and cycling infrastructure, making them less likely to adopt green mobility changes (52 % vs 65 % for urban dwellers). Furthermore, high-impact changes like purchasing an electric vehicle remain a privilege of wealthier households, while low-income groups rely strictly on low-cost shifts like walking or public transport.
- Many existing climate schemes favour those who are wealthy, tech-savvy and property owners. Strict digital application processes, 'first come, first served' models and programmes requiring households to cover upfront costs out of pocket systematically lock out the lowest-income and most vulnerable citizens.

Policy pointers

- Policy design should be mindful of unintended exclusion traps. Some current schemes favour some groups, while excluding others. This should be addressed head-on, following best-practice examples from across the EU.
- Wherever possible, the administrative burden should be removed from vulnerable citizens by automatically linking administrative databases – such as social assistance records – to energy efficiency and mobility programmes, so that support reaches those most in need.
- The offerings of local 'one-stop shops' should be expanded, with dedicated in-person assistance to help digitally excluded citizens apply for grants and navigate the practicalities of participation in the transition. Proactive outreach should also be standard practice.
- Policymakers should target the tenant–landlord divide in such a manner that tenants are shielded from rent increases or evictions, while landlords can recoup, in time, the cost of renovations. This could be achieved through a combination of policy instruments, such as minimum energy performance standards, public subsidies and energy-bill-neutral rent adjustments.
- Policymakers should consider shifting away from post-payment reimbursement models. More generous upfront grants, pre-financing arrangements and point-of-sale discounts should be considered to overcome the liquidity problem that prevents many households from participating in the green transition.
- Territorial specificities should be considered carefully. Urban solutions cannot be transposed to rural settings. Policymakers should invest in tailored alternatives, such as demand-responsive and shared transport services; integrate mobility planning with access to essential services; and ensure that rural and peri-urban residents are not disproportionately exposed to the costs of carbon pricing without viable alternatives.
- More broadly, policymakers should make intentional investments in protecting and nourishing institutional trust and political recognition, as these are both the foundations of effective policy and the outcomes of policy acceptance.
- Policymakers should incorporate behavioural approaches and instruments into their policymaking toolkit as a complement to conventional instruments. This will enable the bridging of the value–action gap that separates citizens' stated pro-environmental values from their everyday choices.
- Strengthening evaluation and monitoring of distributional reach should also be a focus for policymakers. Current reporting frameworks focus on budgetary and output metrics, while a systematic assessment of which people and places are actually being reached is a precondition for effective evaluation and for course correction.

Introduction

Data from the Copernicus Climate Change Service, the part of the European Union's Earth observation programme that monitors the global climate, indicate that 2025 was the third warmest year on record, trailing behind 2024 and 2023 by only a small margin, making these the first three consecutive years to average more than 1.5 °C above pre-industrial levels (Copernicus Climate Change Service, 2026). Over this period, Europe experienced a succession of extreme weather events, including catastrophic flash flooding, record-breaking summer heatwaves and destructive windstorms. The Intergovernmental Panel on Climate Change has established that human-induced greenhouse gas emissions have increased the frequency and intensity of such extreme events compared with pre-industrial times (IPCC, 2023). It is precisely to curb these emissions and slow the pace of warming that the EU has legislated for reductions in greenhouse gas emissions, with the legally binding target of reaching climate neutrality by 2050, and an interim goal of cutting net emissions from 1990 levels by at least 55 % by 2030. Although emissions are declining, with a further 2.5 % fall estimated in 2024, current projections suggest that the EU could collectively achieve a 54 % reduction by 2030, just short of the 55 % target, but only if all EU Member States fully implement both existing and planned policies (European Environment Agency, 2025).

The urgency of achieving these goals has been highlighted by events in early 2026. The escalation of the conflict in the Gulf region and the partial closure of the Strait of Hormuz, through which roughly 20 % of the world's oil supply previously moved daily, has triggered the most severe disruption to global energy markets since the 2022 crisis following Russia's invasion of Ukraine. In addition to taking immediate emergency actions, the European Commission emphasised that reducing oil consumption would have a more significant and lasting impact on market stress than emergency stock releases alone, and that Europe should build on its experience of fast-tracking energy efficiency and the deployment of renewable energies (European Commission: Directorate-General for Energy, 2026). Taken together with the Commission's Clean Energy Investment Strategy (European Commission: Directorate-General for Communication, 2026a), the implication is clear: accelerating the clean energy transition is not only essential for meeting climate targets but also the most effective route to shielding the EU from recurring energy price shocks.

These pressures are reflected in citizens' own perceptions of the issues facing the EU and affecting their quality of life. In the Spring 2026 Eurobarometer, the conflict in the Middle East was the most-cited concern, named by 25 % of respondents. After the international situation and Russia's invasion of Ukraine (cited by 23 % and 20 % of respondents, respectively), rising prices, inflation and the cost of living followed at 17 %, and energy supply at 15 %; this last concern was up 6 percentage points from autumn 2025 and now level with security and defence (European Commission: Directorate-General for Communication, 2026b). Although the survey records energy supply and the cost of living as separate categories, the two are not separable in daily life: energy prices feed directly into housing and transport costs and are a significant driver of inflation. The environment features too. EU residents most often associate a good quality of life with financial security (49 %), but a good-quality environment follows closely at 37 %, and nearly 1 in 10 citizens place the environment and climate-related risks among the most important issues facing the EU.

From global responsibility to fair domestic transition

While the urgency of EU climate action is undisputed, it is important to situate the EU's role within the global picture. In 2024, six economies (China, the EU-27, India, Indonesia, Russia and the United States) together accounted for 51.4 % of the world's population, 62.5 % of global gross domestic product, 64.2 % of global fossil fuel consumption and 61.8 % of global greenhouse gas emissions (Crippa et al., 2025). With the exceptions of 2009 and 2020, global emissions have risen steadily since the start of the century, driven primarily by the growth in fossil carbon dioxide (CO_2) emissions from China, India and other emerging economies. In 2024, China, India, Indonesia and Russia all increased their emissions relative to 2023. The EU-27, by contrast, reduced its emissions and now accounts for roughly 6–7 % of current global emissions.

Yet this snapshot of current emissions tells only part of the story, as it captures neither the absolute per capita level of emissions nor the EU's cumulative historical contribution to climate change. In 2023, the greenhouse gas footprint of goods and services consumed in the EU amounted to 9.0 tonnes of CO_2 equivalent per capita. This indicator considers emissions generated throughout the production chains of products consumed, including emissions embedded in imported goods and services. The United States' greenhouse gas footprint, using the same indicator, was 15.8 tonnes, China's was 7.6 tonnes, Indonesia's 2.6 tonnes and India's 1.8 tonnes (Our World in Data, 2025). Furthermore, on a cumulative basis, the EU bears a substantially larger share of historical responsibility:

the greenhouse gases emitted within its present borders have contributed more to observed global warming than those of any other region except the United States (Evans et al., 2024). This historical responsibility underpins the EU's continued commitment to tackling climate change and reducing emissions.

Beyond emissions accounting, the EU influences the global transition to green energy through regulation, climate diplomacy, finance and technology. (Box 1, for example, outlines the potential implications that artificial intelligence (AI) may have for the green transition.) However, the credibility of that influence rests on the EU delivering a domestic transition that is both ambitious and fair. It is a well-known fact that the impacts of climate change, the costs of the green transition and the volatility of energy prices – but also the benefits that the transition can bring (cleaner air, lower energy bills, healthier homes, new employment opportunities) – do not fall evenly across society of their own accord. Those with the lowest incomes, living in the least energy-efficient homes and with the fewest transport alternatives risk being the most exposed to these pressures and the least able to adapt, to invest in cleaner alternatives or to take advantage of and benefit from the opportunities that the transition creates. The European Green Deal's commitment that no person and no place should be left behind embodies a principle of fairness and justice that aims to ensure the transition's costs and benefits are shared equitably.

While recent survey evidence from across the EU indicates a strong consensus on the reality of climate change, with 84 % of citizens agreeing that it is caused by human activity (European Commission: Directorate-General for Climate Action, 2025) and 94 % recognising the urgent need to adapt to its impacts (European Investment Bank, 2024), belief in climate change does not necessarily correlate with a willingness to take action to combat it (Hornsey et al., 2016). Indeed, the percentage of Europeans who say they have taken any action in the past six months to combat climate change is 59 % (European Commission: Directorate-General for Climate Action, 2025), and climate action currently ranks fourth among citizens' priorities for EU budgetary spending, with 27 % of respondents in the Spring 2026 Eurobarometer identifying it as a priority. It comes fourth after employment, social affairs and public health (41 %), security and defence (38 %), and education, training, youth, culture and media (37 %) (European Commission: Directorate-General for Communication, 2026b).

Attending to the green transition's fairness will strengthen its acceptance across society, support the wider shift towards sustainability and make more ambitious climate action possible. Effective climate policies need to do more than win citizens' approval; they must also motivate and enable people to act. Understanding what shapes both public support for climate policy and people's willingness to engage in climate action has therefore become a pressing task (European Commission: Directorate-General for Employment, Social Affairs and Inclusion et al., 2025).

Box 1: Generative AI and the green transition

Artificial intelligence (AI) has become impossible to ignore in discussions of the green transition, yet its rapid development demands the careful evaluation of both its potential contributions and the risks it presents to the achievement of European Green Deal commitments.

A crucial distinction is often overlooked in these discussions. AI applied to the optimisation and forecasting of energy systems has been in use for decades and carries well-documented potential for supporting decarbonisation, for instance through smart grid applications that analyse consumption patterns, generate visualisations and provide actionable feedback to users. Generative AI, a subset of AI that came to public prominence with ChatGPT in 2022, is a more contested case. Its models demand vast quantities of energy and create a significant carbon footprint, and their integration into renewable energy systems remains exploratory, making any net contribution to sustainability difficult to confirm.

Against this backdrop, any recommendation that generative AI be deployed as an enabler of the green transition should be taken up only with the following in place:

- full transparency requirements for generative AI models regarding their carbon footprint and broader impact on sustainability;
- application of the precautionary principle where net sustainability benefits cannot yet be demonstrated;
- explicit alignment between the European Green Deal and the EU AI Act to avoid contradictory policy incentives;
- development of an EU AI ecosystem for the green transition that is grounded in local providers, open source models and a robust AI governance framework.

Despite these limitations, generative AI has potential specifically as an enabler of behavioural change in the context of the green transition. Where subject knowledge and critical evaluation are maintained, the following applications merit consideration.

Climate change literacy. Generative AI models excel at processing large documents, synthesising information and making specialised knowledge about carbon footprints, decarbonisation and life cycle assessments more accessible to non-experts. This lowers the barrier to engaging with technically complex material, potentially fostering greater climate and sustainability literacy among broader audiences, although this potential is only realised when users have enough subject knowledge to critically evaluate what the model returns.

Personalised energy insights. The integration of the internet of things and generative AI offers users a more granular understanding of their own energy patterns, from household fuel consumption and electricity generation to electric vehicle use. Rather than presenting raw data, this combination can reframe consumption as something legible and actionable, encouraging more deliberate reflection on personal habits.

Improved decision-making. When users develop a better understanding of energy use within the broader context of the green transition, they are better positioned to make informed choices about their own consumption and to engage meaningfully in political processes aiming to mitigate climate change. Here, again, the quality of that understanding depends on the user's capacity to interrogate the generative AI models' outputs rather than accept them uncritically.

The just green transition: an evolving concept

It is against this backdrop of increasing climate urgency, uneven vulnerability and the complex interplay between public attitudes, fairness and policy acceptance that the concept of a just green transition has evolved and gained prominence in EU policy discourse. Its origins lie in the trade union movement of the 1980s, when American unions coined the term 'just transition' as part of a formal demand to the government in response to the announcement of coal mine closures, insisting that workers in declining industries should not bear the costs of environmental progress alone (Eisenberg, 2019). Since 2015, it has undergone a significant expansion, broadening its reach to encompass workers' rights, the interests of communities affected by the shift away from fossil fuels and the wider inequalities that emerge during periods of structural economic change. Civil society organisations and non-governmental organisations (NGOs) have recently adopted the concept, moving it beyond its original trade union usage towards a broader, society-wide one.

This evolution has left the just green transition a contested concept, with different meanings for different actors. This ambiguity is both a strength and a weakness: it allows a broad coalition of actors to rally around a shared term, but it also risks vagueness, competing expectations and the dilution of the concept's redistributive core.

For the purposes of this report, a just green transition is understood as a process of transformative change that 'improves the quality of life of current and future generations, within ecological boundaries, while eliminating injustices that are triggered or exacerbated by unsustainability and its underlying causes' (Avelino et al., 2023, cited in European Environment Agency, 2024a). Table 1 sets out the key milestones in the evolution of the concept of a just green transition in EU policy.

Table 1: The evolution of the concept of a just green transition in EU policy: key milestones

Period	EU milestones and development
1950s–1960s	**Foundations in social dialogue and early readaptation funds** The Treaty of Paris (1951) included the first European mechanism for worker protection during industrial restructuring: the European Coal and Steel Community. The treaty provided for readaptation funds, covering non-repayable aid to support workers displaced by structural change in the coal and steel industries. The Treaty of Rome (1957) established the European Social Fund – a direct precursor to later just transition financing mechanisms.
1970s–1980s	**Industrial crisis, worker protection and the 'jobs vs environment' dilemma** Economic crises, oil shocks and emerging environmental regulations led to mass lay-offs in the European coal and steel industries. The term '**just transition**' emerged in North America, referring to efforts to protect workers from job losses linked to environmental policies – the 'jobs vs environment' dilemma. A just transition promotes combining environmental action with measures that support workers and communities. In Europe, similar approaches began to emerge within trade unions and through institutions.

Period	EU milestones and development
1990s	**Institutionalisation of social dialogue and sustainable development** The Treaty of Maastricht (1992) and its social policy protocol enabled agreements between employers and unions to become legally binding, formalising EU-level social dialogue. The Treaty of Amsterdam (1997) established **sustainable development** as a core EU objective, linking economic, social and environmental goals at the treaty level. The European Social Fund was expanded to support retraining, employability and social inclusion.
2000s	**Emergence of precursor concepts** The Lisbon Strategy (2000) linked economic growth, social cohesion and environmental protection as mutually reinforcing objectives. EU enlargement to central and eastern Europe (2004, 2007) brought new urgency to regional disparities and the social costs of transformation in coal-dependent regions, intensifying debates about the green transition.
2010s	**From principle to policy: 'just transition' enters the EU lexicon** The Europe 2020 strategy (2010) explicitly linked climate action with inclusive growth. The Paris Agreement (2015) and the European Pillar of Social Rights (2017) reinforced the normative framing of fairness and social inclusion within EU climate and energy policy. In 2018, the term 'just transition' was explicitly included in an EU strategic document.
2019	**Cornerstone of the European Green Deal** The just transition concept became central to the European Green Deal, which set out the EU's pathway to climate neutrality by 2050. The Just Transition Mechanism was announced to provide targeted financial and technical support to regions facing the most severe socioeconomic impacts of decarbonisation.
2020–2021	**COVID-19 recovery and new funding** The Just Transition Fund, agreed as part of the NextGenerationEU package (2020), targeted the regions most affected by the green transition. A crucial condition was that Member States were required to develop territorial just transition plans (medium-term strategies co-developed with local authorities, social partners and civil society) to access Just Transition Fund funding. This requirement institutionalised participatory governance within just transition policy.
2022	**REPowerEU and energy security** In response to the energy crisis triggered by Russia's invasion of Ukraine, the REPowerEU plan introduced new measures to protect vulnerable households and regions, expanding the scope of the just transition to include energy poverty and household vulnerability.
2024–today	**New EU priorities and competitiveness pressures** Following the 2024 European Parliament elections, the new Commission under Ursula von der Leyen established its strategic agenda for 2024–2029. This reaffirmed the goal of a green and just transition and signalled greater attention to industrial competitiveness, as emphasised by the Draghi report (Draghi, 2024), which convincingly demonstrates the compatibility of economic competitiveness and environmental responsibility (European Commission, 2025). Recently, the label **'just green transition'** has been introduced into EU discourse.

Source: Authors.

Building on the broadest societal understanding of the just green transition, this report examines its social implications from the perspective of EU households and citizens. It asks whether the transition, as currently designed and experienced, is delivering on the European Green Deal's commitment to ensuring no one is left behind. The analysis focuses on two policy areas where the transition most directly intersects with daily life and that represent key points for reducing greenhouse gas emissions: the energy efficiency of housing and green mobility.

The labour market and workplace dimensions of the transition, despite their historical centrality to the concept, are beyond the scope of this report. These have already been extensively examined in previous Eurofound research, including work on the employment impact of the Fit for 55 climate package, the role of social partners in shaping territorial just transition plans, the use of collective bargaining to embed worker protection and reskilling commitments as workplaces decarbonise, and the specific challenges facing sectors critical to the transition, such as construction (Eurofound, 2023a, 2023b, 2025a, 2025b). By shifting the focus from the workplace to the household, this report complements that body of work.

Expanding the policy toolbox to support the just green transition

As already mentioned, the success of the green transition depends on many factors, including designing policies that effectively support households through the transition, which requires the full range of policy instruments available to policymakers.

A recurring framework in the policy literature distinguishes three broad categories of policy instruments commonly referred to as 'carrots, sticks, and sermons' (Bemelmans-Videc et al., 2017). **Carrots** (economic instruments) consist of economic (dis)incentives, such as subsidies, grants or taxation, that make desirable behaviours more attractive or undesirable behaviours more costly. **Sticks** (regulatory instruments) are regulations and sanctions, such as laws, quotas, permits, fines and inspections, that oblige or pressure people to comply. Finally, **sermons** (information-based instruments) are attempts to influence people through knowledge transfer, reasoned argument and moral persuasion, aimed at preventing undesirable conduct and promoting desirable behaviour.

Over the last decade and a half, a fourth type of policy instrument has emerged that draws on findings from the behavioural sciences (Andersson et al., 2025). Behavioural instruments for policymaking move away from the assumption that individuals are rational actors who make fully informed choices. Instead, they are grounded in a better understanding of how human decision-making actually happens and of the role that cognitive biases, heuristics, social norms and values play in shaping the effectiveness and acceptance of policies. The model of carrots, sticks and sermons can therefore be expanded to include **roads** (behavioural instruments): multidisciplinary, evidence-based interventions drawn from behavioural science. Just as a well-designed road does not force a traveller in a particular direction but makes the desired route the most natural and accessible one, behavioural instruments reduce friction and guide behaviour while preserving individual freedom of choice ([1]).

Effective policy instruments must, however, rest on a clear understanding of what fairness in the just green transition means. Drawing on the analytical framework developed by the European Environment Agency in its report *Just sustainability transitions – From concept to practice* (European Environment Agency, 2024b), three interconnected dimensions of justice can be distinguished to guide policymakers.

Distributional justice concerns how the costs and benefits of the transition, and of the policies that manage it, are allocated across society: who bears the burden of higher energy prices or retrofit costs or the loss of fossil-fuel-dependent livelihoods, and who gains cleaner air, lower bills, healthier homes and new economic opportunities.

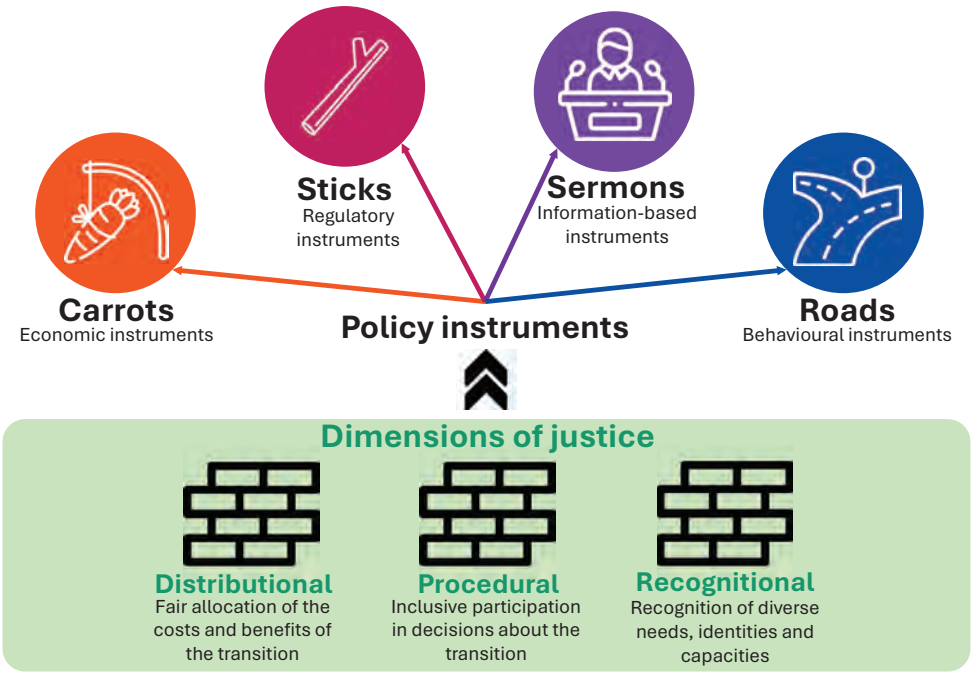
Procedural justice covers how decisions about the transition are made: who participates in the design and implementation of climate and energy policies, whose voices are heard and whose are not, and whether affected groups have access to reliable information and meaningful opportunities to shape the policies that affect their daily lives.

Recognitional justice asks whose needs, identities and capacities are acknowledged in the framing of the transition. It draws attention to the specific circumstances of vulnerable households, marginalised communities and under-represented groups and to whether existing systemic injustices are addressed rather than reinforced.

These dimensions of justice have informed the perspective taken throughout this report and serve as a compass for the chapters that follow.

Figure 1 brings together the elements of this conceptual framework: the four categories of policy instrument rest on the three dimensions of justice that inform their design and assessment. In practice, this means that policy instruments were evaluated, to the best extent possible, in terms of how fairly they distribute costs and benefits, who is involved in the decision-making process and how well they recognise the diverse needs and circumstances of those affected.

Figure 1: Foundations and policy tools of a just green transition



Source: Authors.

([1]) While this report touches upon the role of behavioural instruments in the just green transition, a more detailed study of their theoretical foundations and application to policy design has been conducted in a companion research paper (Eurofound, 2026).

This report combines quantitative and qualitative analyses, using this framework to examine how households experience the green transition, where the risk of leaving some behind arises and what policy instruments can address these risks and support fairer outcomes.

Chapter 1 traces the path from climate awareness to action, describing the current state of climate sentiment across the EU and examining how financial security, institutional trust and feelings of political recognition relate to support for green policy and to individual behavioural change. Chapter 2 turns to the gaps between sentiment and action in two domains, green mobility and home energy efficiency, identifying which socioeconomic and geographical groups are transitioning and which are held back. Chapter 3 moves from policy outcomes to design. Drawing on over 150 policy measures, it examines how features such as upfront costs or digital-only applications can unintentionally exclude the households a policy is meant to serve. It also assesses how far behavioural approaches to green policy have developed across Member States. The conclusions draw the strands together and set out the next steps for policy.

To support the reader in understanding the main findings in terms of who is at risk of being left behind and what policymakers can do, red and green callout boxes are introduced in Chapters 2 and 3. The **red boxes** ask 'who is at risk of being left behind?' They identify the groups most exposed to the social and ecological risks of the green transition, particularly those who face barriers to engaging in climate action or who may miss out on the benefits of policies. The **green boxes** ask 'on whom or what should policymakers focus to leave no one behind?' They set out practical responses to the barriers in the red boxes. Neither set of boxes is exhaustive. Some at-risk groups may not be fully captured in the report, and the same applies to solutions. Readers are encouraged to treat the boxes as starting points for reflection and action rather than definitive lists.

1 Climate change attitudes, policy support and the path to action

To assess if the just green transition risks leaving segments of the population behind, this chapter examines the individual's journey from climate awareness to climate action. It begins by establishing the **current state of climate sentiment and beliefs** across the EU. It then analyses the **determinants of policy support**, specifically how financial security and institutional trust shape preferences for different policy instruments. Crucially, it also introduces the concept of a **recognition gap** (whereby citizens feel seen, valued and fairly treated by their governments) to explore how feelings of social and political exclusion influence engagement. Finally, the chapter concludes with a **taxonomy of policy support and climate action**, identifying the specific socioeconomic profiles of those who are successfully transitioning and those who remain at risk of being left behind.

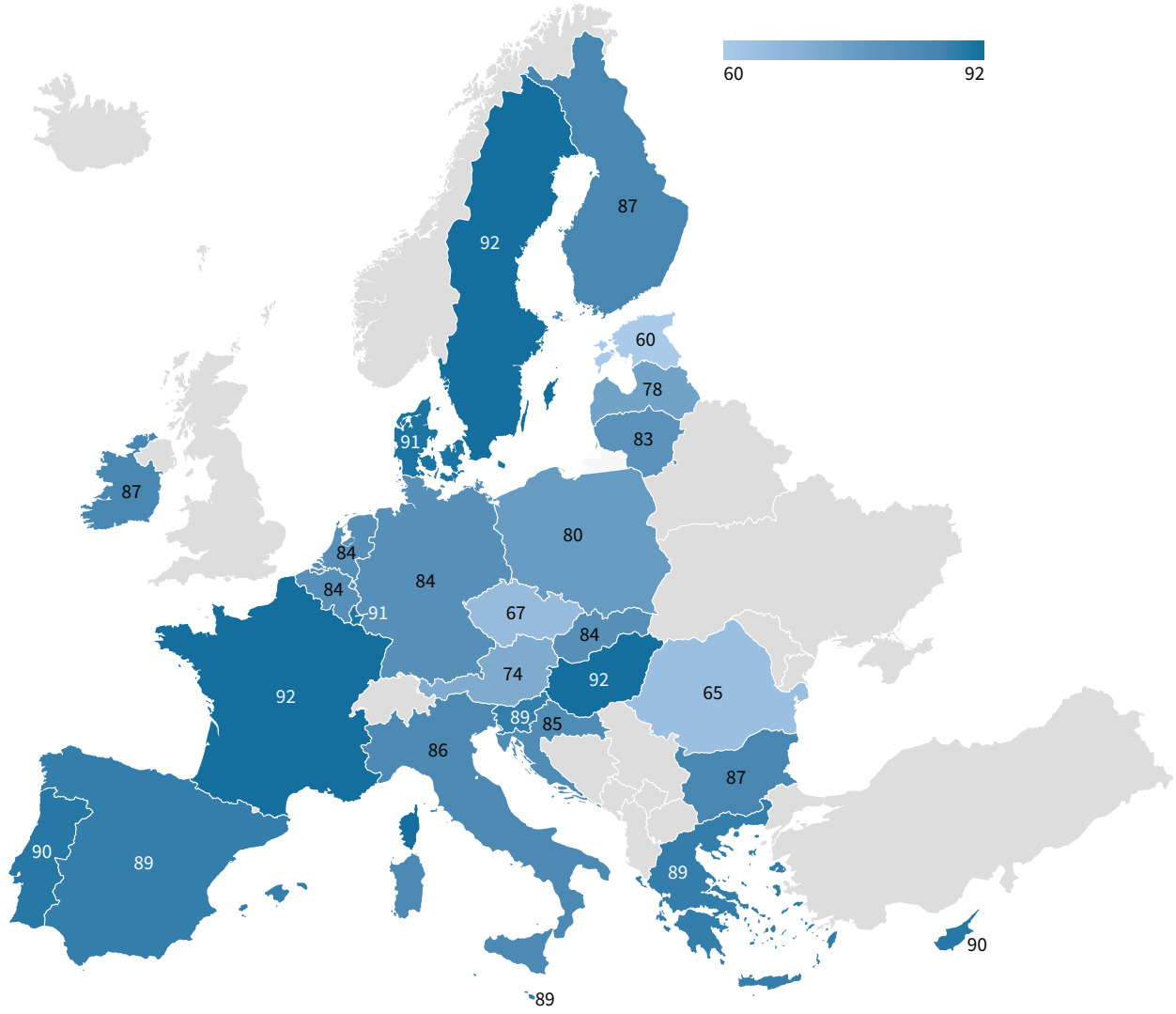
The analysis in this chapter and the next chapter draws primarily on data from the 2025 Eurofound Living and Working in the EU e-survey (hereafter referred to as the e-survey), which collected responses from approximately 27 000 participants across the EU-27 between April and June 2025. This edition of the survey focused specifically on climate and the environment, including questions on climate impacts that respondents had experienced, future risks and resilience measures, which were analysed in a separate report in collaboration with the European Environment Agency (European Environment Agency et al., 2026). As the e-survey utilises a non-probability sampling approach that combines targeted social media recruitment with a returning-respondent panel, the sample is not fully representative of the general EU population. To mitigate this, post-stratification weights were applied based on gender, age, education and region to align the sample with the demographic composition of each Member State. To enhance the reliability of the analysis, these findings are triangulated with representative probability-based surveys, such as Special Eurobarometer 565. By integrating the insights gathered from the e-survey with broader representative benchmarks from EU-wide polling, the report ensures that the identified mechanisms are both statistically validated and consistent with wider EU trends.

Foundations of support for climate action

Special Eurobarometer 565, fielded in February and March 2025, is the most recent source of representative EU-wide findings on beliefs about climate change and support for green policies. Overall, the data point to a high and widespread recognition of the reality and seriousness of climate change. More than 8 in 10 EU citizens (85 %) consider climate change a serious problem (Figure 2). It is reported to be one of the most salient global concerns at EU level and placed first among these concerns in some Member States, namely Denmark, Malta, the Netherlands and Sweden. A large majority of respondents (84 %) believe that climate change is caused by human activity. This belief is slightly higher among women and younger respondents. Moreover, beliefs about the cause of climate change differ systematically by education, by whether respondents describe their area as urban or rural and by perceived exposure to climate and environmental risks.

These findings complement and corroborate the results of Eurofound's e-survey. Within the sample surveyed, almost 58 % of respondents are convinced that climate change is entirely caused by human activity, while an additional 23 % believe it is equally caused by human activity and a natural phenomenon. Regarding concern, 77 % of respondents report being moderately to very concerned about the environment. Among those who attribute climate change to human activity, a large majority report moderate or very high concern (88 %).

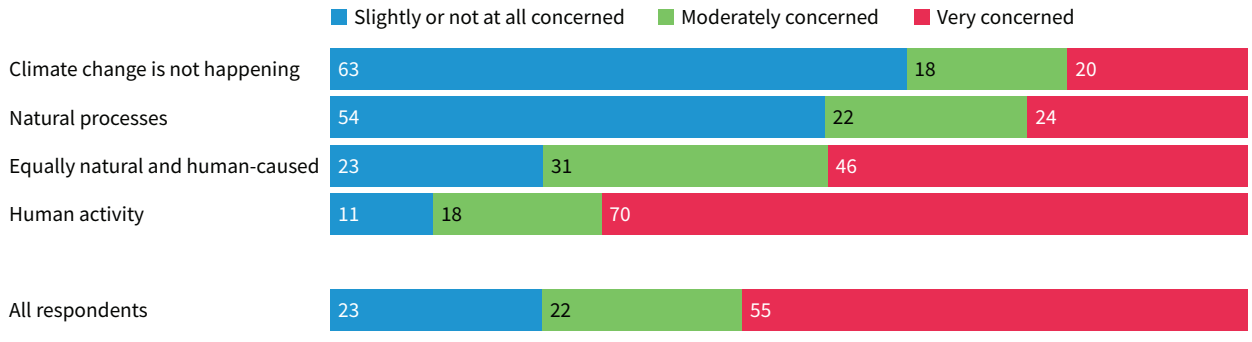
Figure 2: Respondents who consider climate change a serious problem, EU-27, 2025 (%)



Source: Special Eurobarometer 565.

This share decreases among respondents who believe climate change is equally caused by human activity and natural (77 %) and is lowest among those who do not believe climate change is occurring at all (38 %) (Figure 3).

Figure 3: Respondents' concern about environmental issues, by belief about the cause of climate change, EU-27, 2025 (%)



Source: Eurofound's e-survey.

Table 2: Share of respondents reporting personal experiences of climate-related hazards and impacts, in the past five years, by region, EU-27, 2025 (%)

	Too hot in the house	Too hot in the workplace	Too hot to stay outside	Flood damage	Wind damage	Forest fires	Increased insect bites	Not enough safe or clean water
Central and eastern Europe	49.6	46.3	67.7	9.9	13.9	6.8	39.2	12.8
Continental Europe and Ireland	47.7	47.5	54.0	11.6	13.6	4.8	27.9	4.8
Eastern Mediterranean and Balkans	57.2	51.4	78.7	13.1	14.8	28.1	51.3	30.0
Western Mediterranean	53.2	47.2	67.8	11.5	16.1	12.1	39.9	11.1
Nordic countries	42.1	36.3	35.0	6.2	7.7	2.5	18.6	3.5
EU-27	49.7	46.8	60.7	11.0	14.1	8.0	34.0	9.1

Notes: Cell colour reflects the share of respondents reporting the associated climate-related hazard. Red cells show larger shares, whereas green cells show smaller shares. Regional groupings are as follows. **Central and eastern Europe:** Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. **Continental Europe and Ireland:** Austria, Belgium, France, Germany, Ireland, Luxembourg and the Netherlands. **Eastern Mediterranean and Balkans:** Bulgaria, Cyprus and Greece. **Western Mediterranean:** Italy, Malta, Portugal and Spain. **Nordic countries:** Denmark, Finland and Sweden.
Source: Eurofound's e-survey.

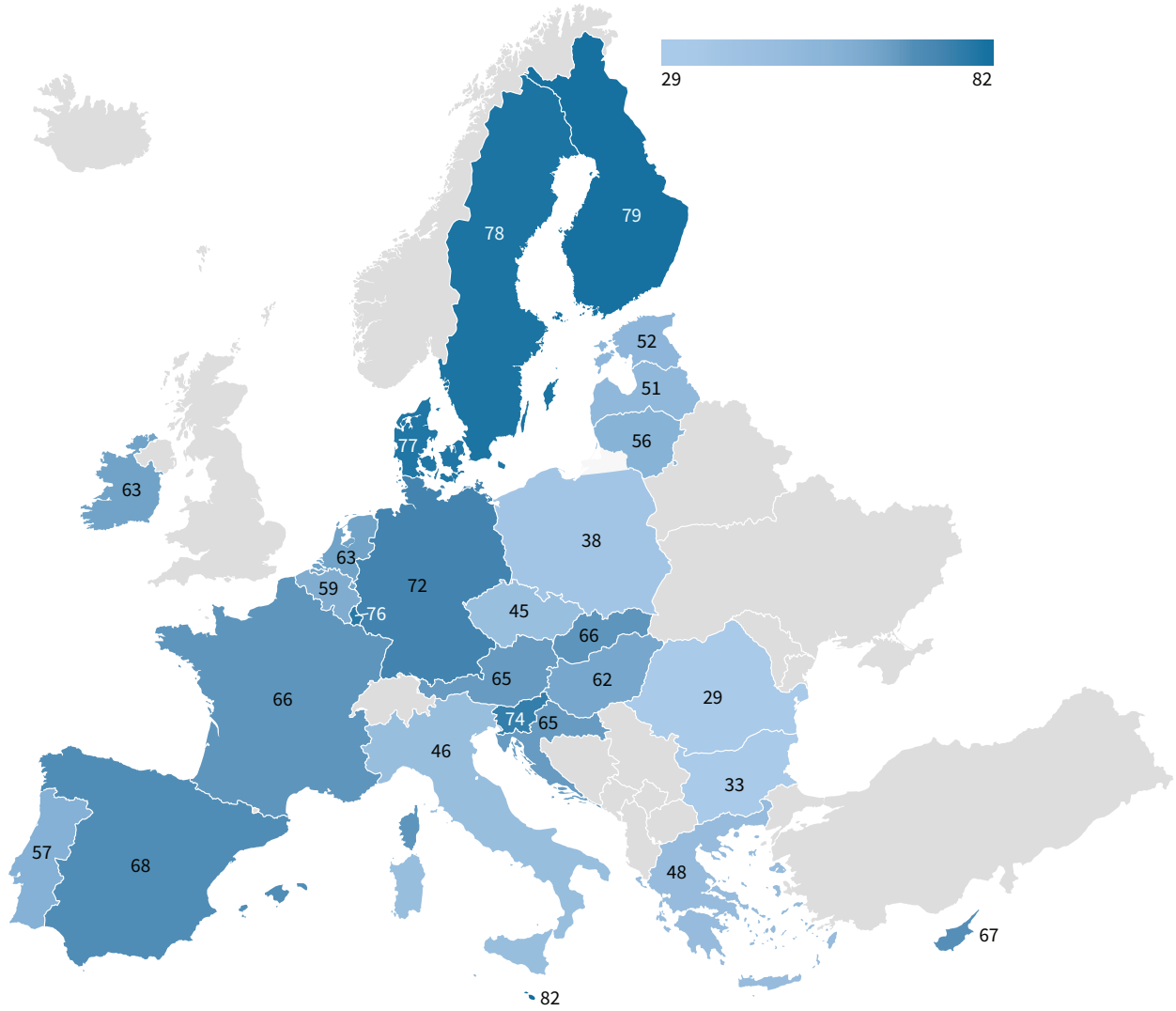
While beliefs about the causes of climate change shape how people perceive the issue, direct experience of its effects may be an equally important driver of concern. According to Special Eurobarometer 565, the majority of Europeans – 6 in 10 – do not feel exposed to environmental and climate-related risks and threats, although this varies across Member States: in 19 Member States, the majority do not feel personally at risk; the opposite is the case in Malta, Greece, Hungary, Poland, Portugal, Cyprus, Croatia and Bulgaria. Turning to the e-survey, the picture shifts considerably when extreme heat is included. In 2025, half of the survey respondents had experienced high temperatures in their homes and workplaces, while three in five reported being unable to stay outside due to excessive heat (Table 2). The respondents who are most affected are concentrated in Mediterranean Member States. They also reported a higher risk of being affected by mosquito bites, flooding, wildfires and wind damage (European Environment Agency et al., 2026). Unsurprisingly, these direct experiences of extreme heat translate into particularly high concern about environmental issues among respondents residing in Cyprus, Greece, Italy and Malta.

While concern does not always translate into behaviour, Eurobarometer data show that individual climate action nonetheless remains widespread: 59 % of respondents report having taken some personal action to address climate change (Figure 4). The highest level of engagement is concentrated in low-cost, low-effort behaviours, such as waste recycling. Patterns of individual climate action vary consistently across population groups. In terms of sociodemographic characteristics, higher engagement is observed among women, those aged 40 to 54, individuals with higher levels of education, managers and residents in large urban areas. In terms of attitudes, higher engagement is also associated with the belief that climate change is caused by human activity, a stronger perception of the seriousness of the problem and a greater sense of personal vulnerability.

E-survey data corroborate these findings. Half of the respondents agreed that they personally take actions that are good for the environment even when they cost money or time. By contrast, 20.4 % disagreed and 29.5 % had no clear position on the matter. Notably, respondents reporting high levels of concern about environmental issues are significantly more likely to report taking actions that are good for the environment than those with lower levels of concern, which is consistent with the literature linking environmental concern to pro-environmental behaviour (Drews et al., 2016). Looking ahead, 45 % of respondents believed that the benefits of the green transition would outweigh its costs, 31 % disagreed and 24 % had no opinion, suggesting a cautiously optimistic outlook among almost half of the respondents, although with considerable uncertainty remaining.

Taken together, these findings paint a picture of EU citizens who are broadly aware of climate change, are increasingly exposed to its direct effects and – for the most part – are concerned about its consequences. Yet awareness and concern are not evenly distributed across populations, nor do they automatically translate into action, as observed repeatedly in the literature

Figure 4: Respondents who have taken personal action to address climate change in the past six months, EU-27, 2025 (%)



Source: Special Eurobarometer 565.

(Hornsey et al., 2016). The critical question for policy must therefore extend beyond what people know or feel about climate change to incorporate what drives some to act while others, who are equally aware and concerned, do not. Understanding the individual, social and structural determinants that convert concern into concrete behaviour remains one of the most pressing challenges for climate policy design. Equally important are those who act without strong concern or awareness and those who neither feel concerned nor take action. This last group presents the most significant challenge for policymakers seeking to achieve broad societal engagement with the green transition. In particular, whether support for green policies is itself necessary, even if not sufficient to bridge the gap alone, remains an open question.

Green policy support and its determinants

The next step in understanding what drives climate action is to examine how existing green policies are perceived and supported. Evidence suggests that support depends strongly on how policies are designed: **carrots** (incentive-based instruments such as subsidies) are considerably more popular than **sticks** (regulations), largely due to their more direct financial benefits for individuals (Drews et al., 2016). Additionally, evidence from survey data collected in 20 countries (including Denmark, France, Germany, Italy, Poland and Spain) demonstrates that public support for green policies is shaped by three key perceptions: the effectiveness of

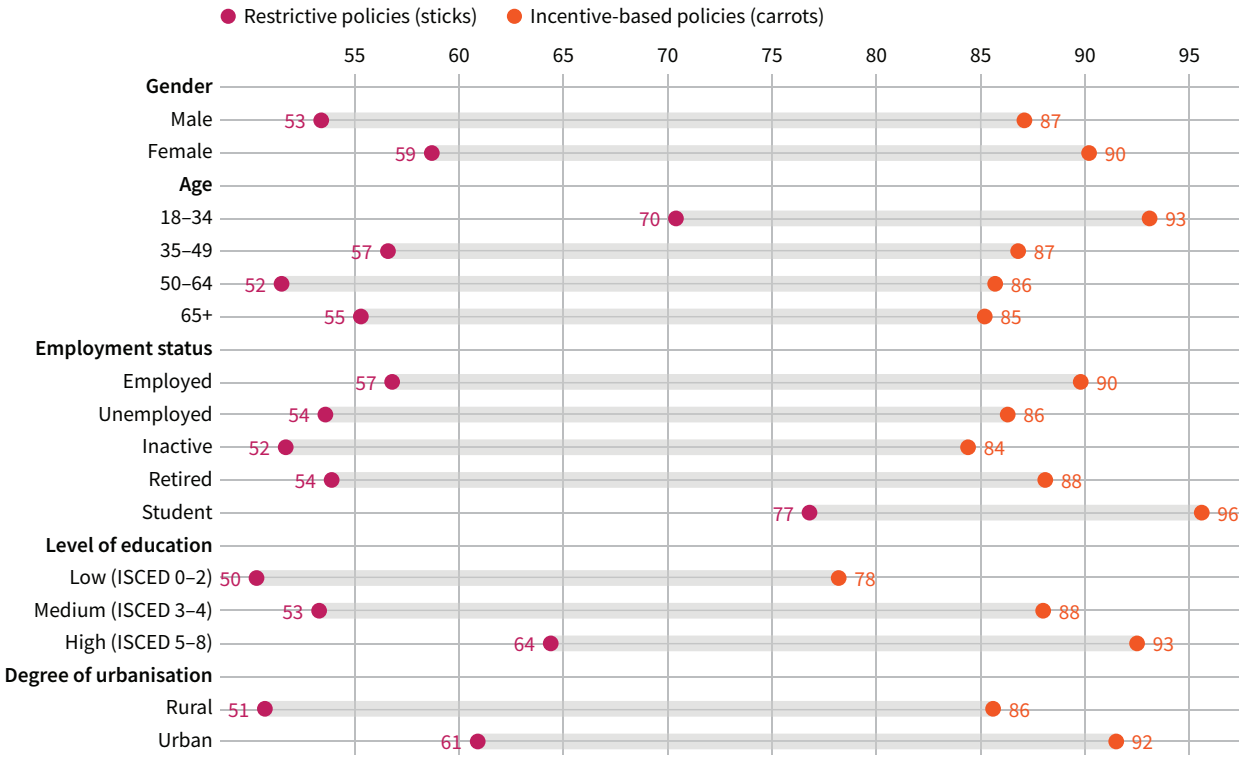
policies in reducing emissions, their distributional impacts on low-income households and their consequences for individuals' everyday lives (Dechezleprêtre et al., 2025). Of these, perceived policy effectiveness is the strongest predictor of support, followed by consequences for everyday life, while distributional impacts on low-income households explain the smallest amount of the variance in support.

Sociodemographic determinants of green policy support

These patterns are broadly reflected in the e-survey data. Respondents were asked to rate, on a five-point scale, their support for six climate-related policies, which were classified into two groups in line with the carrots and sticks framework. Restrictive measures consisted of increasing fossil fuel taxes, banning internal combustion engine vehicles and banning inefficient appliances. Incentive-based measures consisted of subsidising renewable energy, providing tax credits for electric vehicle (EV) purchases and investing in public transport. Respondents were then divided into two groups. Supporting (or strongly supporting) at least one carrot policy would show support for incentive-based measures, whereas supporting (or strongly supporting) at least one stick policy would show support for restrictive measures.

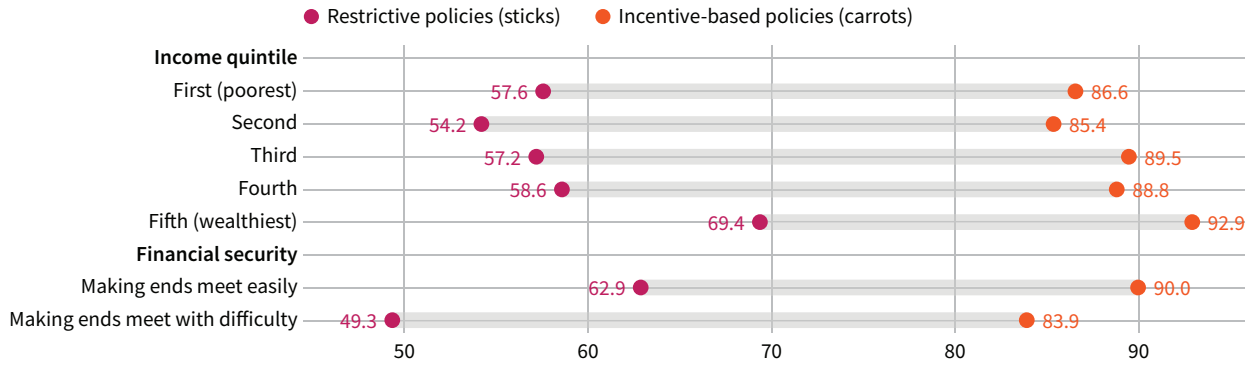
Support varies considerably based on the type of policy: both restrictive and incentive-based policies receive substantial support from respondents; however, incentive-based ones are markedly more popular. While 56 % of respondents favour at least one restrictive policy, 89 % favour at least one incentive-based policy. Despite the positive outlook overall, differences across socioeconomic groups can be detected. For both types of policies, younger, female and highly educated respondents appear to be more supportive of at least one policy than their counterparts. This is also true for urban respondents, who tend to be more supportive than their rural counterparts. The literature explains this on the basis of rural areas being more affected by carbon taxes and bans on internal combustion vehicles used by agricultural workers and the lack of widespread public transport, implying an overreliance on individual modes of transport (Tatham et al., 2023). Three in four respondents who are students support at least one restrictive policy, and almost all of them support incentive-based policies. Among the groups displaying less support, one in two unemployed, retired or inactive respondents did not support any of the restrictive policies, while this share significantly decreased for incentive-based policies, with less than one in five not supporting any (Figure 5).

Figure 5: Support for at least one restrictive or incentive-based climate policy, by sociodemographic characteristic, EU-27, 2025 (%)



Note: ISCED, International Standard Classification of Education.
Source: Eurofound's e-survey.

Figure 6: Support for at least one restrictive or incentive-based climate policy, by income and subjective financial security, EU-27, 2025 (%)



Note: Income is divided into quintiles, with the first quintile representing the poorest and the fifth quintile the wealthiest.
Source: Eurofound's e-survey.

Several studies across multiple countries show that, regardless of income level, positive or incentive-based policies are much preferred to restrictive policies, especially poorly designed carbon taxes (Carattini et al., 2018). This finding in the literature is corroborated by the results of the e-survey: regardless of income level, restrictive policies are much less supported than incentive-based policies. Across income quintiles, support for restrictive policies remains relatively stable among the bottom four quintiles, before rising notably among the wealthiest quintile (Figure 6). More striking, however, are the findings linked to subjective financial security. Respondents who report making ends meet with difficulty show less support for restrictive policies than those who make ends meet easily (49.3 % compared with 62.9 %). They also report lower support for incentive-based policies (83.9 % compared with 90.0 %). This suggests that perceived financial vulnerability is a stronger differentiator of policy support than objective income alone and lends empirical weight to the distributional justice argument: green policies risk losing the support of those most financially exposed unless their design explicitly accounts for affordability and uneven cost distribution.

There are several explanations for this. The most immediate concerns the regressive incidence of restrictive green policies: because lower-income households devote a larger share of their expenditure to essentials such as heating, electricity and transport fuel, price increases induced by environmental taxation disproportionately affect those least able to absorb them (Carley et al., 2020; Umit et al., 2020; Bergquist et al., 2022). This regressive potential is compounded by the well-documented concentration of carbon emissions among higher-income groups (Kotchen et al., 2017), creating what the literature terms 'carbon inequality': low-emitting, low-income households bear costs that are, in relative terms, disproportionate to their contribution to the problem (Carley et al., 2020). Moreover, financially precarious households are often locked into high-emission consumption patterns (e.g. using older vehicles, having poorly insulated housing, relying on fossil fuel heating) not by choice but by a lack of capital to invest in alternatives (Bigio et al., 2025). It is therefore unsurprising that respondents who report difficulty making ends meet are more sceptical of restrictive green policies, since they anticipate bearing the costs while lacking the resources to adapt.

Differences across the EU in terms of support for different types of policies are also notable. Malta stands out as the Member State where respondents are most supportive of both policy types, recording the highest support for both incentive-based and restrictive policies. Beyond Malta, Hungary and Greece show the highest support for incentive-based policies, while Finland and Italy record the highest support for restrictive policies among the remaining Member States (Figure 7). These Member State-level patterns hold even after controlling for sociodemographic variables including age, gender, employment status, education and degree of urbanisation. This finding points to the importance of contextual factors in shaping green policy support: national institutional frameworks, choices regarding policy mixes, levels of public trust in government, the salience of climate change in political discourse and the degree of direct exposure to climate impacts all likely contribute to explaining why support varies so markedly across Member States.

Figure 7: Support for at least one restrictive or incentive-based climate policy, by Member State of residence, EU-27, 2025 (%)



Source: Eurofound's e-survey.

Beyond sociodemographic determinants: trust, recognition and inclusion

Financial security shapes whether green policies are experienced as an opportunity or a burden. But material circumstances alone do not fully explain why some citizens support climate action while others reject it. A second, equally important, and in certain instances also related, dimension concerns how people feel about the institutions designing and implementing those policies – and whether they feel recognised, heard and fairly treated by them.

Trust in political institutions is a robust and consistent predictor of green policy support across countries and population groups (Fairbrother, 2016; Harring et al., 2017; Newton et al., 2017). Citizens who trust their governments tend to engage more actively in civic and political life and are more likely to accept policies – even costly ones – as legitimate. Those who do not are more likely to perceive climate policies as working against their interests and to disengage or actively oppose them (Eurofound, 2024; Eurofound, 2025c). Trust therefore creates a feedback loop, whether positive or negative, that can reinforce or undermine support for national-level interventions. This is indeed a key aspect of the discussion around environmental protection: voluntary household- or business-level measures will not substantially curb emissions. Being a public good, environmental protection needs to be handled at state level, given that the state is able to incentivise more substantial efforts, particularly when it comes to the cost of pollution abatement. This, inevitably, leads to a price being put on pollutants, and taxes are the easiest and most straightforward way to do this (OECD, 2010; Fairbrother, 2016).

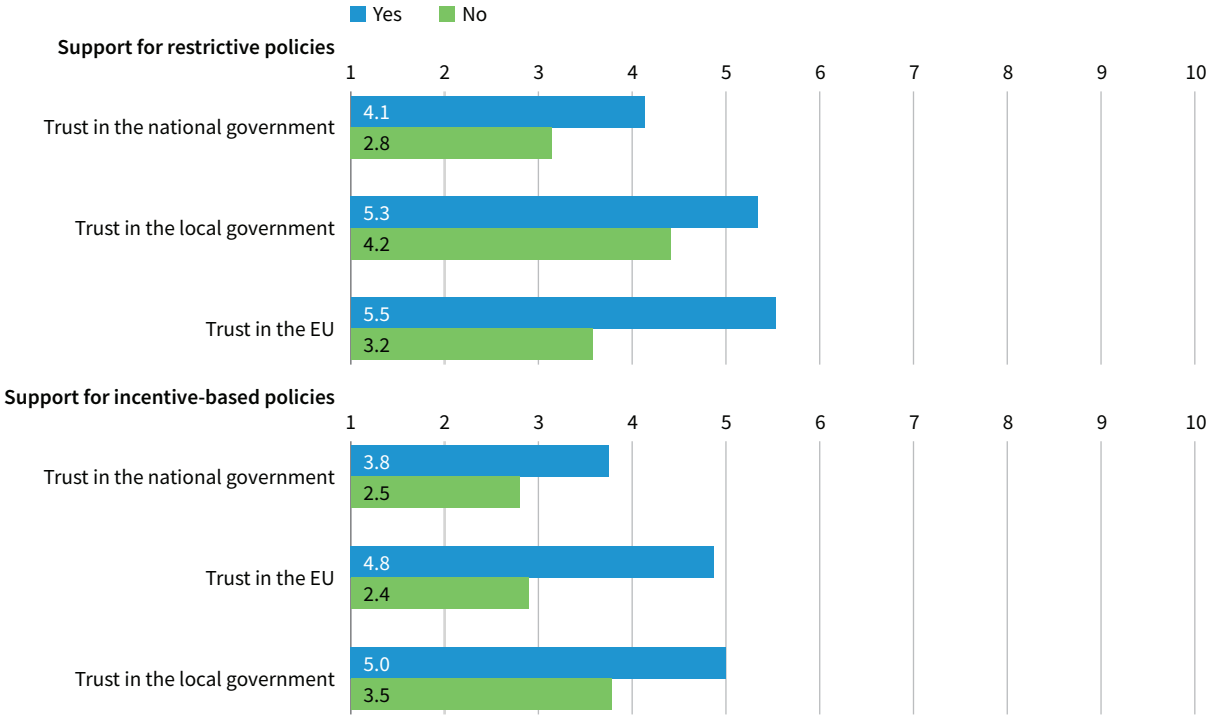
Despite the proven positive effects, environmental taxation is usually met with hostility from the public and businesses, particularly during periods of crisis (Farrell, 2015). Governments may face a backlash when enforcing new taxes, especially in countries in which their political support and consensus are fragile or when the taxes are badly designed (OECD, 2010). While in the past the issue of taxation support was mostly linked to politics, with left-to-centre ideology being

more environmentally conscientious and right-to-centre being more libertarian, recent studies have shown that trust is a fundamental element of compliance. Seeing others trusting and obeying the rules, in this case paying taxes, will spur a virtuous circle in which more people will comply and support environmental protection measures (Ostrom, 2009). Therefore, the extent to which people trust their national government to implement fiscally and environmentally good policies shapes their support for those policies and their willingness to pay for them (Fairbrother, 2016). This, in turn, trickles down to local institutions too.

Moreover, ever since the COVID-19 pandemic, science has been increasingly attacked by misinformation. This wave of inaccurate or actually false information has included the denial of climate change and claims of misconceptions surrounding it. The situation is often fomented by international figures who have spoken openly against leading scientists and environmental organisations. Despite the many efforts of fact-checking organisations and media outlets to provide verified information, such claims have gained particular traction in the online world and among social media users, where homophily [2] and echo chambers play a strong role in crystallising views regarding certain topics, while bots manipulate engagement and shape discussions (Treen et al., 2020).

In this regard, the e-survey measures trust in different institutions, including local government, national government and the EU. Moreover, it also asks a more general question on trust in scientists and asks about preferred news sources. All trust questions are answered on a scale that ranges from 1, which is no trust at all, to 10, complete trust. When looking at the pattern of trust among supporters of restrictive or incentive-based policies, a clear picture emerges. Consistently with previous results, higher trust is correlated with support for both types of policy (Figure 8). Trust in the EU is instrumental, as many carbon-related decisions are taken at EU level and implemented by Member States, as is trust in one's national government. As found in the literature, trusting the government and its expertise in creating well-designed policies is key to supporting environmental policies, regardless of their type.

Figure 8: Trust in institutions and support for policies, EU-27, 2025 (scale of 1–10)



Source: Eurofound's e-survey.

[2] Homophily is defined as the tendency for people to associate and bond with others who are like them in some way.

Beyond institutions, the largest difference was noted regarding trust in scientists. Despite a rather high level of trust in scientists among the respondents to the e-survey, those not supporting any policy reported much lower trust towards them than those supporting one or more policies. Similarly, preferred news source is correlated with different levels of policy support. Two in three respondents who indicated that they consume news mainly from traditional media (such as radio, television or newspapers) are in favour of at least one restrictive policy. In contrast, only 52 % of respondents who consume news mainly from social media are in favour of such policies, and even less of those consuming alternative types of news or no news at all are, at 38 %. Support for incentive-based measures is much less contentious: 90 % of respondents consuming mainly traditional media are in favour of at least one such policy, compared with 85 % of those staying informed mainly on social media and 75 % of those getting their information from other types of news or not following the news.

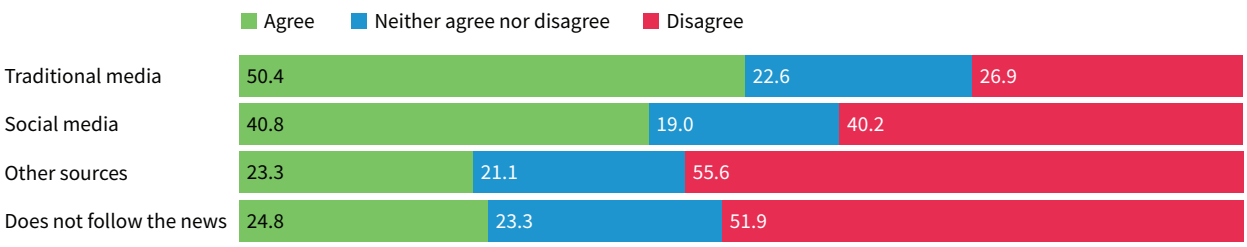
When considering opinions on the cost of the green transition, a clear media divide can be seen (Figure 9). Half of the respondents who stay informed through traditional media sources agree that the transition to a green economy will bring more benefits than costs, with a quarter disagreeing with the claim and about one in five neither agreeing nor disagreeing. When the same question is put to those who consume news mostly through social media, around 40 % agree and 40 % disagree, with again one in five being unsure of their position. The share of those disagreeing increases to half among respondents who consume alternative types of news or no news at all.

Trust, however, is not a single or simple concept. Its most commonly studied determinants – education, income, employment and general optimism – capture important individual-level variation (Boda et al., 2014; Algan et al., 2017; Eurofound, 2018; Eurofound, 2025c) but leave aside a deeper, relational dimension: whether people feel that institutions actually see them, value them and speak to their concerns. This report uses the concept of the recognition gap, defined as the disparity in worth and cultural membership between groups within society (Lamont, 2018), to capture this dimension. In policy terms, a recognition gap arises when there is a mismatch between how citizens perceive themselves and their communities and how they believe they are perceived by the government. This sense of being unseen or undervalued by institutions is a significant driver of political disaffection, and it is also a potential driver of climate scepticism and policy rejection. This relates directly to recognitional justice as set out in the analytical framework, which concerns the extent to which the diverse needs, identities and circumstances of citizens are acknowledged and respected by the institutions shaping the transition.

Drawing on the methodology developed in previous Eurofound research (Hyland et al., 2024a), perceived political recognition is assessed through five survey items asking respondents about the extent to which they agree or disagree with statements about how they feel they are treated by their government. These items capture two distinct dimensions of recognition: individual recognition, reflecting whether respondents feel that the government treats people like them fairly and with respect, and community recognition, reflecting whether respondents feel that their local community is acknowledged and valued by the government. A previous factor analysis confirmed that the five items fall into these two dimensions. Respondents who agree or strongly agree that the government acts unfairly, disrespects or ignores them at either level are identified as experiencing a recognition gap.

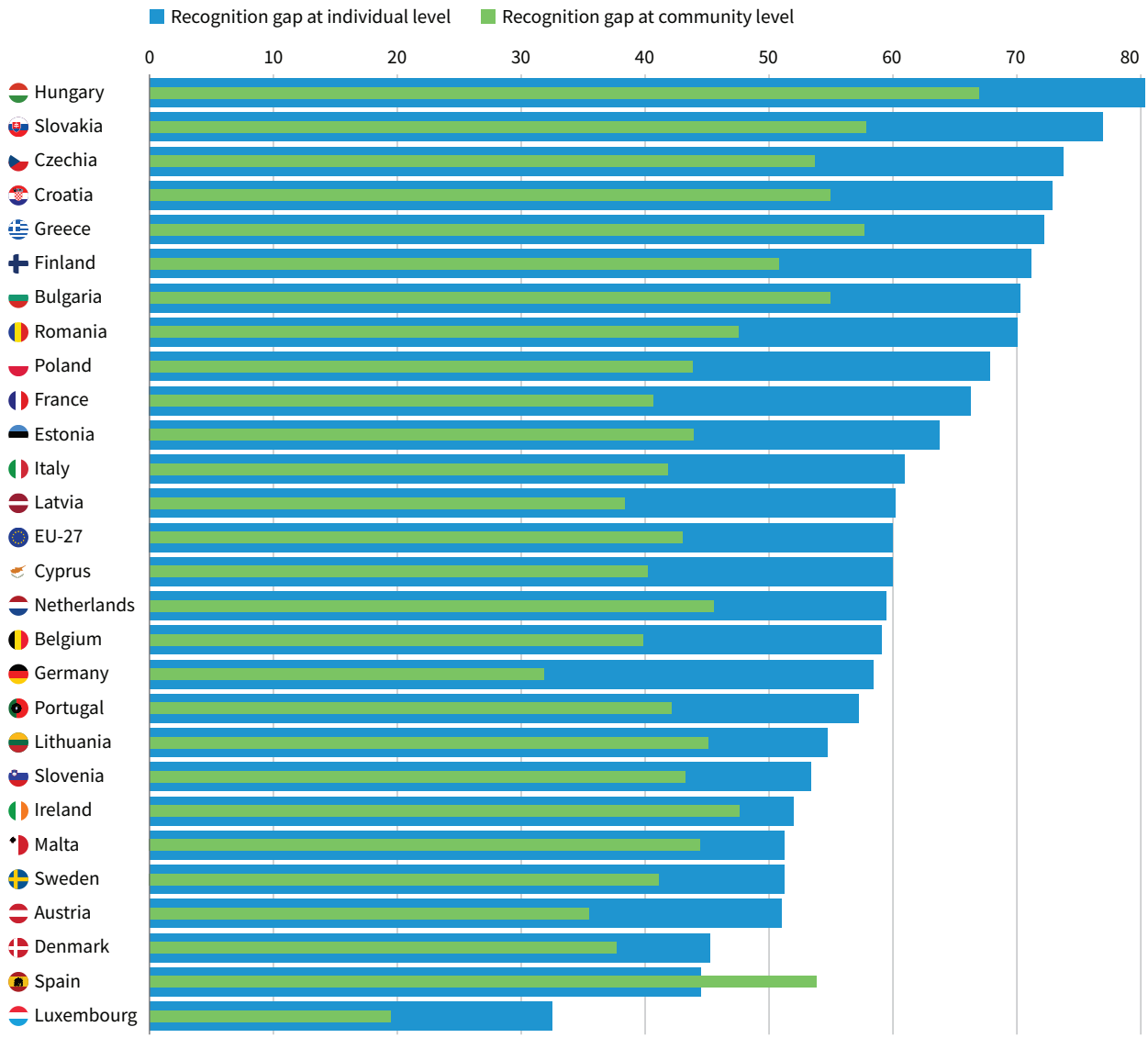
Results from the 2025 e-survey show that community recognition is higher than individual recognition, showing consistent results across Member States, with the notable exception of Spain (Figure 10). Central and eastern European Member States dominate the top of the scale. Hungary, Slovakia and Czechia show the largest individual recognition gaps, each exceeding 70 %. In Hungary, even the community-level gap is exceptionally large (approximately 67 %), indicating that Hungarians have a systemic perception of being undervalued across both personal and local identities. Spain also recorded a large community gap, which probably reflects the intensely regionalist and

Figure 9: Agreement with the statement 'the transition to a green economy will bring significant benefits that outweigh the associated costs', by main news source, EU-27, 2025 (%)



Source: Eurofound's e-survey.

Figure 10: Recognition gap, by Member State, EU-27, 2025 (%)



Source: Eurofound's e-survey.

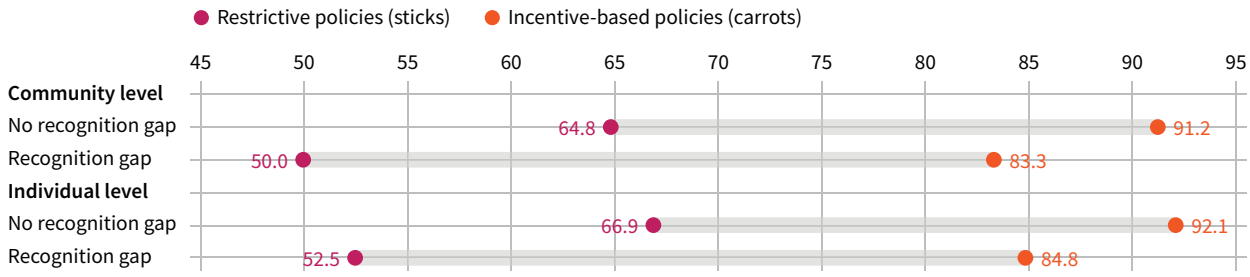
decentralised nature of the Member State, where 'recognition' is often viewed through the lens of autonomous communities or regional identity rather than just individual citizenship. Luxembourg, Spain and Denmark have the smallest gaps. While the EU average shows an individual gap of roughly 60 % and a community gap of around 40 %, the difference between the gaps in Luxembourg and those in Hungary is vast.

As recognition and trust are moderately correlated, recognition shows similar results to trust when comparing support for policy or opinions ([3]).

Respondents who experience a recognition gap are markedly less likely to support restrictive or incentive-based climate policies compared with those who feel recognised (Figure 11). The pattern holds at both community and individual levels, although with notable variation in magnitude across policy types. For restrictive policies, the gap is particularly large: roughly 14–15 percentage points at both levels (64.8 % vs 50.0 % at community level; 66.9 % vs 52.5 % at individual level). For incentive-based policies, the gap is narrower but still meaningful: approximately 7–8 percentage points (91.2 % vs 83.3 % at community level; 92.1 % vs 84.8 % at individual level).

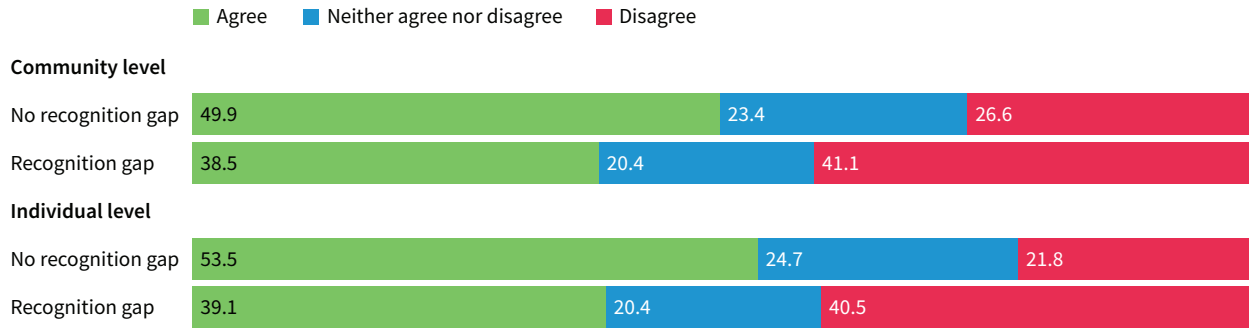
([3]) The correlation between individual recognition and trust in the national government is 0.7, whereas the correlation between community recognition and trust in the national government is 0.5. No significant correlation was found between trust in the EU and either form of recognition.

Figure 11: Support for at least one restrictive or incentive-based climate policy, by recognition, EU-27, 2025 (%)



Source: Eurofound's e-survey.

Figure 12: Agreement with the statement 'the transition to a green economy will bring significant benefits that outweigh the associated costs', by recognition, EU-27, 2025 (%)



Source: Eurofound's e-survey.

The effect of the recognition gap is evident in opinions about the costs of the green transition. When asked whether they agree with the statement that the green transition will bring more benefits than costs, respondents who lack recognition are much more sceptical. Half of those who feel recognised at community or individual level are in agreement with the statement, whereas a quarter are undecided and the remainder disagree (Figure 12). By contrast, those who feel a lack of recognition at community or individual level disagree slightly more with the statement, with almost an even split between those agreeing and disagreeing and about a fifth of respondents still undecided.

Strongest predictors of green policy support

When all of these factors are included together in a single regression model, the multivariate analysis confirms and sharpens the descriptive patterns reported above. Support for both restrictive and incentive-based policies was tested with regard to basic demographics, beliefs and concerns about climate change, trust and recognition, and subjective financial security (Figure 13).

As expected, concern about environmental issues is the main driver of support for both restrictive and incentive-based policies and the single most powerful predictor of support for both restrictive and incentive-based policies, with a notably larger effect on restrictive measures, suggesting that a willingness to accept **sticks** depends heavily on the strength of one's concern about the environmental crisis. Regarding trust and recognition, trust in the EU has a much higher correlation with policy support than trust in national governments, perhaps reflecting the extent to which the green transition is perceived as an EU-level project, whose legitimacy is tied more closely to EU institutions than to domestic politics. Community-level recognition also retains its significant positive effect on policy support: respondents who feel that their community is valued and taken into account by public authorities are more supportive of green policies.

Media consumption also plays a role. Respondents who do not follow the news through traditional media, whether in print or online, are less likely to support either type of environmental policy.

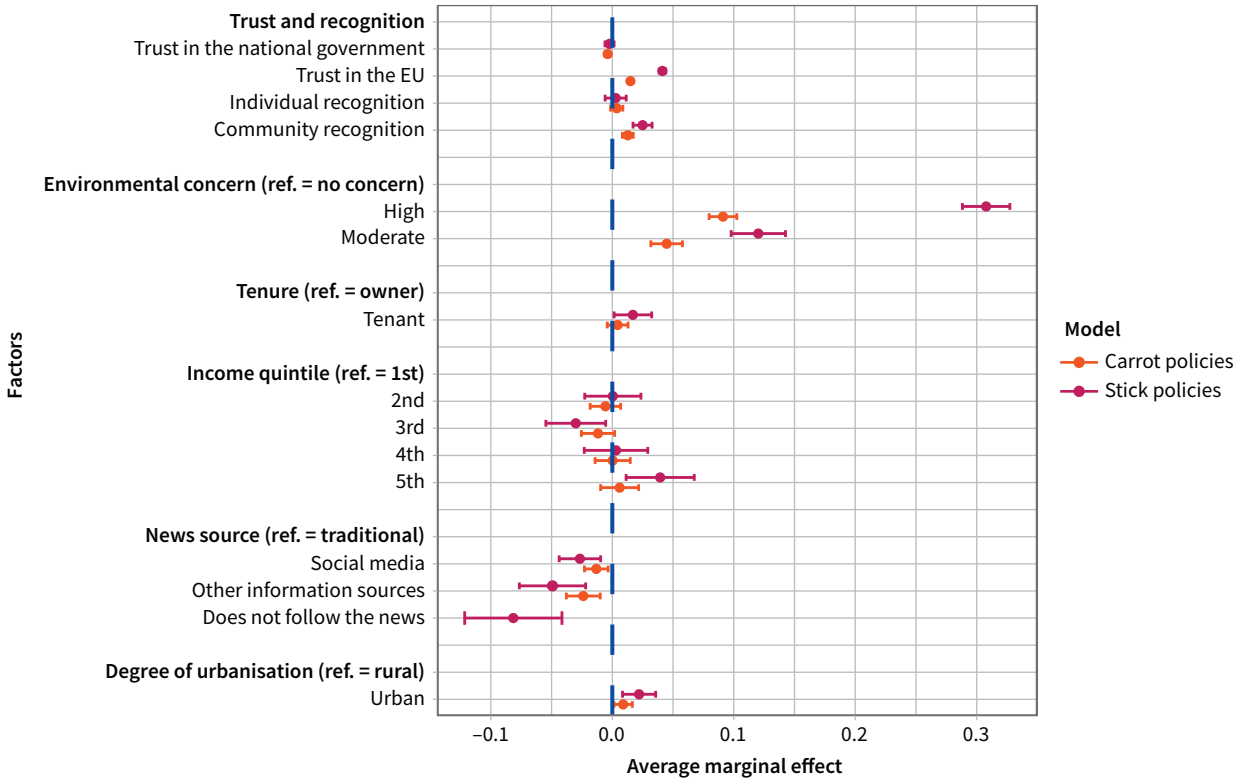
Turning to the financial predictors, the multivariate results confirm the patterns observed in the descriptive analysis. Income quintile has a negligible marginal effect on policy support once other variables are accounted for, with only the gap between the lowest and highest quintiles showing any meaningful difference. This strengthens the finding that the lower-middle class has similar opinions to less wealthy strata, showing that policy support is mostly found in

the wealthiest income group. Subjective financial security, by contrast, emerges as a more telling predictor, particularly of support for restrictive policies; respondents who report making ends meet easily are significantly more likely to express support. For incentive-based policies, the effect of financial security is weaker.

Younger, more educated and female respondents are generally more supportive of both restrictive and incentive-based policies. Among the e-survey respondents, the effect of education is more visible for incentive-based policies, whereas no significant difference was found for restrictive policies. Students are largely more supportive of both types of policies than employed respondents are. Among other groups, no significant differences can be seen. Similarly, support for both types of policies is higher among those living alone or sharing accommodation than among couples with or without children, or single parents. In particular, the largest difference in support for restrictive policies can be seen between couples with and without children. Homeownership does not seem to affect policy support, probably as the six policies in question were related to transport, taxes and appliances, with no direct link to one's tenure. Finally, respondents living in urban areas are more likely to support **stick** policies, whereas no significant difference could be seen for carrot policies.

Altogether, the multivariate analysis suggests that the strongest predictors of green policy support are attitudinal and relational rather than material or demographic. Environmental concern, trust in EU institutions and community-level recognition consistently outweigh income, age and place of residence. Subjective financial security matters primarily for restrictive policies and as a measure of perceived vulnerability rather than objective hardship. These findings have direct implications for policy design: maintaining public support for the green transition depends not only on compensating those who bear its costs, but also on sustaining institutional trust, addressing deficits in recognition and ensuring that the case for action reaches citizens in all information ecosystems.

Figure 13: Average marginal effects of sociodemographic and attitudinal predictors of support for environmental policies



Notes: The coefficient of determination (R^2) shows how well the dependent variables predict the independent ones. R^2 for **stick** policies is 0.23, whereas for carrot policies it is 0.22. The graph represents the marginal effects and upper- and lower-bound confidence intervals of each variable in the estimation of a logit model in which the dependent variable is whether the respondent supports carrot or **stick** policies. The model also controls for subjective financial security, age, educational attainment, employment status and household type, as well as Member State-level fixed effects. Survey weights are applied. The first income quintile is the poorest 20 % of the population; the fifth income quintile is the wealthiest 20 % of the population. Table A5 in Annex 3 shows a breakdown of the modelling of support for **stick** and carrot policies.
Source: Authors' estimates.

From policy support to individual climate action

Acknowledging the reality and urgency of climate change is necessary for a meaningful societal response, but insufficient on its own. Research consistently shows that high levels of climate concern do not automatically translate into either support for climate policies or changes in individual behaviour. Understanding why, and under what conditions, beliefs about climate change crystallise into policy support, and policy support in turn gives rise to concrete behavioural change, is essential for effective policymaking on climate issues. It is this chain, from belief to support to action, that the taxonomy proposed below seeks to capture.

The relationship between pro-environmental behaviour and policy support is broadly positive: individuals who engage in environmentally friendly actions tend also to endorse environmental policies, and vice versa. However, the mechanisms underlying this relationship are more nuanced than a simple correlation. Spillover theory suggests that engagement in one pro-environmental behaviour may increase the likelihood of engaging in others, including supporting policy measures. However, the evidence on spillover effects is mixed and negative spillover (whereby a person may undertake an environmentally friendly action but subsequently gives themselves permission to act in a less environmentally friendly way) has also been documented (Nilsson et al., 2017; Maki et al., 2019). Other work has clarified this picture, demonstrating that the positive association between environmentally friendly behaviour and policy support is largely driven by an underlying pro-environmental motivation: individuals who hold strong intrinsic environmental values are more likely both to act and to support policy, and it is this shared motivational root, rather than behaviour causing support or support causing behaviour, that primarily accounts for the observed relationship (Harring et al., 2017; Sharpe et al., 2021).

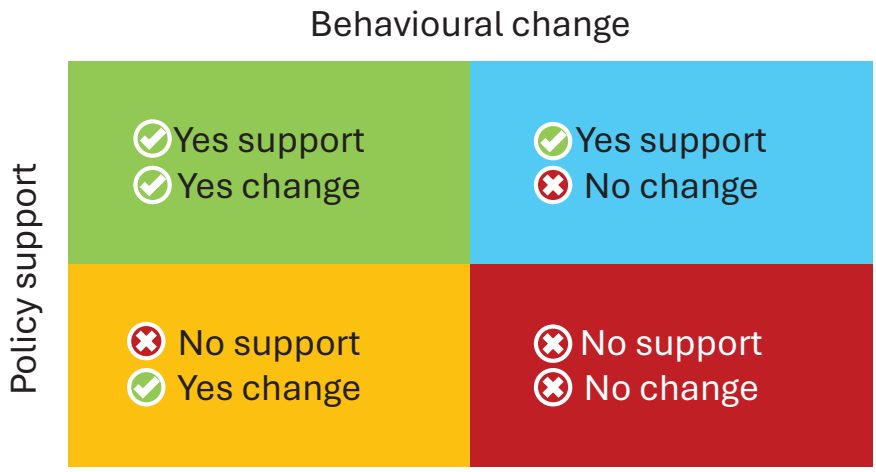
Obviously, pro-environmental motivations are not the only driver of environmental actions. Financial stability is a strong predictor of pro-environmental actions. Research shows that climate distress is more common in individuals in higher socioeconomic groups (Vercammen et al., 2023), and that subjective financial insecurity (rather than low income) is associated with lower engagement in pro-environmental behaviours due to perceptions that high levels of effort are required (Cavaliere et al., 2018; Berthold et al., 2023; Lind et al., 2024). Moreover, previous research flags an income paradox. Although more financial resources can facilitate engagement in certain green behaviours (e.g. living in energy-efficient houses, donating to carbon offsetting, buying organic food), greater wealth does not automatically translate into a more sustainable lifestyle overall (Berthold et al., 2023).

Regarding sociodemographics, evidence suggests that being younger, more educated and female is associated with a stronger perception of individual efficacy in contributing to climate change mitigation compared with other sociodemographic groups (Dirksmeier et al., 2023). Similarly, left-wing and college-educated individuals, as well as those with access to public transport and lower car usage and gas expenditures, tend to show greater support for climate action (Dechezleprêtre et al., 2025). Nevertheless, these studies also highlight that socioeconomic characteristics alone explain only a limited share of the variation in climate policy preferences.

To map the connection between policy support and changes in individual green behaviour, respondents to the e-survey were classified into four mutually exclusive groups based on two criteria. The first criterion concerns policy support and uses the same items discussed earlier in this chapter: three restrictive measures (increasing fossil fuel taxes, banning internal combustion engine vehicles and banning inefficient appliances) and three incentive-based measures (subsidising renewable energy, providing tax credits for EV purchases and investing in public transport). Respondents are classified as expressing support for green policy if they indicated that they were 'somewhat in favour' or 'strongly in favour' of at least three of the six policies, irrespective of whether these were **sticks** or **carrots**. The threshold of three was chosen to identify respondents demonstrating broad-based rather than single-issue support, while remaining inclusive enough to capture those who endorse a mix of policy types. The second criterion concerns changes made in individuals' green behaviour in two distinct areas. The first area covers changes made in the respondents' homes in the preceding five years. These include adding insulation; installing or upgrading air conditioning or ventilation; improving shading; collecting rainwater; installing backup power systems; and ensuring they have home insurance coverage against extreme weather events. The second area concerns changes to respondents' day-to-day mobility patterns made to reduce their carbon footprint. Options include driving less or car sharing; cycling or walking more; using public transport more often; and switching to an electric or hybrid vehicle. Respondents were classified as taking individual action if they reported at least one change in their mobility behaviour and at least one home-related adaptation made within the previous five years.

Combining these two criteria produces a four-group taxonomy: those who both support green policies and have taken action; those who support such policies but

Figure 14: Taxonomy of green policy support and changes to behaviour



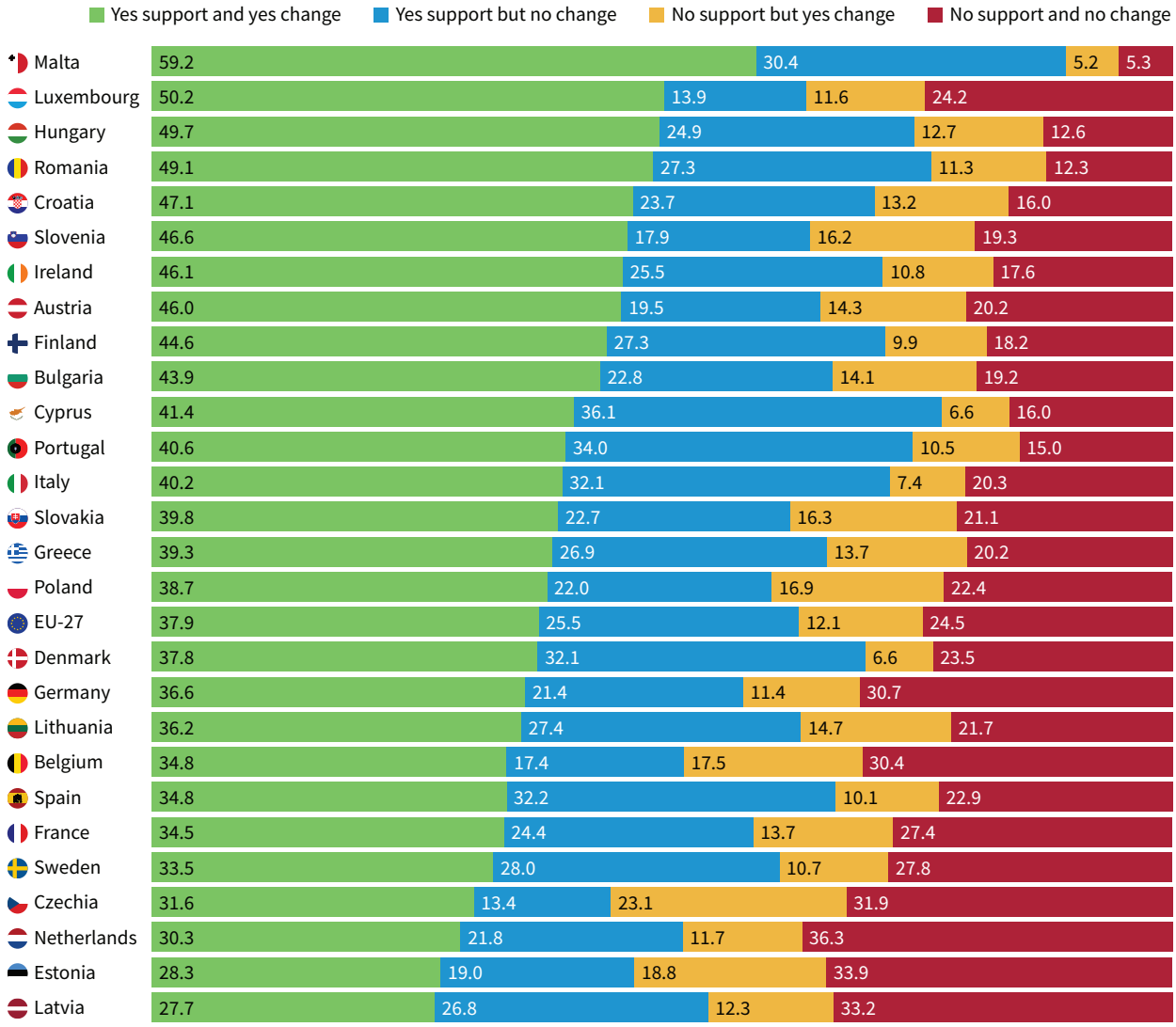
Source: Authors.

have not taken action; those who have taken action without supporting the policies; and those who neither support the policies nor have taken action (Figure 14). This two-dimensional classification allows us to examine the relationship between policy support and individual action and, critically, to identify segments of the population that support climate policies without acting, act without supporting policy, or do neither.

Figure 15 displays the distribution of the four groups across Member States. The green segment ('Yes support and yes change') ranges from nearly 60 % in Malta down to roughly 28 % in Latvia and Estonia. This wide range suggests that the alignment of attitudes and behaviour is far from uniform across the EU. The red segment ('No support and no change') represents those respondents who neither support climate policies nor report taking action. This is notably large in a number of north-western European Member States – the Netherlands (36.3 %), Germany (30.7 %) and Belgium (30.4 %) – as well as in Estonia (33.9 %), Latvia (33.2 %) and Czechia (31.9 %). This is perhaps counterintuitive and might reflect the fact that the five-year reference period for home-related changes and the focus on recent shifts in mobility behaviour mean that the action indicator captures recent transitions rather than all ongoing sustainable practices. Member States with more established environmental infrastructure and earlier adoption patterns may therefore appear less active than they are. Comparisons across different Member States should be interpreted with this limitation in mind. From a policy perspective, the blue segment ('Yes support but no change') is arguably the most important group in the chart, and it ranges from 36.1 % in Cyprus, 34.0 % in Portugal and 32.1 % in Denmark and Italy to 13.4 % in Czechia, 13.9 % in Luxembourg and 17.9 % in Slovenia. These are citizens who have already cleared the support hurdle but have not translated this into personal behavioural change (granted the same temporal limitation just outlined). Last, the yellow segment ('No support but yes change') is small everywhere, rarely exceeding 17 % and often in the single digits. However, the fact that it exists at all, and at non-trivial rates in some Member States, requires explanation. First, some of the behaviours captured by the action indicator may be driven by financial self-interest rather than environmental motivation, such as installing insulation to reduce energy bills, switching to an EV for tax advantages or using public transport because it is cheaper. These respondents might be taking actions that happen to be pro-environmental without necessarily framing them as such or without supporting such a framing.

To better understand why respondents may support policies but fail to take action (the blue group in Figure 15), regressions were run. Regressions were carried out for the other groups as well, and the results of these can be found in Table A6 in Annex 3. As can be

Figure 15: Taxonomy of green policy support and changes to behaviour, by Member State, EU-27, 2025 (%)



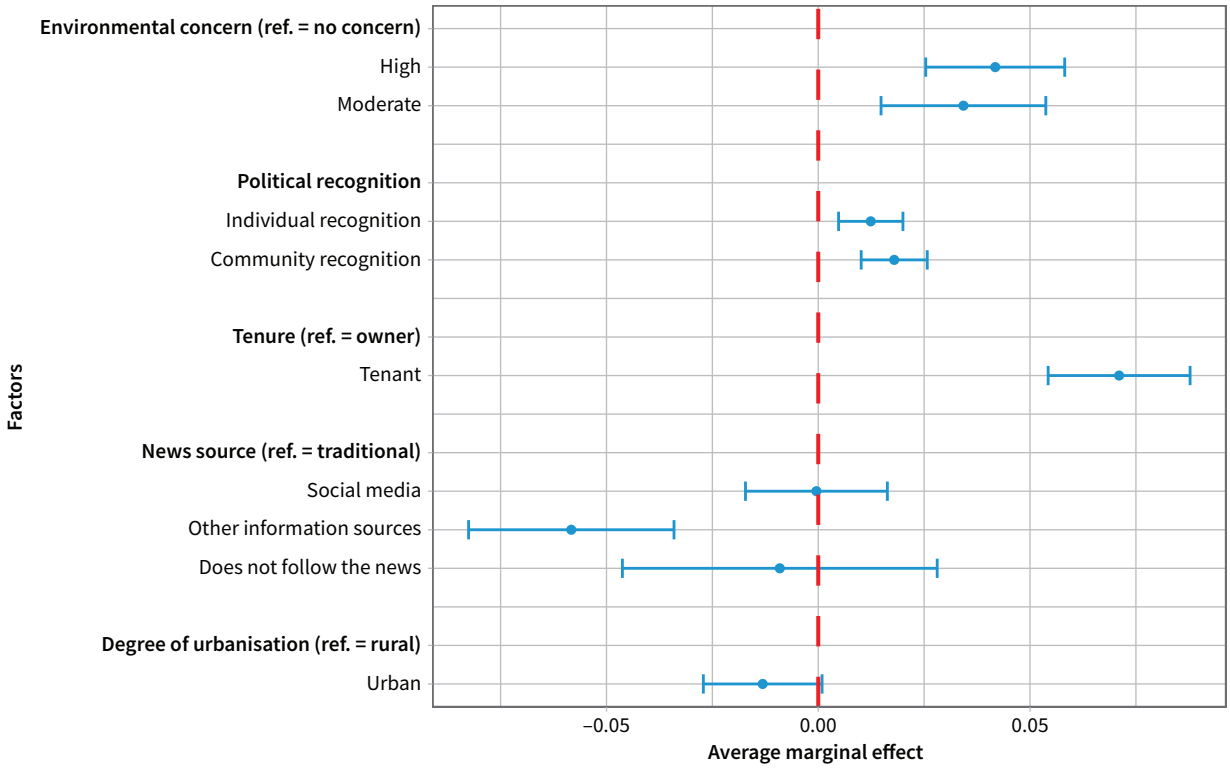
Source: Eurofound's e-survey.

seen in Figure 16, the effects of sociodemographic and attitudinal factors on predicting the blue group's policy support and change in behaviour, or lack thereof, are quite small. The attitudinal factor with the largest effect is environmental concern. As the literature suggests, pro-environmental motivation is the strongest driver of policy support regardless of behavioural change, while it becomes a negative predictor in the group that does not support policies. In other words, being 'very concerned' about climate change is associated with a substantial increase in the probability of falling into the category of those who support green policy. However, its effect on those who do not change their behaviour is notably smaller, which suggests that concern alone is sufficient to generate policy support but not to generate action. Being young, highly educated, a student and/or female correlates with a higher likelihood of supporting policies and changing behaviour, whereas older generations are more likely not to support green policy, regardless of changes in their behaviour. Moreover, respondents living in urban settlements are not statistically more likely than those living in rural ones to support green policy and not change their behaviours.

Contrary to some findings in the literature, these data indicate that subjective financial security and income quintile do not have a significant effect on the reasons why some people support environmental policies but do not change their behaviour, highlighting the complexity of the motivations behind this behaviour. Financial resources alone cannot fully explain the lack of behavioural change.

Being a renter has a positive marginal effect on the blue category compared with being a homeowner. This is likely to reflect both the structural point that renters have limited agency over home modifications (the landlord–tenant problem is well documented in the energy efficiency literature) and the demographic correlation between renting and being younger, lower-income and/or more residentially mobile.

Figure 16: Average marginal effects of sociodemographic and attitudinal predictors of support for environmental policy but no change in behaviour



Notes: The coefficient of determination (R^2) shows how well the dependent variables predict the independent ones. R^2 for this model is 0.05. Results for Member State and household type factors are not displayed. The graph represents the marginal effects and upper- and lower-bound confidence intervals of each variable in the estimation of a logit model in which the dependent variable is whether the respondent supports policies but has not made any behavioural changes. The model also controls for subjective financial security, age, educational attainment, employment status and household type, as well as Member State-level fixed effects. Survey weights are applied. The full regression results are presented in Table A6 in Annex 3.
Source: Authors' estimates.

Finally, individual and community recognition, as well as the mode in which news is consumed, affect policy support, regardless of behavioural change. Respondents who feel recognised are more likely to support policies, although the marginal effect of recognition on changing their behaviour is smaller. A similar picture can be seen for community recognition, where higher recognition implies more policy support, but not necessarily behavioural change. The mode in which news is consumed affects policy support and behavioural change insofar as respondents primarily consuming news through social media or not following the news do not differ from those consuming news through traditional media in their likelihood of supporting green policy but not changing their behaviour, whereas those consuming the news through other online communication outlets are much less likely to support environmental policies and to change to pro-environmental behaviours.

The overall message is that, with the exception of climate concern and, to a lesser extent, education, most attitudinal and sociodemographic predictors have relatively modest marginal effects. This echoes the previous conclusions in the literature that socioeconomic characteristics explain only a limited share of the variation in climate policy preferences (Dechezleprêtre et al., 2025). The implication for policy is that targeting interventions by demographic group alone is unlikely to be efficient; perceptual and motivational factors, and the structural barriers to action (housing tenure, infrastructure access, financial friction), may be more productive points of focus for interventions.

2 Household engagement with green mobility and energy efficiency

The previous chapter traced the individual's journey from believing in and directly experiencing climate change, through support for green policies, to the factors that drive or inhibit concrete action at individual level. A central finding was that the path from awareness to action is far from linear: some groups have a strong belief in climate change yet do not support the policies designed to address the problem; others support those policies but do not translate that support into action; and still others neither support these policies nor act. This chapter shifts the focus to those gaps in action: which individuals are not changing their behaviour in line with the policies of the green transition?

Regardless of the reasons behind non-adoption, the consequences for those who do not take part in the transition are tangible and cumulative, creating a concrete risk of being left behind. As seen in the introduction to this report, while the concept of being left behind in the context of the just green transition has typically been applied to workers in fossil fuel industries (e.g. coal mining), this report applies it more broadly to describe a situation in which people are at growing risk of social, economic and health disadvantages as a result of not participating, whether by choice or by constraint, in the green transition. Indeed, there are academic papers that discuss how social–ecological risks can occur both directly, because of climate change, but also indirectly, because environmental policies come with costs and benefits that are unequally distributed across the population (Mandelli, 2022). One example of an indirect social–ecological risk is carbon taxation: if people opt not to or cannot switch to less carbon-intensive forms of transport, they may see the cost of running their car increase with carbon taxes. In some instances, they may even find their mobility increasingly constrained, for example, by bans on polluting vehicles in certain areas, which may limit their access to employment opportunities, services and social life. Similarly, people who do not engage in home retrofitting activities may, as a result, live in poorer-quality dwellings with higher heating costs and poorer health outcomes. There is also an opportunity cost to non-adoption. Member States have invested – and continue to invest – significant financial resources in incentivising citizens to engage in the green transition, through subsidies and grants. Households that do not or cannot access this support fall further behind those that do, compounding the potential disadvantages outlined above. In short, the non-adoption of mitigation measures, regardless of the underlying reason, increases a person's likelihood of being left behind.

It is therefore imperative for policymakers to understand the many reasons why people do not engage in the green transition. Research shows that household-level barriers to climate mitigation measures can be classified as individual or societal (Stankuniene et al., 2020). Individual barriers include a lack of proper information, ingrained habits that are hard to change and demographic factors such as income level. Stankuniene et al. (2020) explain that societal barriers include a lack of government initiatives for climate change mitigation, financial strain and the existence of other economic priorities, and the unaffordability of some climate mitigation measures (e.g. EV adoption or solar panel installation).

The remainder of this chapter considers the characteristics, at individual level and beyond, that are associated with the adoption of climate change mitigation measures at the household level. The focus is on respondents' geographical, household, demographic and economic characteristics: where people live, who they live with, attributes such as gender, age and employment status, income level and self-perceived financial security. The report also goes beyond standard sociodemographic/socioeconomic characteristics and considers factors such as institutional trust and media consumption. Once the characteristics associated with actively engaging with the green transition are understood, those who are at risk of being left behind can be identified. Throughout the chapter, the focus is on decisions related to green mobility and household energy efficiency, two of the most prominent avenues by which people engage in the green transition, and two areas for which recent empirical evidence is available.

Greener mobility that leaves no one behind

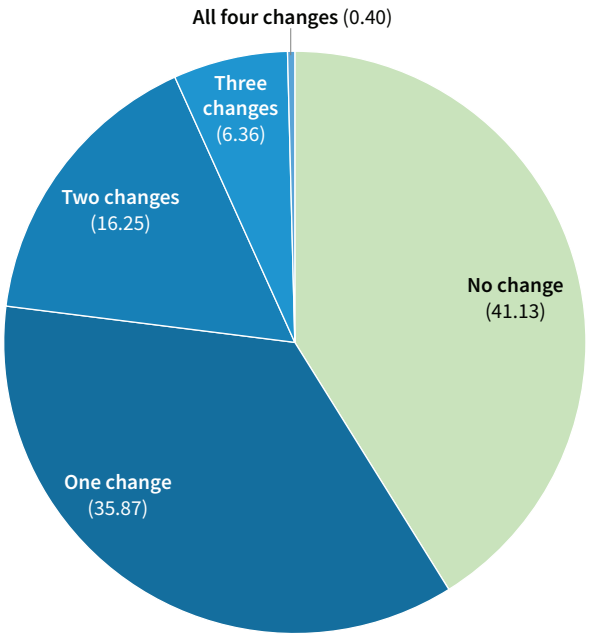
The literature shows that there is a range of factors that influence people's mobility choices and their propensity to use greener forms of mobility. These factors include the characteristics of the person and contextual factors related to the area where they live. At an individual level, age, gender, education, weight status (being overweight or normal weight) and whether or not a person has children are all associated with the probability of using active or public transport (Charreire et al., 2021). At a contextual level, research has shown that people cycle more in cities that have extensive and

well-connected bicycle networks (Buehler et al., 2016). When it comes to public transport, quality is an important determinant of use. Specific characteristics that correlate with higher usage of public transport include the relative travel times, frequency, punctuality, cost, safety, cleanliness and intramodality (the integrated use of two or more different modes of transport within a single, continuous journey) of the public transport that is available (De Oña et al., 2021; Lunke et al., 2021; Agrawal et al., 2025).

When it comes to consumer decisions to purchase an EV, considerations including the emissions impact, running costs and purchasing price are all important (Gómez Vilchez et al., 2019). Gómez Vilchez et al. also highlight the importance of government incentives in driving EV adoption and note that, because of differences in the sociodemographic characteristics of the Member States, the effectiveness of government incentives will vary across the EU. Further research finds that the propensity to switch to an electric or hybrid vehicle increases with income level, educational attainment and degree of urbanisation (Christidis et al., 2019). The results of that research also stress the importance of local conditions, including policies, incentives and charging infrastructure, in influencing electric and hybrid vehicle adoption decisions.

To assess contemporaneous attitudes and behaviours, the current analysis uses the most recent data on the topic, specifically from the 2025 wave of the e-survey. The data corroborate many of the findings from the literature. The survey captures the changes that people have made to how they get around on a daily basis to reduce their carbon footprint; they could choose from a list of four possible changes: (1) driving less or using a car share scheme; (2) cycling, using a scooter or walking more; (3) using public transport more often; or (4) switching from a combustion engine car to a hybrid or electric vehicle. It is important to note that the survey question on these changes does not include a time frame regarding when these changes were made and, as such, captures recent changes as well as those that respondents may have made some time ago. It is also important to note that a person's likelihood of changing their mobility patterns may of course depend on how green their current behaviours are, as also discussed in the previous chapter. The data show that survey respondents have made one change on average (with a mean of 0.9 changes and a median of 1). While it is positive to see that people are making changes, it is also notable that 41 % of the sample reported that they had not made any of the changes listed in the survey. Furthermore, less than a quarter of respondents had made more than a single change, and only half a percentage of respondents (0.4 %) reported having made all four changes (Figure 17).

Figure 17: Number of mobility changes made to reduce greenhouse gas emissions, EU-27, 2025 (%)



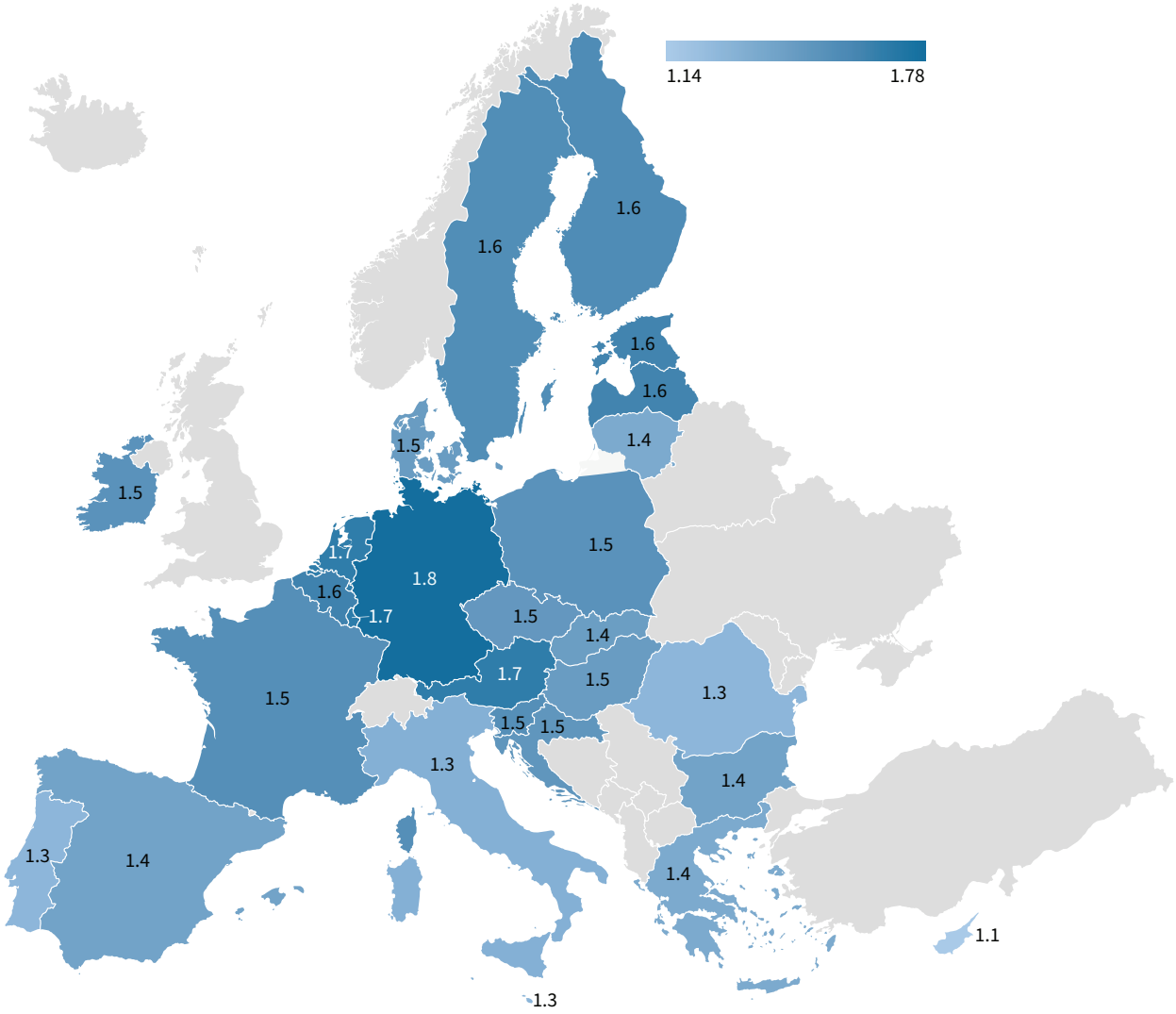
Source: Eurofound's e-survey.

Overall, the largest proportion of respondents reported changing their mobility patterns to cycle, use a scooter or walk more (29.5 %), or to take public transport more often (also 29.5 %). Almost one quarter of the sample (23.6 %) reported driving less or using a car share scheme more, but only 6.5 % reported having made the most expensive of the changes listed, which is having switched to an electric or hybrid vehicle.

Mobility changes across Member States and by degree of urbanisation

When considering aggregate patterns of changes in mobility across Member States, two distinct patterns emerge. In terms of breadth, the data show that the largest share of respondents reporting at least one mobility change is in Hungary (71 %), followed by Malta and Romania (69 % and 67 %, respectively). In terms of depth, however, a different picture emerges: respondents in Germany reported the greatest average number of changes (an average of 1.8 changes to greener mobility patterns), followed by Luxembourg and the Netherlands (both at an average of 1.7 changes) (Figure 18). The Member States with the widest adoption are not necessarily those where adopters make the most changes, suggesting that the breadth and depth of mobility changes follow different patterns across Member States. This may reflect the fact that different Member States have different levels of baseline green behaviour and also that, across Member States, people have access to a different number of possible changes.

Figure 18: Average number of mobility changes made by Member State, EU-27, 2025



Notes: The minimum number of mobility changes that could have been made is zero (a person has made none of the changes listed in the survey) and the maximum number is four (a person has made all four of the changes listed).
Source: Eurofound's e-survey.

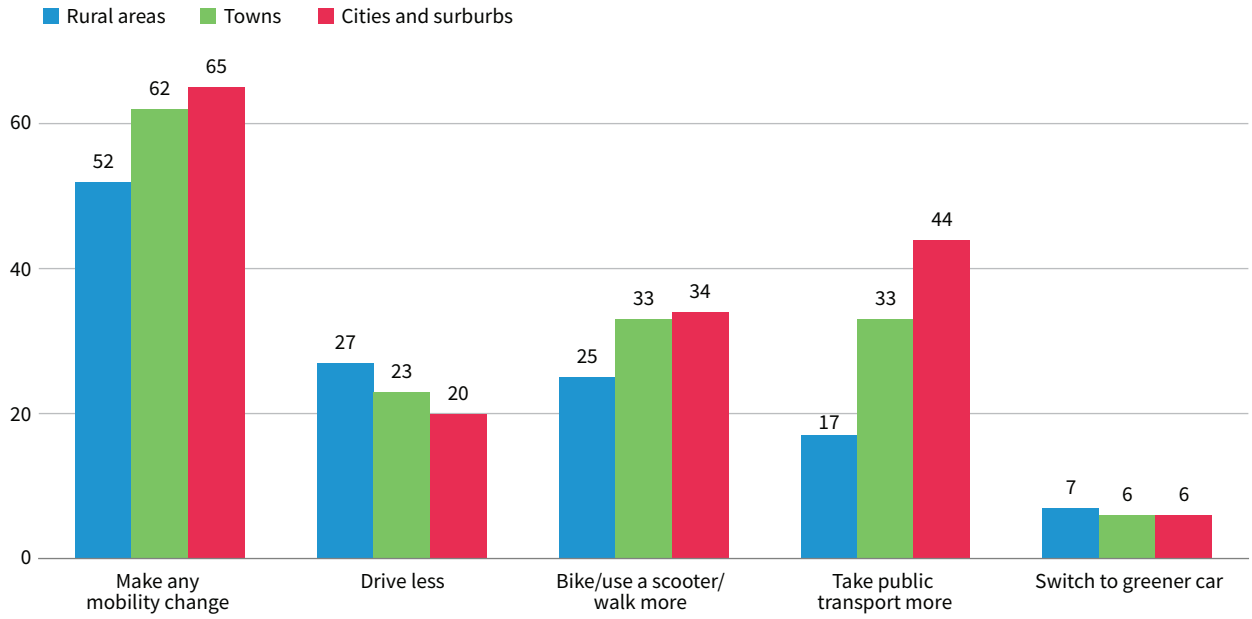
However, it is important to remember that these data show green changes, but not necessarily green behaviours. For example, the data show that the lowest percentage of respondents reporting making any changes to their mobility patterns is in the Netherlands (49 %), but the Netherlands is the Member State where the second lowest percentage of respondents report driving regularly (48 % of respondents report driving two or more days per week in the Netherlands) and where the highest percentage of respondents by far report biking regularly (57.6 %, with Denmark coming second at 32.6 %).

Of course, a person's regular mobility patterns, and their ability to make greener choices, are influenced by many things. For example, when looking at people's propensity to use public transport more to reduce their carbon footprint, it is necessary for there to be public transport services available. Likewise, decisions around biking and walking will be influenced by infrastructure (e.g. cycleways) and distances to services and employment. Urban areas typically have denser public transport networks, shorter distances and more developed cycling infrastructure, meaning that residents have a wider range of low-carbon alternatives readily available to them. Rural areas, by contrast, are often characterised by car dependency, longer travel distances and limited or no public transport provision, making greener mobility choices considerably harder to adopt. The data bear this out: 65 % of urban dwellers have made at least one mobility change to reduce their

carbon footprint, compared with 62 % of those living in towns and 52 % of those living in rural areas (Figure 19). This points to a potential need to improve policies that aim to boost sustainability in rural areas and confirms results from the academic literature that there is a need to extend the sustainability agenda beyond cities (Haarstad et al., 2026).

Looking beyond the headline figures to the specific changes that are being made, Figure 19 shows that rural residents more often reported that they drive less or car share more in order to reduce their emissions. This probably reflects the fact that rural residents are the most intensive car users (74 % of rural residents in our sample drive regularly, compared with 43 % of city dwellers). On the other hand, rural residents are less likely to report that they bike, walk or use a scooter more, and significantly less likely to report that they take public transport more often. This probably reflects several factors: rural residents tend to be older on average, they need to travel farther to access essential services (Eurofound, 2023c), and they face the infrastructure constraints outlined above. In this sense, as more resources are being invested in encouraging greener mobility choices, rural residents appear to be less able to benefit from these investments. Furthermore, the burden of policies to discourage polluting behaviours, such as taxes on fossil fuels, may fall disproportionately on rural residents, as they may be constrained in terms of how much they can adapt their mobility patterns. It is also worth noting that, across all degrees of urbanisation, a low percentage of respondents have switched to a less polluting car, with little variation across levels of urbanisation. This is unsurprising given that this is the change with by far the highest associated upfront cost, and one that would be unaffordable to many households.

Figure 19: Mobility changes, by degree of urbanisation, EU-27, 2025 (%)



Source: Eurofound's e-survey.

Who is at risk of being left behind?

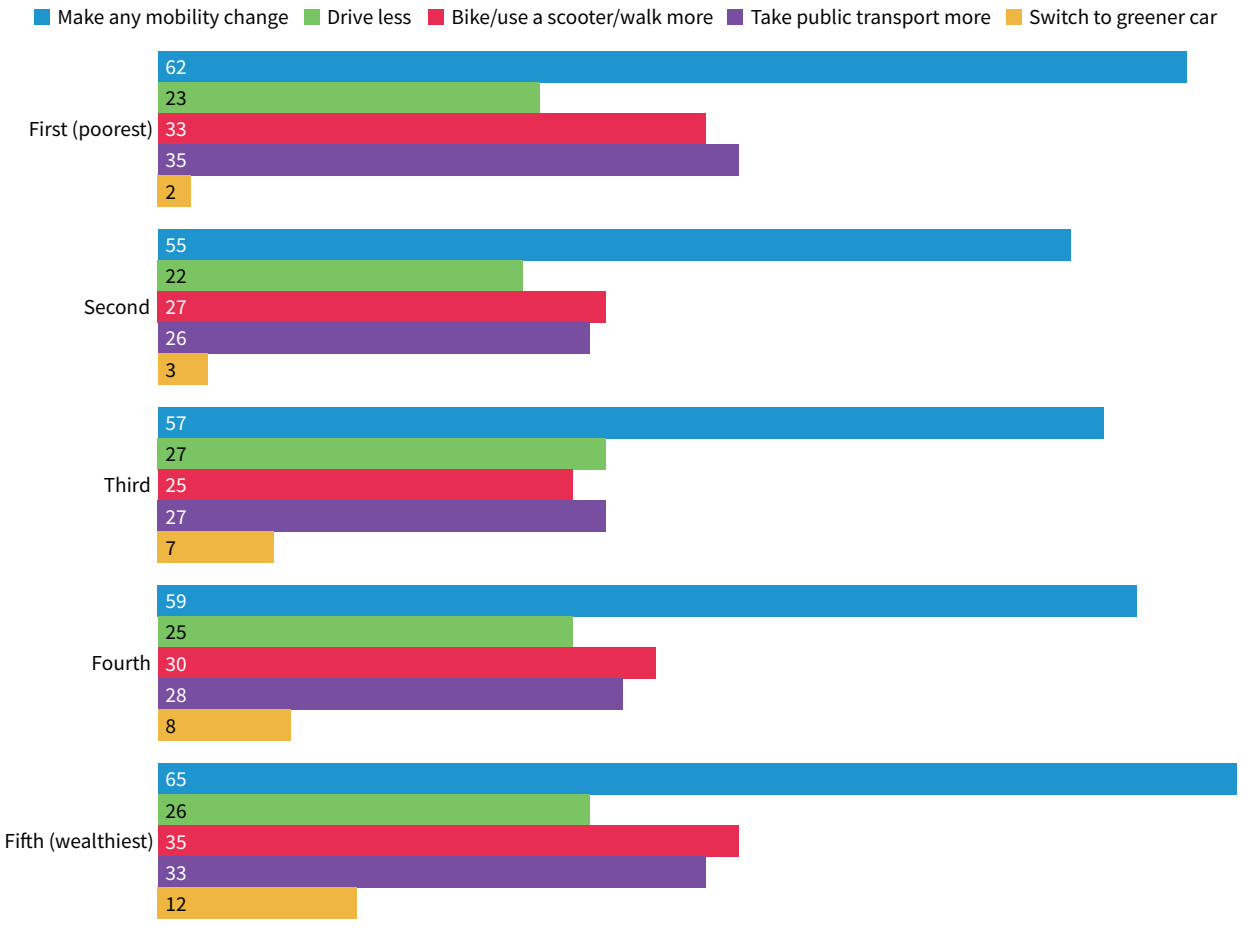
Rural residents are at particular risk. They are less likely to have made mobility changes to reduce their carbon footprint (52 %, compared with 65 % of urban dwellers), and the changes available to them are more limited. Denser public transport networks, cycling infrastructure and shorter distances to services are concentrated in urban areas, leaving rural households more dependent on private vehicles. As a result, rural residents stand to benefit less from public investments in green mobility, while bearing a disproportionate amount of the burden from policies that penalise carbon-intensive transport, such as fossil fuel taxes. The gap is compounded by demographic factors: rural populations tend to be older and travel longer distances to reach essential services.

Mobility changes across socioeconomic characteristics

Turning from geographical patterns to differences related to socioeconomic characteristics, interesting patterns emerge when examining behavioural changes across income levels, both in households' propensity to change and in the specific changes they make. The data presented in Figure 20 show that households in the highest income quintile are most likely to report having changed their mobility patterns to reduce their greenhouse gas emissions, with 65 % of households having made at least one change. These households are followed by those in the lowest quintile (with 62 % reporting having made changes) – indicating that behavioural change is more frequent in the wealthiest and poorest quintiles. Patterns across subjective financial security, measured by reported difficulty making ends meet, do not follow a simple gradient. Respondents who make ends meet 'easily' report the highest rate of behavioural change, with 65 % making at least one mobility-based change. The two groups adjacent to those making ends meet 'easily' report lower and identical rates of change: 61 % among both those who make ends meet 'very easily' and those who do so 'fairly easily'. The difference between the patterns across income groups and subjective financial security is interesting. Clearly there are important differences between people's income and their sense of financial security. Indeed, people within the same income quintile may have very different levels of subjective financial security depending on, for example, which part of their country they live in or how many children they have. Such differences may be affecting their decisions regarding green mobility. The relationship between income, financial security and green mobility decisions will be revisited later in this chapter.

Interesting patterns also emerge from the data when the types of changes made are considered. It can be seen that the overall tendency of the highest- and lowest-income groups to have made more changes is driven by the fact that households within these groups are more likely to report that they bike, walk or use a scooter more (with the greatest switch taking place among the wealthiest households) and use public transport more (with the largest switching rate among households in the lowest income quintile). On the other hand, switching to a greener car is uncommon across all groups, but the prevalence of this action increases with

Figure 20: Mobility changes, by income quintile, EU-27, 2025 (%)

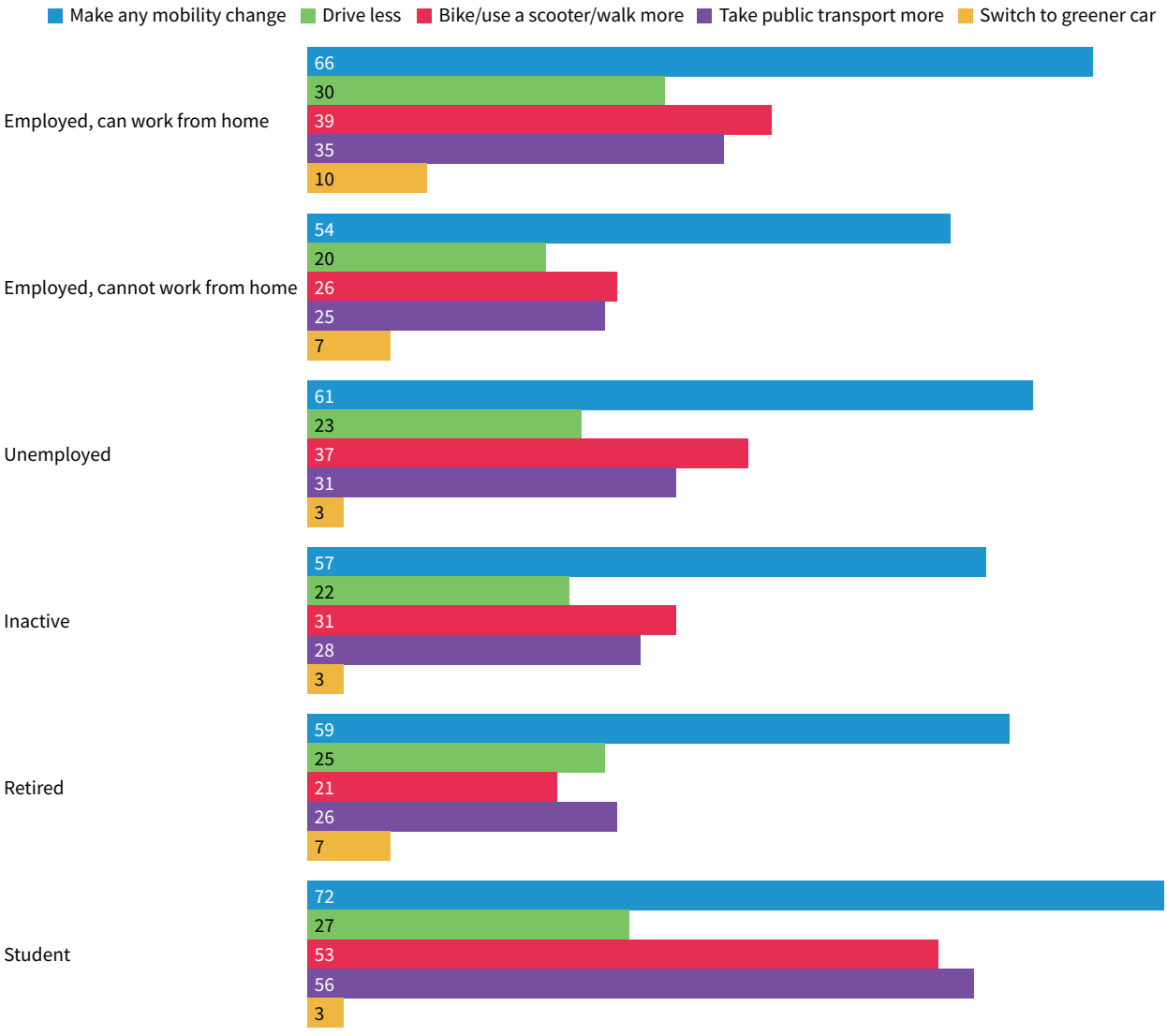


Source: Eurofound's e-survey.

income level (only 2 % in the lowest-income group, compared with 12 % in the highest). These data suggest that making changes is generally possible across income groups, but only the wealthiest households can afford to make changes that involve high costs. Although the e-survey frames these changes as being motivated by emissions reduction, it is worth noting that some low-cost mobility shifts among lower-income households, such as increased walking or public transport use, may also be driven by financial constraints, with respondents retrospectively framing them as environmental.

Looking at the employment status data in Figure 21, the patterns in mobility changes again highlight that people make the changes that are feasible within their constraints. The data show that students lead the way in reducing carbon emissions through their transport choices, with 72 % of student respondents making at least one change. This is followed by those in employment who can work at least partly from home (66 % of whom report making at least one change). In contrast, employed individuals who cannot work from home are 12 percentage points less likely to make a green mobility change. In fact, those in employment who cannot work from home have made the fewest number of changes, suggesting that their commuting patterns make it harder for them to make changes. It is also notable that those who are in employment and can work from home are the group who most often report that they have switched to a greener car (with 10 % having done so). Since the ability to work from home is concentrated in higher-skilled and better-paid occupations (Eurofound, 2022), this reinforces the link between higher-cost changes and income level, as highlighted in Figure 20.

Figure 21: Mobility changes, by employment status, EU-27, 2025 (%)



Source: Eurofound's e-survey.

Who is at risk of being left behind?

Low-income households, students and those in employment who cannot work from home are at particular risk. While these groups report relatively high rates of mobility change overall, their changes are overwhelmingly concentrated in low-cost or no-cost options such as walking, cycling and using public transport more. Higher-cost changes, particularly switching to a greener car, remain largely out of reach (only 2 % of the lowest income quintile have done so, compared with 12 % of the highest). For many of these households, the changes reported may reflect financial necessity as much as environmental motivation. As a result, while low-cost behavioural shifts are broadly accessible across all income quintiles, the most impactful and costly transitions risk remaining a privilege of wealthier households, expanding rather than narrowing existing inequalities.

When behavioural changes across types of tenure are considered, it can be seen that 63 % of those who are renting privately report having made at least one change. This drops to 58 % for those renting social housing or those who are owner-occupiers. In general, renters are more likely to report using public transport and biking, using a scooter or walking more often. These patterns are likely to be linked to the concentration of rental properties in urban areas. These correlated factors will be teased apart in the regression model that follows.

Across household types, the data do not show large differences in aggregate rates of having made any mobility changes. However, as with mobility changes across income levels, the type of switch differs by household type. For example, 23 % of couples with children report using public transport more compared with 37 % of single people. On the other hand, households comprising couples (with or without children) most often report switching to a more environmentally friendly car.

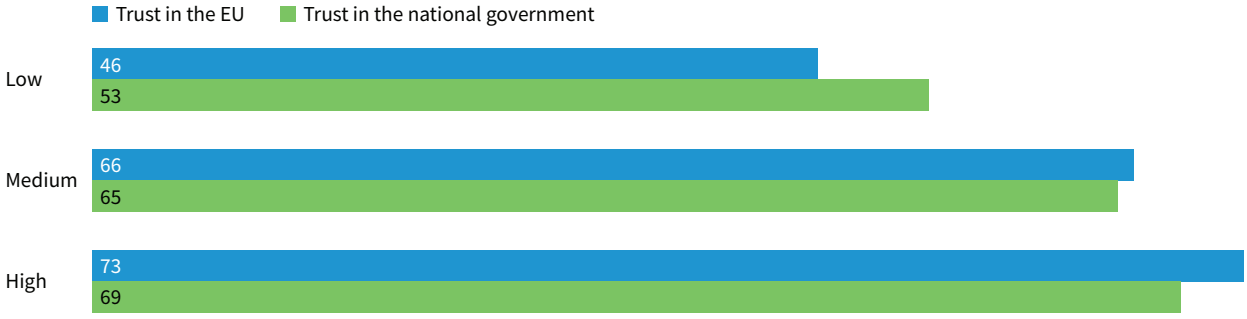
Finally, across genders, the data reveal that women are more likely than men to have made a change: 63 % have made at least one change, compared with 55 % of men. This is driven by the fact that women are more likely to report that, in order to reduce their CO_2 emissions, they drive less or use public transport more. Other mobility changes do not show important differences between genders. Statistical differences in changes by gender will be highlighted later in the chapter.

How mobility changes relate to trust, recognition and inclusion

Chapter 1 discussed in detail the relationship between trust, recognition and inclusion and people's support for the policies of the just green transition. Unsurprisingly, similar patterns are apparent when people's active participation in reducing their emissions is considered (Figure 22). Among those who report the lowest levels of trust in their national government (rating their level of trust as 3 points or fewer on a 10-point scale), 53 % report having made at least one mobility change; this increases to 65 % for those with a medium level of trust (4–7 points out of 10). Among those who report a high level of trust in the government (7–10 points out of 10), 69 % have made at least one change.

The relationship between trust in the EU and mobility changes follows a similar pattern, ranging from 46 % among those with a low level of trust to 73 % among those who report the highest levels of trust in the EU. However, the correlation between trust and behavioural change is notably stronger for trust in the EU than for trust in national governments. This is consistent with the finding from Chapter 1 that trust in the EU is a

Figure 22: Mobility changes by level of institutional trust (percentage of respondents making at least one change), EU-27, 2025 (%)



Notes: Survey respondents were asked to rank their level of trust on a scale from 1–10. In the graph, scores of 1–3 are categorised as a low level of trust, 4–7 as a medium level, and 8–10 as a high level of trust.
Source: Eurofound's e-survey.

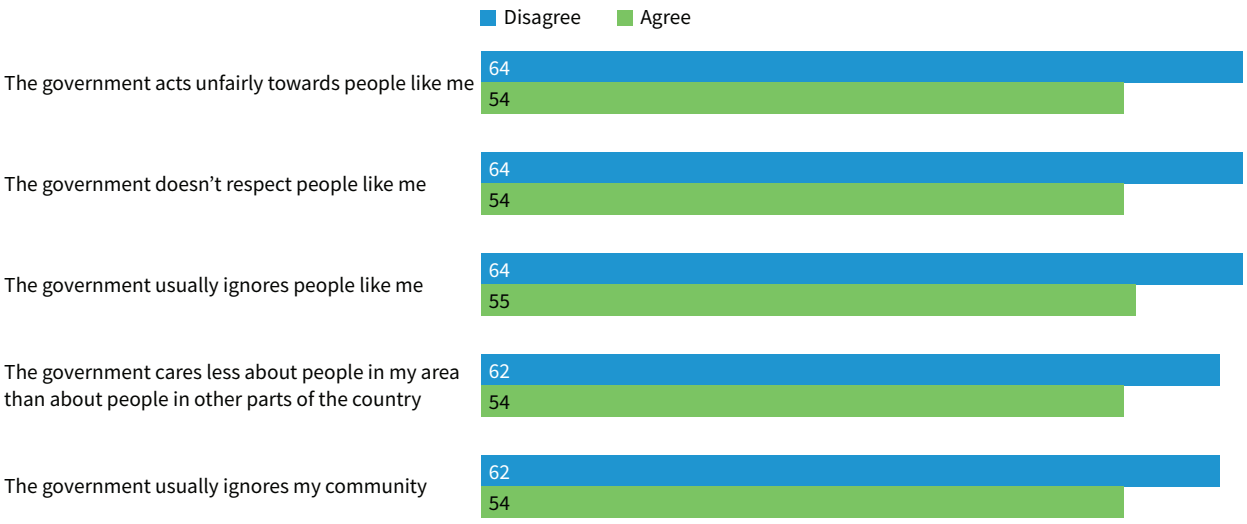
stronger predictor of policy support than trust in the national government, but also in line with the prominent role that the EU takes in the just green transition, as explained in the introduction. For both measures of trust, much of the increase is concentrated at the lower end of the scale: the gap between 'low' and 'medium' levels of trust is considerably larger than between 'medium' and 'high' levels of trust, suggesting that very low institutional trust is a particularly strong barrier to behavioural change. This has implications for the groups identified earlier as most at risk of being left behind, since low income, lower education and a large recognition gap are all associated with lower institutional trust. There is also a potential for reverse causation here, as those who are dissatisfied with the policies deployed and find them unfair or ineffective may report lower levels of trust in institutions.

The relationship between institutional trust and climate action can also be examined through the lens of individual and community recognition, as discussed in the previous chapter. As noted by Hyland et al. (2024a, 2024b), an underlying tension that led to the wave of farmer protests that began in late spring of 2023 was resentment towards climate policies, which were perceived as unfair by residents of rural areas. Some of these residents felt that their lives and livelihoods were being targeted by policies that tried to shift people away from fossil fuel production and consumption patterns (Hyland et al., 2024b), which showed a large rural–urban divide in perceived political recognition.

The results from the 2025 wave of the e-survey show a persistent gap in the adoption of green behaviour between those who feel recognised by political institutions and those who do not (Figure 23). Those who feel there is a lack of recognition and respect for them or their communities are less likely to report having changed their mobility patterns to reduce their greenhouse gas emissions. This points to a clear area for policy intervention, and one that maps onto two dimensions of the analytical framework. The grievance is, at its root, a failure of recognitional justice. The remedy lies mostly in procedural justice: giving affected communities a genuine voice in the decisions that shape the transition. Deliberative mechanisms such as citizens' assemblies have been shown to increase support for climate policy (Muradova et al., 2020). Crucially, however, the level of participation should match the recognition that is felt to be denied. Because the grievances documented here are strongly spatial, concentrated in rural areas that feel overlooked by central institutions, local and regional deliberative processes or national processes with guaranteed representation for affected communities are likely to be more effective. Participation that remains removed from the communities concerned risks reproducing the very sense of being unseen that it seeks to remedy.

Finally, the academic literature has documented a link between news sources and institutional trust. Daminov (2024) has shown that trust in institutions is higher among those who consume news via the print media. The author also found lower levels of political trust among those who use social media as their main news source. Because this link has been established in the literature, it is worth investigating how one's primary source of news relates to behavioural changes in the context of the just green transition. If people who consume news via social media have lower levels of institutional trust, it could be assumed that they also are less likely to actively engage in the just green transition. The results are presented in Figure 24, which confirms our expectations. The proportion of

Figure 23: Mobility changes, by aspect of the 'recognition gap' (percentage of respondents making at least one change), EU-27, 2025 (%)



Source: Eurofound's e-survey.

Figure 24: Mobility changes, by primary source of news (percentage of respondents making at least one change), EU-27, 2025 (%)



Source: Eurofound's e-survey.

Who is at risk of being left behind?

Those who distrust political institutions and those who feel unrecognised or disrespected by political institutions are at particular risk. Among respondents reporting the lowest levels of trust in the EU, only 46 % have made at least one mobility change, compared with 73 % among those with the highest levels of trust. The barrier is clearest at the bottom end of the scale, suggesting that deep institutional distrust is a particularly powerful obstacle to change. A similar pattern holds for recognition: respondents who feel unrecognised or disrespected, whether at individual or community level, are less likely to have adopted greener mobility behaviours. Finally, those who get their news from non-traditional sources, or who do not follow the news, also risk being left behind.

respondents who have made at least one mobility change is highest among those who use traditional media as their main news source (63 %) and lower for those who get their news from social media (54 %). The results also highlight that those citizens who do not follow the news at all are least likely to have made any green mobility changes. However, it is worth noting that this group represents a minority of survey respondents (less than 4 %).

Which factors predict the adoption of greener mobility?

The characteristics discussed so far, including degree of urbanisation, tenure, income and trust, are all correlated with one another. To identify which are the strongest independent predictors of green mobility change, a multivariate analysis was conducted, which allowed us to assess the predictive power of each individual factor, while keeping all other factors constant. The results of this statistical analysis are presented in Figure 25. The results are intended to complement the descriptive analysis presented in this chapter, without making any claims regarding the presence or the direction of any causality.

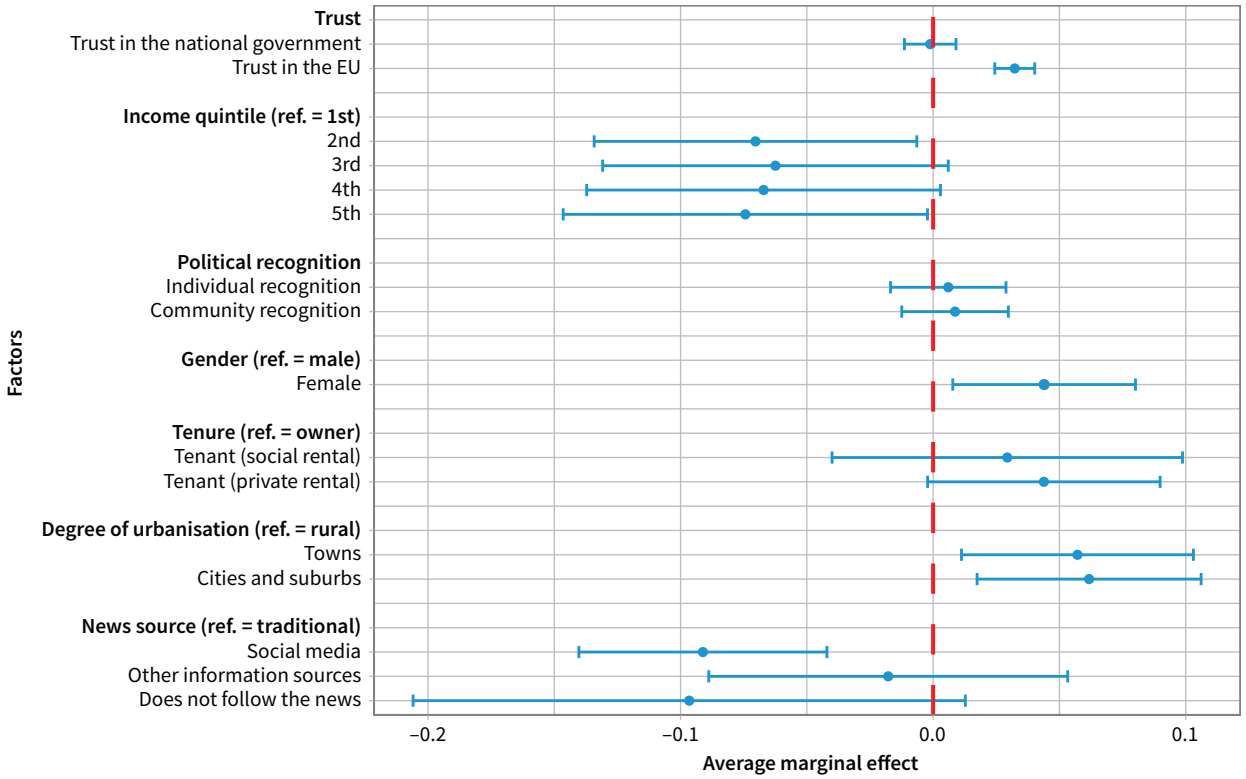
The results confirm some of the patterns observed in the descriptive analysis, but also reveal important distinctions. They show that, after controlling for a range of other variables, residents of towns, cities and suburbs remain more likely than rural residents to make green mobility changes. This underscores the fact that it is harder for rural residents to change their mobility patterns as they are heavily dependent on cars. Across income quintiles, the second-wealthiest quintile and the wealthiest quintile are less likely than the poorest households to make changes, but there are no differences across the other income quintiles. However, once income and other characteristics are controlled for, subjective financial security (difficulty making ends meet) is not a statistically important predictor of mobility changes on aggregate ([4]).

The data also reveal that, across education levels and household types, no significant differences in respondents' likelihood of making mobility changes can be seen (see Table A7 in Annex 3 for the full results). This suggests that the patterns seen in relation to these characteristics were driven, at least in part, by other factors correlated with financial security, education and household type.

When considering differences across employment status groups (see Table A7 in Annex 3 for the full results), the data show that, relative to those in employment who work at least partly from home, those in employment who never work from home are less likely to make mobility changes. This suggests that being able to work from home brings some flexibility, enabling people to adapt their behaviour. On the other

([4]) It is worth noting that if either income or subjective financial security is included in the model, but not both, the sign, magnitude and significance of the coefficients do not change.

Figure 25: Statistical analysis of the factors affecting propensity to make mobility changes



Notes: The graph represents the marginal effects, with 95 % confidence intervals, of factors used for the estimation of a probit model in which the dependent variable is whether the respondent has made any mobility changes to reduce their greenhouse gas emissions. The model also controls for subjective financial security, age, educational attainment, employment status and household type, as well as Member State-level fixed effects. The sample size is 17 734 observations. Survey weights are applied. The first quintile is the poorest quintile; the fifth quintile is the wealthiest quintile. The full regression results are presented in Table A7 in Annex 3.
Source: Authors' estimates.

hand, there are no other significant differences across other employment status groups. This may be because employment status, beyond the ability to work from home, is correlated with income level, which is controlled for in the regression. Across genders, the differences noted above are confirmed by the regressions, showing that, when all else is equal, female respondents are statistically more likely to make green mobility changes.

In terms of trust and recognition, interesting patterns emerge. Trust in the EU is a positive and significant predictor of behavioural change in terms of mobility, but trust in national governments is not. This may be related to the fact that many policies aimed at reducing greenhouse gas emissions originate at EU level. In terms of recognition, the results show that neither a stronger belief in the political recognition of people like oneself nor a stronger belief in the political recognition of one's community are significant predictors of change once other variables are accounted for ([5]).

Finally, the regression analysis confirms and indeed emphasises the importance of one's news source as a predictor of green mobility change. The results show that, relative to those respondents who get their news and information from a traditional media source, those who get their news from social media are much less likely to make green mobility changes. In fact, among the variables included in the model, obtaining news from social media has the strongest significant association (notably a negative one) with the likelihood of making green mobility changes. The large coefficient for social media use could suggest that its role goes beyond eroding institutional trust in general and extends to having a direct influence on behavioural change. This could be linked to the spread of disinformation about climate change and climate policies on social media platforms. On the other hand, the coefficient for those who do not follow the news is negative but not statistically significant. This could be due in part to the small sample size of this group.

([5]) While measures of trust and recognition are correlated, tests of their variance inflation factors do not suggest that the variables are multicollinear in the regression. The variance inflation factors for these variables are all between 2.0 and 2.7.

On whom should policymakers focus to leave no one behind in mobility?

Three overlapping groups require attention. First, **rural residents**, who face the most limited green mobility options and bear disproportionate shares of the cost of carbon pricing policies. Second, **lower-income households, single parents and other financially constrained groups** who can adapt their behaviour only through low-cost or no-cost changes, while the most impactful transitions remain out of reach. Third, and most critically, those who **distrust EU institutions** or are **disengaged from (mainstream) news sources**, as these are the strongest independent predictors of not adopting green behaviours once all other factors are kept constant. These three dimensions frequently overlap: rural, lower-income and less educated people are also those most likely to report low trust in EU institutions. Addressing the mobility dimension of the green transition requires **simultaneous action to improve infrastructure, affordability and institutional engagement**.

A final point to note on the regression results is the overall limited explanatory power of the model. The model has a pseudo *R*-squared of 0.074, and this is despite the fact that it contains Member State-level fixed effects and a rich set of individual control variables. This highlights the role that system-level or policy-level factors, which were not observed in the data for this report, could have in driving behavioural change.

Home energy efficiency that leaves no one behind

Improving the energy efficiency of residential buildings is a cornerstone of the just green transition. Households' motivations to make such changes may include reducing building-related greenhouse gas emissions, lowering energy costs or improving overall dwelling quality. For vulnerable households in particular, energy efficiency improvements can also reduce energy poverty and protect against rising energy prices; there is also evidence that such improvements can have positive health outcomes (Middlemiss et al., 2023; Tovar Reaños et al., 2023).

However, retrofitting a home is a significant undertaking. Even when grants are available, it can entail a significant upfront investment of capital, and it may take years to see a return on such an investment. Moreover, measures such as replacing windows or adding internal insulation can cause significant disruption to a household's daily life during the change, in some cases requiring residents to temporarily vacate their home. As such, despite the proven long-term benefits of many measures, the decision to retrofit a home involves careful consideration of the costs, practicalities and timing and can be strongly influenced by policies and incentives.

These barriers do not affect the population equally. Several studies have shown that higher-income households are more likely to engage in retrofitting behaviour (see, for example, Jovović et al. (2023) and Schleich et al. (2021)). Beyond income, other financial considerations also matter, such as debt aversion (Schleich et al., 2021) and perceived uncertainty about future energy prices and retrofit quality (Bakaloglou et al., 2022). If people are unsure whether energy prices will rise in the future, or if they are unsure whether energy retrofits will result in a decrease in their energy bills, they may be hesitant to take on the upfront costs associated with it. Households' perceptions and outlooks are also important factors. Tovar Reaños et al. (2023) show that energy retrofits are more common among households that have previously undertaken non-energy-efficiency-based renovations or have family members who have undertaken energy-efficiency-based retrofits. The authors also found that households with higher levels of environmental concern, or who expect positive health benefits from an energy retrofit, have higher expectations about the financial benefits and anticipate lower levels of disruption from the work.

In other words, there is a risk that the households that would benefit most from energy efficiency improvements are often the least likely to undertake them. It is this paradox that the remainder of this section examines. To do so, this section draws on representative household-level data from the EU Statistics on Income and Living Conditions (EU-SILC), collected via a special module in 2023, which provide a robust basis for identifying patterns of retrofitting across the EU.

Retrofitting behaviours across Member States and degree of urbanisation

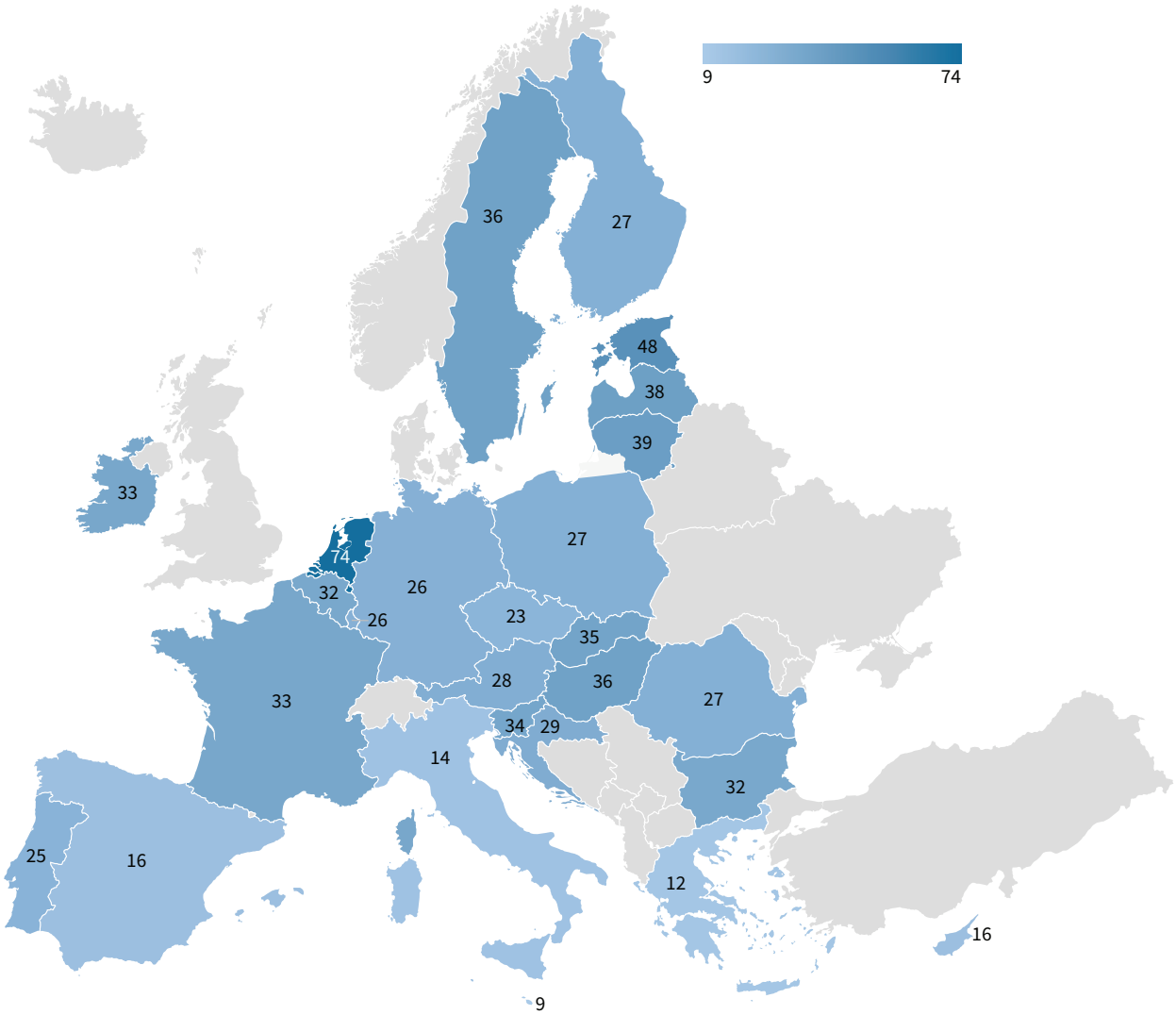
The EU-SILC asks whether the building respondents live in has been improved in the last five years and the number of measures taken. The retrofitting measures included are an improvement in the thermal insulation of external walls; thermal insulation work on the roof or floor; the replacement of single-glazed windows with double- or triple-glazed windows; and the replacement of the heating system with a more efficient one. Survey respondents can indicate whether their dwelling has not been improved or if one measure, two measures or three or more measures have been undertaken. An important caveat to highlight for EU-SILC data is that, for buildings that are less than five years old, or for those retrofitted more than five years ago, the resulting

higher levels of energy efficiency are not captured in the retrofitting data. Additionally, while the EU-SILC dataset contains a rich set of variables and is superior to the e-survey data in terms of sample size and representativeness, some of the variables that were used in the analysis of mobility changes, such as political recognition and source of news, are not available in the EU-SILC dataset.

The data show that 27 % of households in the EU carried out at least one energy efficiency retrofit measure over the previous five years, but important differences emerge across Member States and household characteristics. Looking first at patterns across Member States, Figure 26 shows important variations in the proportion of households undertaking retrofitting. The Netherlands leads the way, with almost three quarters (74 %) of households undertaking at least one measure. In Estonia and Lithuania, which come second and third in terms of ranking, the percentage of households that undertook at least one energy retrofit measure in the previous five years is 48 % and 39 %, respectively. At the other end of the spectrum, it can be seen that only a small percentage of households have undertaken retrofitting measures in Malta (9 %), Greece (12 %) and Italy (14 %). In general, the data show much greater renovation activity among households in western (33 %), northern (32 %) and eastern (30 %) Member States, and much lower activity in southern Member States (16 %).

To reach the ambitious greenhouse gas emission reduction targets of the European Green Deal, and to bring the EU's ageing stock of dwellings up to standard, households will need to go beyond single-measure retrofits. Moreover, for some interventions to be effective, they must be implemented simultaneously. For example, upgrading a heating system may not meaningfully lower energy use and emissions unless the building is also adequately insulated. It is therefore

Figure 26: Households having undertaken at least one energy efficiency retrofitting measure, EU-27, 2023 (%)



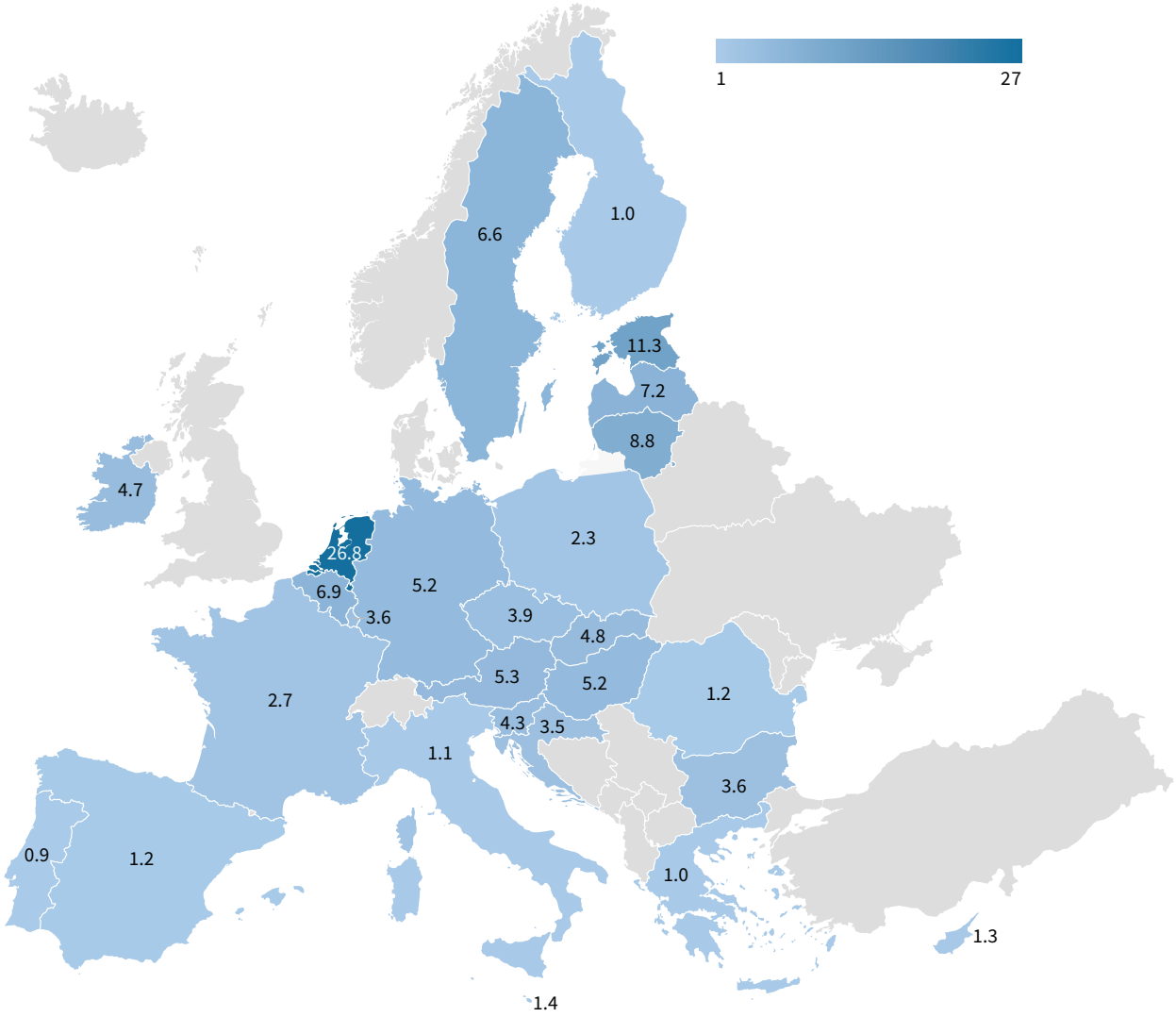
Note: No data available for Denmark.
Source: Authors' calculations based on EU-SILC microdata.

worth considering the proportion of households undertaking deeper retrofits, defined here as three or more retrofitting measures. The data show that, across the EU, fewer than 4 % of households have carried out deeper retrofits over the past five years. This figure underscores one of the most prominent potential challenges in this policy area: while basic, single-measure renovations are relatively widespread in some Member States, the comprehensive retrofits needed to meaningfully reduce building-related emissions appear to be less common.

The data displayed in Figure 27 show that the Netherlands is once again an outlier among the Member States, given its relatively high percentage of households that have undertaken deeper retrofits (26.8 %). Estonia and Lithuania are second and third again, but with a significant gap between these Member States and the Netherlands (11.3 % and 8.8 % in Estonia and Lithuania, respectively). Southern Member States are among those with the lowest prevalence of deep retrofits (Portugal and Greece both around 1 %), but Finland also features among the Member States where only 1.0 % of households have undertaken deeper retrofits.

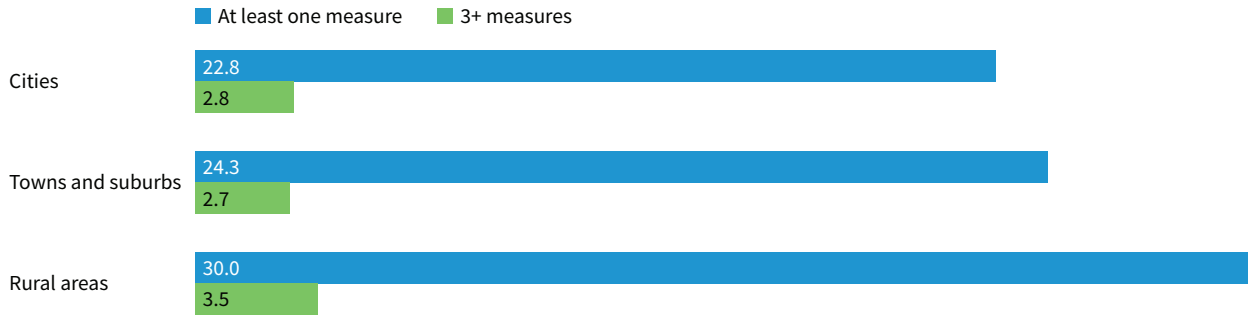
Continuing to examine geographical differences, Figure 28 shows that the prevalence of retrofitting decreases with increasing urbanisation. For example, 30.0 % of rural households have undertaken one retrofitting measure, and 3.5 % have undertaken three or more. For towns and suburbs, these figures are 24.3 % and 2.7 %, respectively. In cities, 22.8 % of households reported undertaking one retrofitting measure, and 2.8 % reported undertaking three or more. This finding is noteworthy as the pattern (more rural residents engaging in the green transition) is the opposite to what was found when patterns of mobility changes were

Figure 27: Households having undertaken deeper retrofits (three or more measures), EU-27, 2023 (%)



Note: No data available for Denmark.
Source: Authors' calculations based on EU-SILC microdata.

Figure 28: Retrofitting behaviour, by degree of urbanisation, EU-27, 2023 (%)



Source: Authors' calculations based on EU-SILC microdata.

Who is at risk of being left behind?

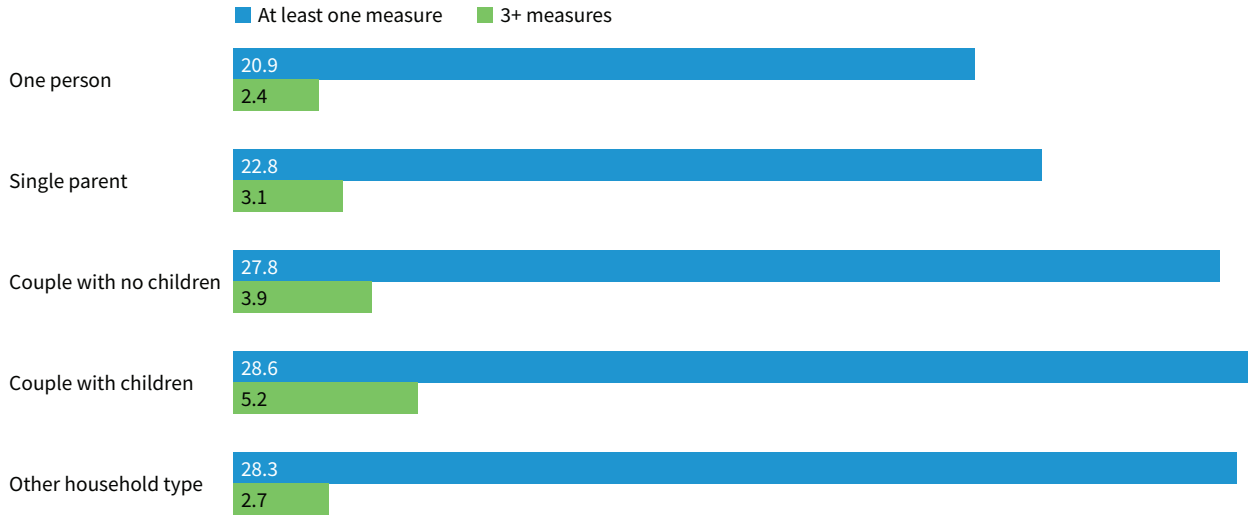
Households undertaking only single-measure renovations are at risk of being left behind. While these basic improvements are welcome, they are unlikely on their own to deliver maximum benefits or the emission reductions required by the EU's climate targets. Across the EU, fewer than 4 % of households have carried out deeper retrofits covering three or more measures in the past five years. **The risk is greatest in urban and suburban areas**, where households are less likely to have retrofitted at all (23 % and 24 %, respectively, have carried out a retrofit compared with 30 % among rural households).

considered. For rural residents, their location does not act as a barrier to home retrofitting. Because rural houses are more likely to be detached dwellings and to be owner-occupied (factors that will be discussed below), living in a rural area may indeed facilitate retrofitting. This reinforces the point made earlier that people make changes compatible with their circumstances. However, it is also worth noting that 'deep' retrofits remain rare across all levels of urbanisation, suggesting this is an area requiring greater policy intervention.

Retrofitting behaviours across household characteristics

Turning to socioeconomic and demographic characteristics, the data show no clear difference in retrofitting behaviour among age groups. Across all age groups, between 28 % (for those aged 65+ years) and 30 % (18–24 years) have undertaken one retrofitting measure. Those aged 25–39 years most often reported undertaking a deeper retrofit (5 %). By contrast, there are more prominent differences in retrofitting behaviour across household types (Figure 29), with couples (both

Figure 29: Retrofitting behaviour, by household type, EU-27, 2023 (%)



Source: Authors' calculations based on EU-SILC microdata.

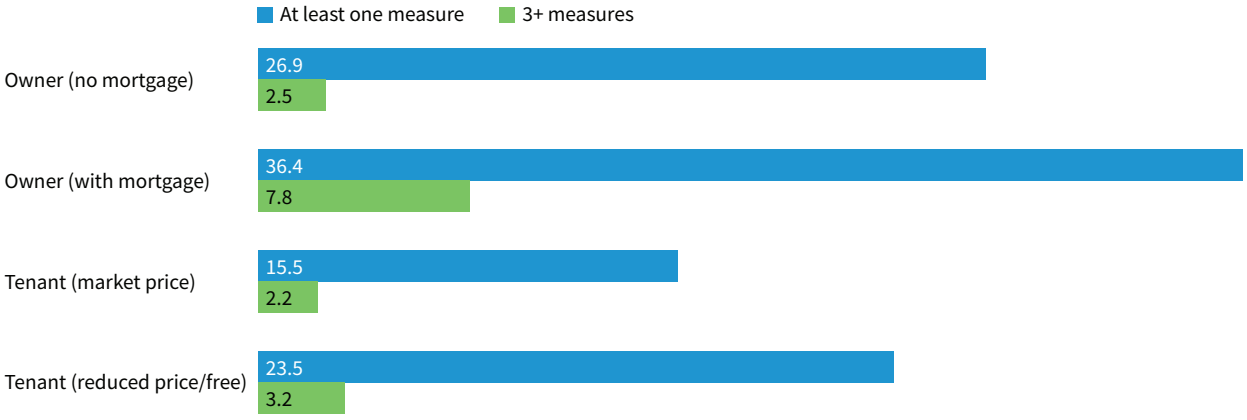
with and without children) and 'other' household types representing the groups that most often report that they have undertaken retrofits. On the other hand, single parents and, in particular, single-person households report undertaking retrofits less often. Figure 29 also shows that the patterns are broadly similar when it comes to deeper retrofits, with deep retrofits most prevalent in households composed of a couple with children.

Important differences in retrofitting behaviour are observed when patterns across types of tenure are examined (Figure 30). Retrofitting behaviour is highest among those who own their home: 26.9 % of those who own their home outright, without a mortgage, and 36.4 % of those who have a mortgage have undertaken at least one retrofitting measure. Some 2.5 % of homeowners who are mortgage-free have undertaken three or more measures, while the share increases to almost 8 % in the case of homeowners who have a mortgage. At the opposite end of the spectrum, retrofitting activities are least common among those renting on the private rental market, with only 15.5 % undertaking any retrofitting and only 2.2 % undertaking a deeper retrofit. This is in line with the literature, which highlights the 'split-incentive' problem between tenants and landlords: tenants have imperfect information about the energy efficiency of a building, and landlords underinvest in the energy efficiency of a property because they believe they will not be able to recoup the costs through higher rent (Della Valle et al., 2021).

This points to a clear policy gap and highlights that private tenants are at risk of being left behind in the green transition. This is a group that has also been shown to be disproportionately overburdened with housing costs (Dubois et al., 2025) and to face higher rates of housing insecurity, while living in poorer-quality dwellings (Eurofound, 2023c). Data show that, as of 2024, almost one third (32 %) of people across the EU live in rental housing – a proportion that varies notably across Member States – suggesting that a sizeable proportion of the population is at risk of being left behind.

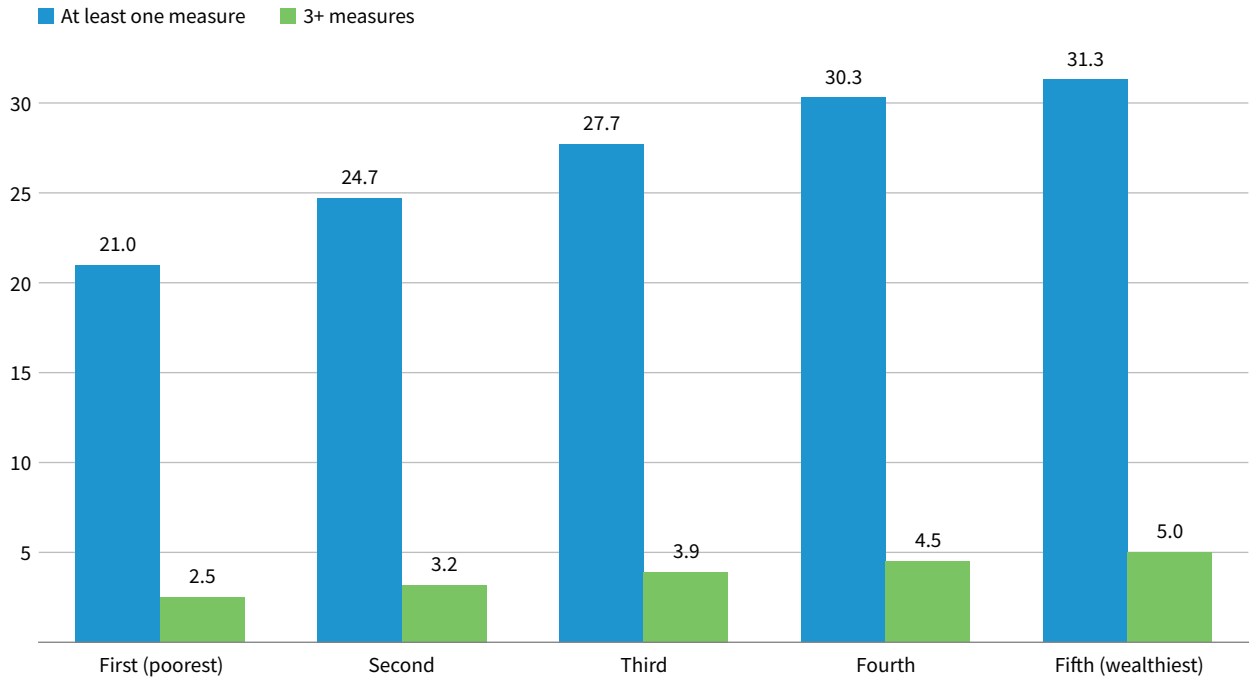
While it is important to highlight the factors associated with retrofitting behaviour beyond income level, the correlation of retrofitting with income cannot be ignored. The data show that retrofitting behaviour increases with income level (Figure 31). Among people in the lowest quintile of their Member State's income distribution, 21.0 % have engaged in some retrofitting activity, and 2.5 % have engaged in deeper retrofits. This contrasts with 31.3 % and 5.0 % for the wealthiest households. Because income and educational attainment are highly correlated, it is unsurprising that retrofitting behaviour also increases with people's level of educational attainment. The data reveal that, among those with the lowest levels of education (primary or lower), 18.9 % have undertaken a retrofitting measure, and only 1.5 % have undertaken deeper retrofits. In contrast, the rates of retrofitting are 29.3 % and 4.8 % among those with tertiary education or higher.

Figure 30: Retrofitting behaviour, by type of tenure, EU-27, 2023 (%)



Source: Authors' calculations based on EU-SILC microdata.

Figure 31: Retrofitting behaviour, by income quintile, EU-27, 2023 (%)



Source: Authors' calculations based on EU-SILC microdata.

Who is at risk of being left behind?

Private renters are at particular risk of being left behind. This reflects the well-documented split-incentive problem: landlords bear the cost of improvements, while tenants, who would benefit from lower energy bills, have no authority over retrofitting decisions. **Low-income households are also at significant risk**, with their retrofitting rates well below those of wealthier groups and the gap widening further for deeper renovations. **Single-person and single-parent households** are less likely to retrofit, signalling that there is a compounding disadvantage for smaller, financially constrained households.

Which factors predict household retrofitting behaviour?

As with the analysis presented earlier in this chapter of the relationship between household characteristics and changes in mobility behaviour, it is important to investigate the relationship between household characteristics and retrofitting in a way that accounts for correlations among the household characteristics in question. Figure 32 display the results of this analysis, with separate models used to assess the variables that are correlated with undertaking any retrofit (the blue symbols) and those correlated with deeper retrofits (the green symbols). As with the discussion of mobility changes, it is important to emphasise that we are analysing variables that are statistically correlated with retrofitting behaviour, without making any claims about the presence or direction of causality.

The estimations show that there are several household characteristics that are significant predictors of retrofitting behaviour. The first is the degree of urbanisation of the area in which the household lives. Our results show that those living in towns, suburbs and cities are significantly less likely than rural residents to carry out retrofits. While this may reflect higher rates of homeownership in rural areas, or a much higher prevalence of houses (as opposed to apartments), the correlation holds even once tenure and dwelling type are controlled for.

The analysis results also show that income remains a significant predictor of retrofitting behaviour, even after controlling for other variables. Compared with the poorest households, households in all other income quintiles are significantly more likely to engage in retrofitting, with the probability of them doing so increasing with income level. The results emphasise that dwelling type matters; compared with those living in detached dwellings, those living in apartments are much less likely to renovate their homes. However, there is no difference in retrofitting behaviour between those living in detached homes and those living in

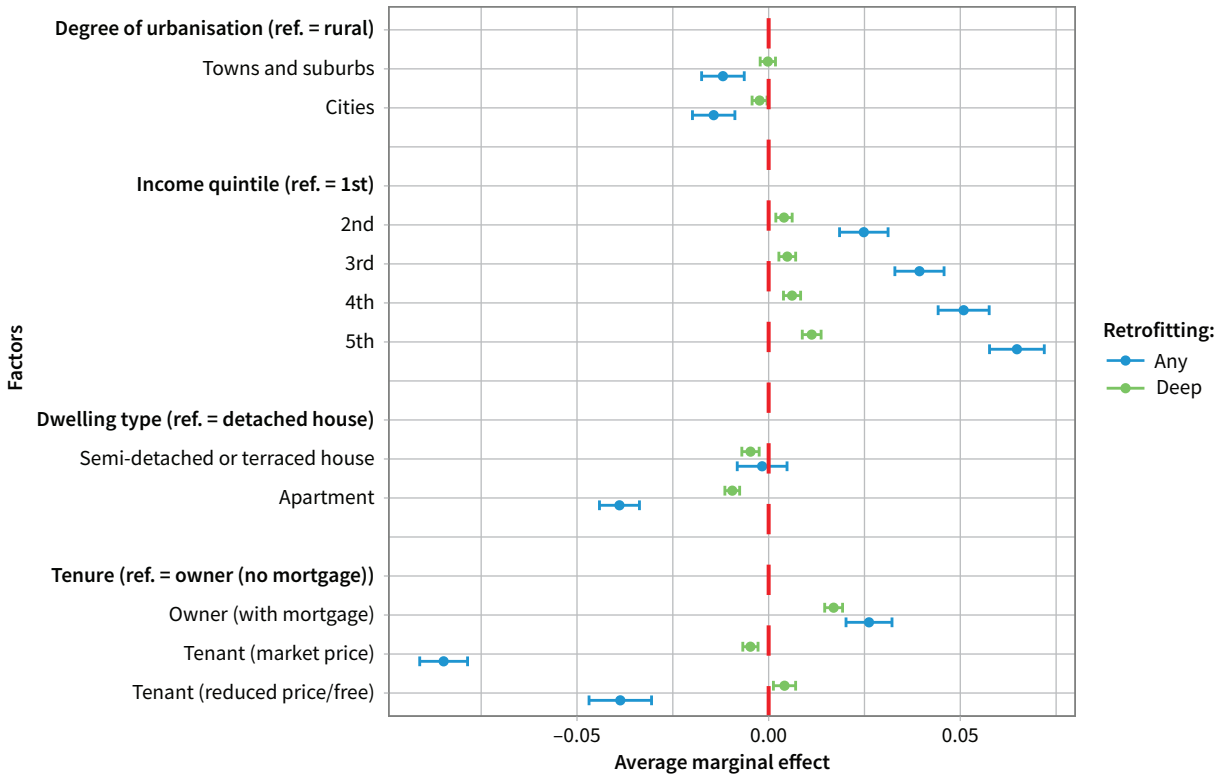
semi-detached or terraced homes. Finally, tenure type is a strong and significant predictor of retrofitting behaviour. Relative to those who own their homes outright (i.e. without a mortgage), those who own their homes with a mortgage are more likely to retrofit their homes. In contrast, those renting on the private market and those living in reduced-price rental accommodation or in rent-free accommodation (some of which would comprise social and affordable housing) are significantly less likely to engage in retrofitting behaviour.

To preserve visual clarity, not all coefficients are presented in Figure 32. The full results, available in Table A8 in Annex 3, show that education level is also a significant predictor of retrofitting behaviour, even after controlling for income. This may suggest that having a higher level of education makes it easier to access information about and make use of the grants and support available. Household type is also a significant predictor of retrofitting behaviour: relative to couples with children, couples without children and single-person and single-parent households are all less likely to engage in retrofitting. Furthermore, most categories of employment status are not significantly linked to retrofitting behaviour, with the exception of unemployment – those in this category are significantly less likely to retrofit their homes. Age is not a predictor of retrofitting broadly speaking, but it is predictive of deeper retrofitting behaviour (as discussed further below). Finally, the results show that gender does not significantly predict retrofitting behaviour.

However, what stands out from the results is the magnitude of the coefficient for the private rental variable: of all variables accounted for in the regression model, living in private rental accommodation is the strongest predictor of retrofitting behaviour – households in this group are much less likely than other households to engage in retrofitting. This points to a clear area for policy intervention. To ensure that renters are not left out of the green transition, policies need to be redesigned to address the split-incentive problem that property owners and renters face when undertaking energy efficiency retrofits. As it stands, renters are being left behind.

Turning to the characteristics that predict the probability of engaging in deep retrofits, the results are displayed using green symbols in Figure 32. The figure shows that many of the characteristics that predict

Figure 32: Statistical analysis of the probability of carrying out retrofits



Notes: The graph represents the marginal effects, with 95 % confidence intervals, of factors used for the estimation of a probit model in which the dependent variable is whether the respondent has carried out any retrofits to their dwelling (blue symbols) or whether the respondent has carried out a deep retrofit to their dwelling (green symbols). The models also control for age, educational attainment, employment status, gender and household type, as well as Member State-level fixed effects. The sample size in both models is 346 029 observations. Survey weights are applied. The first quintile is the poorest quintile; the fifth quintile is the wealthiest quintile. The full regression results are presented in Table A8 in Annex 3.
Source: Authors' estimates.

retrofitting behaviour and deep retrofitting behaviour are the same. However, it is worth noting that the degree of urbanisation is not such a strong predictor of deep retrofitting. Residents of cities remain less likely to undertake deep retrofitting, but the coefficient for residing in a town or suburb is no longer significant. This may be in part because of the small number of households engaging in deep retrofitting in general and the smaller magnitude of each factor's marginal effects as a result.

Engaging in deep retrofits increases with income, and the results also show that, relative to those living in detached dwellings, those living in semi-detached or terraced homes are less likely to engage in deep retrofits and those living in apartments are much less likely to do so. Tenure remains an important predictor: relative to those living in a home that they own without a mortgage, owners with a mortgage are more likely to engage in deep retrofitting, and those renting on the private rental market are much less likely to. However, relative to those owning a home outright, those living in reduced-price or free accommodation have no significant difference in their probability of engaging in deep retrofits. As discussed above, the results in Table A8 in Annex 3 show that age is a significant predictor of deep retrofits: compared with those aged 18–24, those aged 25–39 are more likely to have carried out deep retrofits, while those aged 40–64 or 65+ are less likely to have done so.

Once again, it is interesting to consider the strongest single predictor of engaging in deep retrofits. The results underscore the importance of type of tenure in determining this behaviour. Those who live in a house that they own with a mortgage show the strongest relative likelihood of engaging in a deep retrofit. In terms of the negative predictors of deep retrofitting, the results show that living in rental accommodation and living in an apartment are significant impediments to carrying out a deep retrofit.

On whom should policymakers focus to leave no one behind in increasing home energy efficiency?

Four challenges require attention and affect four slightly different yet overlapping groups. First is **private renters**, who are the least likely group to have retrofitted by a significant margin. They experience the split-incentive problem, which is a clear barrier to home energy efficiency. Second is **apartment dwellers**, who face significant structural barriers even when they own their home. Building-level improvements such as insulation or heating system upgrades typically require collective agreement from multiple owners, making the process considerably more complex than it is for single-family homes. Third is **low-income households**, for whom the financial barrier to retrofitting remains a strong independent predictor of non-adoption even after controlling for all other factors, as energy efficiency improvements require substantial upfront capital. Fourth, policymakers should focus on helping **those who have carried out single-measure retrofits** and who need support to convert these retrofits into deeper, more comprehensive renovations, as only combined interventions are likely to deliver the energy savings and emission reductions needed to meet the EU's climate targets.

3 Policy analysis

This chapter examines whether the structure of existing policies, such as their eligibility criteria, the complexity of their application process, or their co-financing requirements, may account for the behaviours and attitudes observed among specific groups in the data. In some cases, this analysis points to additional groups at risk of being left behind or circumstances increasing the risk of people being left behind. For example, a retrofitting grant that requires households to pay upfront and reclaim the costs later may be formally open to all yet effectively inaccessible to those without savings, screening out the lower-income households it is intended to help. This, in turn, helps explain the lower uptake of green behaviours observed among low-income households, while also revealing a barrier that surveys of stated attitudes would not directly identify.

Rather than an exhaustive mapping, the analysis in this chapter uses cross-national comparisons to examine how specific national-level policies pursue energy and climate targets while seeking to leave no one behind. The measures included were identified by the Network of Eurofound Correspondents, who were asked to focus on selecting initiatives from 2018 to the first half of 2025, prioritising the most recent ones, while including older initiatives where relevant. The authors then screened the measures for relevance, yielding a total of 151 initiatives: 82 relating to energy-efficient housing and 69 to green mobility. Therefore, the sample is to be considered illustrative rather than comprehensive. Measures are grouped into broad categories according to the type of policy intervention they represent, as presented in the introduction (**carrot**, **stick** or **sermon**), and their primary objective. The chapter closes with an assessment of the state of play as regards applying behavioural insights to green policy across the EU and Norway (in other words, it examines policies that can be categorised as **roads**, or behavioural interventions).

Green mobility and transport poverty

Across the EU and Norway, green mobility policies include an array of regulatory, fiscal and investment-based instruments aimed at accelerating the transition towards decarbonisation while simultaneously addressing the growing risk of transport poverty. As energy and fuel prices increase and access to low-emission mobility often requires significant investment, green mobility policies have become a key component of creating a socially just climate transition.

The Network of Eurofound Correspondents identified a broad range of policy instruments designed to reduce greenhouse gas emissions, improve air quality, modernise transport systems and, more broadly, mitigate the social impacts of the green transition. These measures typically pursue two parallel objectives: incentivising the uptake of cleaner mobility options and discouraging the use of highly polluting vehicles. These policies also act at multiple levels of governance: while the vast majority are national-level policies, other measures are implemented at local level, some as pilot policies. Most of them are presented within national strategies and national energy and climate plans.

Overall, the 69 measures identified fall into several recurring categories, which are listed below.

- **Financial incentives for the adoption of low- and zero-emission vehicles.** These include subsidies, grants and tax exemptions for EVs and e-bikes; scrappage schemes; social leasing for low-income households; and CO_2 tax compensation [carrots].
- **Charging and refuelling infrastructure.** This includes public and private EV charging stations, hydrogen refuelling infrastructure, fast-charging networks and support for home and workplace chargers [carrots].
- **Public transport affordability and fare measures.** This includes fare-free public transport; discounted tariffs for students, older adults or low-income groups; national or regional transport passes; and social tariffs targeted at households experiencing transport poverty [carrots].
- **Public transport supply and service expansion.** This includes investment in rail and bus networks, the purchase of electric buses, and demand-responsive transport pilots (a flexible form of public transport where services are booked in advance by passengers, typically through an app or by telephone, and vehicles are routed dynamically to match the requests received) [carrots].
- **Active mobility promotion, sustainable urban planning and integrated mobility strategies.** This primarily means cycling and walking infrastructure [carrots].
- **Regulatory and restrictive transport measures.** These include low-emission zones and access restrictions or fines for high-emission vehicles [sticks].
- **Workplace mobility incentives.** These include flexible mobility budgets (allowances provided by an employer that employees can use for a variety of sustainable travel and commuting options), tax-exempt employer-provided bicycles or EVs, collective agreements on sustainable commuting and carpooling incentives [carrots].

The most commonly reported measures are financial incentives for low- and zero-emission vehicles, followed by initiatives promoting sustainable mobility at national, regional or local level. Many Member States have favoured measures to encourage public-transport-based mobility through reduced fares, while also promoting the purchase of bikes and the development of a charging infrastructure network. There are a few schemes involving on-demand bus services – flexible public transport that, rather than following a fixed route and timetable, is booked in advance by passengers (typically via an app or by phone) and routed dynamically to match demand. It is also notable that green mobility schemes have also been promoted through sectoral or company-level collective agreements.

Table 3 presents illustrative examples of these measures and the groups covered, while the full list is available in Table A1 in Annex 1. Each policy is assigned a country code and number (e.g. AT1 refers to the first policy listed for Austria), and these labels are used throughout the chapter for ease of reference.

When it comes to types of policy instrument, economic instruments [carrots] dominate among the reported green mobility and transport poverty policies, while regulatory instruments [sticks] are less common and, where they do appear, consist primarily of low-emission zones and urban access restrictions.

Target groups and approaches to eligibility

Mobility policies display a mixed pattern in how they target different groups. Of the 69 measures identified, 36 include some form of group-specific targeting: 18 target **specific social groups** (e.g. low-income households, welfare beneficiaries, families with dependent children, people with disabilities, young people and pensioners) and 18 target specific **geographical areas** (rural, peri-urban or selected municipalities). The remaining 33 measures are **non-targeted**, available to the general population or directed at **businesses and their employees** or **public bodies and civic organisations**.

Table 3: Examples of measures related to green mobility and transport poverty

Member State	Policy category, name and code	Details of measure	Groups covered
Belgium	**Regulatory and restrictive transport measures** Low-emission zones – BE3 [stick]	Restriction on older, high-emission vehicles' access to specific cities or regions. This is enforced by camera surveillance and requires the prior registration of such vehicles, especially foreign vehicles.	All (applies to all vehicles with a few exceptions, such as some agricultural vehicles and trailers, and registration exemptions, such as day passes)
France	**Financial incentives for the adoption of low- and zero-emission vehicles** Social leasing of electric cars (Leasing social de voiture électrique) – FR24 [carrot]	In 2024, the measure consisted of a financial incentive for households, allowing them to lease an EV for under EUR 100/month (on the basis of a contract of up to 5 years with an option to purchase it afterwards), with state support covering upfront costs of up to EUR 13 000.	Eligible low-income households
Italy	**Financial incentives for the adoption of low- and zero-emission vehicles** Mobility bonus/bike bonus (Bonus Mobilità/Bonus Bici) – IT42, IT43 [carrot]	Subsidy for micromobility purchases. This is a national scheme covering up to 60 % of the costs of these purchases (up to EUR 500), delivered via reimbursement or as a discount applied during purchase.	Adult residents of regional capitals, metropolitan cities, provincial capitals and municipalities with more than 50 000 inhabitants
Luxembourg	**Public transport affordability and fare measures** Free public transport introduced – LU45 [carrot]	Nationwide fare-free public transport introduced in March 2020, making standard-class buses, trains and trams free to use in order to promote sustainable mobility and reduce congestion.	All residents and visitors
Slovenia	**Public transport affordability and fare measures** Free on-demand transport (Brezplačni prevoz na zahtevo) – SI68 [carrot]	Free on-demand transport service: locally funded, volunteer-based rides provided by non-profits in areas without accessible public transport.	Older people with no access to transport for various reasons (specifications depend on providers and support from communities)
Spain	**Charging and refuelling infrastructure** MOVES III programme for electric mobility incentives (Programa MOVES III de incentivos a la movilidad eléctrica) – ES17 [carrot]	Subsidies for installing charging infrastructure, with funds distributed by regional authorities, in addition to grants for purchasing an EV.	Individuals, self-employed workers, companies and public entities

Note: For a comprehensive list of measures see Table A1 in Annex 1.
Source: Authors.

Several countries (including Cyprus, Finland, France, Germany, Hungary, Ireland, the Netherlands, Portugal, Romania, Slovenia and Sweden) have introduced measures directed at **socioeconomically vulnerable groups**. The first criterion used for targeting these groups is often **income**. For example, the social leasing of electric cars (FR24) in France was introduced to improve access to electric cars for low-income households that are highly dependent on private vehicles, particularly for work-related travel. The scheme gives eligible households the opportunity to lease an EV for less than EUR 100 per month for up to five years, with an option to purchase it afterwards. It targets those whose income is in the bottom 50 % of the income scale for France (reference tax income ≤ EUR 14 089) and is designed in particular for workers living in low-emission zones, rural areas or locations with limited public transport. State support covers up to EUR 13 000 of the initial leasing payment. Another measure, also in France (FR22) and aimed at reducing transport costs and greenhouse gas emissions, has been designed to provide additional aid to low-income individuals and people with disabilities. Individuals with a reference tax income ≤ EUR 6 300 are eligible to receive a larger grant to buy a bicycle. Similarly, another targeted measure is a national partnership in the Netherlands (NL49), launched in 2023, that brings together 15 cities, two provinces, three ministries and numerous NGOs to make cycling accessible to all, with a focus on vulnerable groups. The programme will run from 2023 to 2027. Among its target groups are low-income households. The goal is to reach people who currently cannot bike due to the cost, a lack of skills or other barriers. It provides access to bicycles, improves cycling infrastructure, delivers training in cycling skills and supports local pilot projects.

To address and prevent transport poverty, some schemes directly target **age groups** that are more at risk of experiencing it. Schemes include discounted public transport passes for young people and pensioners. For example, the Young Adult and Student Leap Cards in Ireland (IE38); the Helsinki Regional Transport Authority senior ticket (FI19); a new system of public transport rates in Hungary that include free travel for children, pensioners, people with disabilities, large families and holders of a Hungarian Card, as well as a 50 % discount for young people, students and public service employees (HU32); and free tickets for people over the age of 65 in Slovenia (SI67).

Some countries target individuals who are beneficiaries of **welfare** schemes. For example, Portugal introduced the Circulate.pt programme (PT62) in 2025 to address transport poverty by expanding the previous Passe Social+ scheme. The policy provides discounted (by 25–50 %) public transport fares for individuals receiving specific social welfare benefits, including beneficiaries of social insertion income (a guaranteed minimum income), the solidarity supplement for the elderly, unemployment benefits or social unemployment benefits, and low-income pensioners and people with certified disabilities. The scheme runs nationwide and targets households with incomes below a certain threshold linked to the Social Support Index.

Several policy measures target groups located in specific **geographical** areas, such as rural or peri-urban areas, metropolitan regions or selected municipalities. This approach is found in a number of countries, including Austria, Czechia, Denmark, Finland, Germany, Hungary, Ireland, Italy, Malta, the Netherlands, Poland and Romania. These policies typically respond to territorial disparities in access to mobility options. This highlights how transport poverty often arises not only from affordability problems but also from limited transport infrastructure and services in certain regions. For example, the Elbilspremien in **Sweden**, an electric car subsidy (SE66), is designed to be a targeted subsidy to enable lower-income households living in rural municipalities or areas with poor access to public transport to receive government support to buy or lease a new or used electric car. In some instances, geographical targeting is used as a proxy for vulnerability, where the policy aims to reach people living in disadvantaged locations. In others, location operates as a sub-criterion alongside income, age or receipt of welfare benefits to sharpen the targeting of measures, as in the French social leasing of electric cars (FR24).

A number of mobility policies address businesses, employers and sometimes, indirectly, employees through fiscal incentives and workplace mobility schemes. This approach emerges, for example, in **Belgium** through federal tax incentives for low-carbon mobility (BE2), in **Finland** through a bicycle benefit scheme (FI21), in **Germany** through funding for electric cargo bike purchases (DE11) and in **Ireland** through the cycle to work scheme (IE39). Furthermore, employees can access sustainable mobility provisions through collective agreements. In **France**, several collective agreements promote sustainable mobility within specific industries (FR25, FR26). These schemes may benefit employees directly, but many exclude certain categories of workers, such as subcontracted workers, non-standard employees or people with disabilities.

Fewer measures target institutions, municipalities or organisations, rather than individual citizens, focusing on the structural conditions required for sustainable transport systems. Strategic plans for green mobility in Austria and Slovakia (SK69) and Czechia (CZ9) provide direct support to public authorities, universities, NGOs and publicly owned enterprises to accelerate the deployment of charging infrastructure and alternative-fuel vehicles. Many such programmes were first piloted in capital cities or regions and have yet to be scaled up.

While this institutional focus may address specific local mobility challenges, it can leave vulnerable households in remote or rural areas without direct support, as observed in the Slovakia–Austria Interreg project.

Structural barriers to participation

Although many of the green mobility measures identified are designed to target specific groups, the intended target groups do not always end up being the actual beneficiaries. Intrinsic features of a policy, such as high upfront costs, reimbursement-based subsidies, cumbersome administrative procedures and increasing digitalisation, often create barriers. These policy requirements tend to favour middle- and higher-income households, urban residents and digitally skilled citizens.

Table 4 summarises the main groups that are excluded or insufficiently reached by mobility policies, based on the analysis of national measures and the suggestions of stakeholders as collected by members of the Network of Eurofound Correspondents through desk research. The 'intensity' categories (very high, high, moderate and low) correspond to the relative frequency with which each group was reported as being unable to benefit from a policy, based on the number of measures they were identified as being excluded from.

In many countries, the analysis revealed a persistent gap between the groups a policy is meant to reach and those it actually covers. For example, most grant schemes for purchasing EVs across Member States have seen limited uptake among low-income groups. For instance, in Cyprus (CY5), Estonia (EE15), Ireland (IE36), Malta (MT47) and Poland (PL56), concerns have been raised regarding low-income groups not having real access to the EV grant schemes available. For example, the Belgian federal tax incentives for low-carbon mobility (BE2) provide strong incentives for businesses and employers to electrify company car fleets, with zero-emission vehicles fully tax-deductible until 2026 and a gradual phasing out of this benefit starting in 2027. Moreover, the benefit includes tax incentives for installing EV charging infrastructure and a mobility budget that allows employees to choose sustainable commuting options, such as public transport or bicycle leasing, instead of a company car. Private individuals can also benefit from tax reductions for installing smart home e-charging stations. In addition, a social leasing scheme for EVs is being developed to improve access to green mobility for low-income households. However, stakeholders, such as civil society organisations like the Bond Beter Leefmilieu (BBL) and Inter-Environnement Wallonie (IEW) (now known as Canopea) and social partner institutions such as the Social and Economic Council of Flanders (SERV), report that some elements of these policies do not fully reach the most vulnerable groups. In particular, the federal mobility budget has experienced limited uptake due to its administrative complexity and perceived unfairness. Moreover, since access to the mobility budget is typically linked to eligibility for a company car, employees without such entitlement (often lower-income, part-time or non-standard workers) cannot benefit from the scheme. This creates a two-tier system. Stakeholders have proposed several measures to improve the policy's inclusiveness. Reports by PwC and the Social and Economic Council of Flanders recommend extending eligibility for the mobility budget to all employees, simplifying the legislative framework and introducing an income-based criterion into the design of EV incentives (SERV, 2024; PwC, 2025). Environmental organisations such as BBL and IEW also advocate for a

Table 4: Groups most frequently identified as excluded from green mobility policies, by number of measures failing to reach them

Group left out	Total number of policy measures failing to reach that group	Intensity
Groups that are more vulnerable due to their income, household type or ethnicity	23	Very high
Rural residents and peri-urban residents	15	High
Elderly or young people, people with impairments, people with disabilities (limited mobility)	20	High
Precarious workers or those who are unemployed (informal workers, lower-income workers, part-time employees who do not have access to a company car, caregivers)	13	Moderate
Non-residents, migrants and refugees	4	Low
Companies owned by state or local governments, very small companies or microenterprises	4	Low
Digitally excluded individuals	7	Low

Notes: 'Total number of policy measures failing to reach that group' refers to the number of measures the identified group was highlighted as being unable to benefit from, due to eligibility criteria, design features or implementation barriers. A single policy measure may fail to reach more than one group. 'Intensity' is derived directly from the number of measures in which that group was identified as being overlooked.
Source: Authors.

general shift in public funding from polluting transport sectors towards creating accessible public transport systems and for the introduction of a socially fair 'smart kilometre charge' – a distance-based road pricing system in which the rate per kilometre varies according to the time of day, the location and the vehicle's characteristics.

In other instances, a good match between the target population and those actually reached was identified. These instances often combine targeted support with complementary measures. For example, the grant for the purchase of a new bicycle in **Cyprus** (CY4) achieved good coverage partly because it was complemented by other supporting measures, such as the expansion of cycle paths.

Moreover, there have been some successful large-scale strategic plans. **Denmark's** 2035 infrastructure plan (DK14) has been highlighted by the Confederation of Danish Industry (DI) as a strong example of green mobility policy. The plan is considered successful because it combines large-scale investment with a clear green focus. The funding is broadly distributed between roads, public transport and cycling infrastructure. A large share is allocated to public transport improvements, including bus infrastructure and fare reforms that benefit several disadvantaged groups. Additional funds support the green transition of heavy transport and charging infrastructure. Regarding free public transport, the measure adopted in **Luxembourg** (LU45) has been generally well received by the population. The system is complemented by the Adapto on-demand transport service, which provides free transport for residents with reduced mobility who cannot use regular public transport. Access is granted through a special card for residents with certain disabilities. This service aims to ensure that the introduction of free public transport does not exclude people with disabilities. However, stakeholders note that the functioning of Adapto could be improved. Organisations representing people with disabilities have reported booking difficulties, delays and concerns about driver training. Stakeholders therefore advocate for a more reliable booking system, clearer coordination under a single managing body and stable funding supported by a solid legal framework. These improvements would strengthen the accessibility and effectiveness of the service.

In addition to policy measures, initiatives agreed upon by social partners can also help promote sustainable mobility. An example is the collective agreement on ecological transition and sustainable mobility in the pharmaceutical industry in **France** (FR25), where the importance of ensuring that lower-income employees can actually access and afford the sustainable mobility options provided by the agreement and that broader transport solutions are prioritised over vehicle electrification alone was highlighted.

Reach and impact

Official published evaluation reports of mobility policy schemes are hard to find; hence, this section relies mainly on research and suggestions or submissions from national stakeholders, made either as part of a consultation process or on their own initiative. A wide range of actors contributed insights into how mobility policies can better reach vulnerable groups, including those working for city networks, public authorities and policy institutions, such as national ministries and municipal and regional administrations. Moreover, economic and industry stakeholders such as associations in the automotive and leasing industry, car dealers and retailers' associations, and companies operating in the transport and energy sectors contributed papers, reports and other documents. Another important group consists of social partners, civil society organisations, NGOs, advocacy groups and consumer associations. Lastly, academic researchers, research institutes and policy think tanks also conducted studies or participated in public consultations.

The suggestions made by stakeholders address the groups that are systematically found not to avail themselves of green mobility policies, even when they are the intended target. These groups include low-income households, workers without access to employer-based mobility schemes, people living in rural areas, people with disabilities and individuals facing digital barriers. In many cases, reports argue that a measure's inherent design prevents some groups from fully benefiting from that support.

The analysis further reveals a coherent set of reform priorities for green mobility policy in Europe. Despite variation in the specific measures under review, six recurring themes emerged: social equity and inclusion; territorial equity and rural access; scheme design and administrative reform; the transition to EVs and vehicle incentives; the prioritisation of public and active transport; and governance, funding and coordination. The frequency and consistency of these themes across countries suggest they reflect systemic challenges rather than isolated national concerns.

- The most prominent theme across all countries is **social equity and inclusion**. Stakeholders consistently highlighted that green mobility programmes tend to be designed around users with stable income and access to credit, thereby excluding the households most in need. Key recommendations included extending subsidies to second-hand EVs; replacing reimbursement-based schemes with credit or advance-payment models to remove the barrier of upfront payment; introducing income-scaled progressive subsidies and scrappage deposits; providing dedicated transport passes and fare discounts for those who are unemployed, on a low income and vulnerable; and ensuring accessible transport for people with disabilities through audits, inclusive design processes and investment in door-to-door services.

- Stakeholders in multiple countries identified a spatial dimension to green mobility exclusion, noting that **rural areas and some peri-urban areas are systematically disadvantaged** by nationally designed programmes calibrated for urban contexts. Recommendations included expanding scheme eligibility to all municipalities regardless of size; scaling up demand-responsive transport and addressing legislative barriers that currently prohibit the use of demand-responsive transport for work- or education-based travel in some countries; adopting coordinated territorial strategies that explicitly target underserved areas; and replacing fragmented local fare discount policies with needs-based, territorially coherent mobility services.
- Many submissions focused not on what policies do but how they are designed and administered. **Complexity and poor accessibility** were identified as persistent barriers to uptake. Stakeholders called for simplified legislation and single points of contact for applications; the removal of unjustified local purchasing requirements; better-coordinated on-demand transport under clear managing authorities; robust monitoring and evaluation; improved communication and multilingual outreach; and mobility diagnostics to be carried out prior to collective bargaining, supported by designated mobility officers in relevant organisations.
- While **vehicle electrification** was broadly supported, stakeholders raised concerns about **specific design choices** made in these policies. Scrappage schemes were seen as insufficiently motivating for lower-income buyers and should apply unconditionally or with enhanced means-tested support. Other recommendations included interest-free loans for EV purchases; extending subsidies to leased vehicles; promoting retrofitting alongside full vehicle replacement; reforming company car taxation to reflect CO_2 emissions and reduce fossil fuel deductibility; redirecting some public spending from demand-side subsidies to industrial and supply-side investment; and introducing subsidised EV car sharing and leasing for those unable to purchase outright.
- Several stakeholders questioned the primacy of vehicle electrification, arguing that, without commensurate investment in public transport and active travel, green mobility policies risk reinforcing **car dependency**. Recommendations included reorienting policy to focus on modal shifts; guaranteeing affordable mobility as a principle of public services; investing in cycling infrastructure and neighbourhood-level shared mobility schemes; pairing low-emission zone measures with complementary public transport subsidies; and incorporating transport poverty indicators into national monitoring frameworks.
- Stakeholders raised structural concerns about **fragmented funding, unclear institutional responsibilities and inadequate consultation**. Proposals included developing a European-level coordinated incentive framework; linking national schemes to EU Social Climate Fund resources; making incentives and regional programmes cumulative; establishing stable, long-term legal and funding frameworks for on-demand services; clarifying employer versus public responsibility for worker mobility; and improving stakeholder consultation during programme design, which several submissions explicitly identified as being absent or inadequate.

Who is at risk of being left behind?

Low-income households, people without stable employment and informal workers are at risk, as many green mobility schemes are tied to employment or tax benefits, channelling support towards higher earners who can make use of tax breaks for a company car or a workplace mobility budget. Those outside these arrangements (who are unemployed, part-time, precarious or informal workers) are excluded from the outset. Reimbursement-based incentives compound the problem: even where subsidies are nominally open to everyone, the requirement of advancing the full cost makes them inaccessible to households that cannot mobilise the capital.

Rural and peri-urban residents are also at risk of being left behind. While urban residents benefit from expanding public transport networks, cycling infrastructure and charging stations, rural populations often lack viable alternatives to private cars. Policies designed around urban contexts offer little to those whose daily journeys cannot rely on infrastructure that does not exist in their areas. The burden of fossil fuel taxes and carbon pricing, therefore, fall disproportionately on rural residents, who risk bearing the costs of the transition without being able to access its benefits.

Less digitally literate citizens, older people and those with limited administrative capacity are disadvantaged by complex online applications, tight deadlines and procedures that reward those who are organised and connected. When schemes require digital literacy and familiarity with bureaucratic processes, uptake skews towards those who need support least. People with disabilities and limited mobility face a further layer of exclusion, as schemes labelled ‘free’ or ‘universal’ deliver little where the transport itself is not physically accessible.

These gaps overlap and reinforce one another: a low-income informal worker in a rural area, without digital access and with limited mobility, faces all these risks simultaneously and is among the least likely to benefit from the green mobility transition, despite being precisely the person the just transition is supposed to protect.

On what should policymakers focus to leave no one behind in the green mobility transition?

Shift to direct, income-based support. Replace reimbursement models with direct discounts at the point of sale, credit systems or social leasing schemes. When applicable, subsidies should be tapered progressively, with larger amounts available for those with less purchasing power, and eligibility should be tied to referenced income thresholds rather than applied uniformly. The key principle is that the households facing the greatest mobility costs under carbon pricing should not be those least able to access clean alternatives.

Implement demand-responsive transport in rural areas. To counter territorial inequality, policymakers should permit, fund and scale flexible, on-demand transport services that connect remote settlements to regional hubs, schools and workplaces.

Support public transport investment and affordability. Sustained investment in public transport networks, combined with affordability measures, discourages private car use and reduces the environmental impact of urban and regional travel. Low-emission zones should be systematically paired with public transport subsidies to avoid penalising those without viable alternatives.

Promote access to affordable clean vehicles beyond incentivising new purchases. Low-income households overwhelmingly purchase vehicles in the second-hand market, but used EVs remain scarce, and subsidies are generally restricted to new purchases. Extending purchasing incentives to second-hand EVs and designing income-scaled support within those incentives would widen access to cleaner mobility across all incomes and reduce the risk that the transition primarily benefits those already best placed to buy new vehicles.

Establish single points of contact for mobility support. Simplify navigating the application process for mobility subsidies and grants by creating centralised, user-friendly platforms where citizens can access information and manage applications for national, regional and local grants, following the model of France's *guichets uniques* (one-stop shops). A landscape of fragmented schemes disadvantages those with the least time and administrative capacity, and a single point of entry significantly reduces the threshold for engagement.

Ensure non-digital access and human mediation. Maintain non-digital access to all services, including telephone booking for on-demand transport and paper-based application options. Social workers and trusted community intermediaries can play a critical role in reaching the most marginalised, who are often absent from digital channels altogether. Digital first is acceptable; digital only is exclusionary.

Energy-efficient housing and decarbonisation of buildings

The energy efficiency of buildings across the EU is supported through a combination of national and EU-level funding and regulatory instruments. At EU level, the cohesion funds, key directives such as the Energy Performance of Buildings Directive ([6]), the Renovation Wave Strategy, innovation programmes (e.g. Horizon Europe), the Social Climate Fund and financial mechanisms managed through the European Investment Bank all aim to spur public and private investment in deep renovations to meet climate targets. The Social Climate Fund, in particular, was designed to contribute to making the green transition fair and inclusive by supporting vulnerable households and small businesses.

At national level, countries provide support that focuses on financial aid and technical assistance for the improvement of insulation in houses, the replacement of heating systems and the promotion of renewable energy sources. Through the Network of Eurofound Correspondents, a total of 82 national policy measures were identified across the EU.

A review of these measures shows that national and regional/local authorities have prioritised supporting actions for households and public buildings that fall into the following categories:

- **fabric-first measures** targeting the physical building envelope (e.g. insulation, windows) [mostly carrots, but sticks in some instances where mandatory standards are introduced];
- **heating system changes**, including heat pumps and district heating [mostly carrots, but sticks in some instances where mandatory standards are introduced];

([6]) Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast).

- **financial compensation and energy-cost support** through grants, subsidies, tax credits or direct support with bills [carrots];
- **informational tools** such as guidance, energy advice services and awareness campaigns [sermons];
- **social-housing-specific retrofits**, which are targeted upgrades for the social housing stock [carrots];
- **measures targeting public buildings and care or municipal facilities**, such as energy upgrades in schools, hospitals, offices and community buildings [carrots, sometimes driven by sticks at EU level];
- **regulatory measures**, for example setting standards for new builds, renovations and energy-saving certificates [sticks].

Table 5 presents illustrative examples of these measures, one for each category, and the groups covered.

Table 5: Examples of measures related to energy-efficient housing

Member State	Policy category, name and code	Details of measure	Groups covered
Austria	**Fabric-first measures** Renovation bonus (Sanierungsbonus) – AT1 [carrot]	Annual fund for thermal renovation (e.g. windows, insulation, heating) for buildings over 15 years old. Funds cover part of the costs (up to 50 % of them) on a 'first come, first served' basis.	All homeowners and tenants in houses or multistorey buildings
Belgium	**Heating system changes** Financial support for heat pumps (Flanders) – BE7 [carrot]	Subsidies (*verbouwpremie*) for heat pumps in residential/non-residential buildings connected to the grid before 2014.	Homeowners and property investors (for buildings over 15 years old), owners of non-residential buildings and targeted 'protected customers': low- and middle-income households, people on social welfare, social housing providers and landlords renting out buildings below market price
Czechia	**Measures targeting public buildings and care or municipal facilities** National recovery and resilience plan – reducing energy consumption in the public sector – CZ12 [carrot]	A component of the national recovery plan, focused on increasing energy efficiency in the public sector through the renovation of state and public buildings and the modernisation of public lighting, with a total allocation of approximately EUR 319 million.	Public-sector entities (e.g. municipalities/regions; state-owned enterprises like railways; universities, schools and research institutes; public institutions such as hospitals; NGOs, foundations and churches)
Denmark	**Regulatory measures** Building regulations of 2018 and 2025 (BR18 and BR25) – DK20 [stick]	National codes setting sustainability goals and carbon limits. They introduce mandatory life cycle assessments and stricter climate standards for new builds and renovations.	Targeted beneficiaries: actors in the building, design and construction sectors (e.g. developers, architects, engineers, construction firms); indirect beneficiaries: building occupants, particularly residents of renovated or newly built energy-efficient housing, including those previously living in poor housing conditions
Finland	**Social-housing-specific retrofits** ARA energy renovation subsidy (ARA energia-avustus) – FI25 [carrot]	Subsidy for deep energy renovations (2020–2023), with post-renovation grant allocation conditional on meeting a minimum energy performance improvement threshold (e.g. improvement ≥ 32 % for multi-family buildings).	Owners of residential buildings (private individuals, housing companies, non-profits); social housing providers; municipalities
Germany	**Informational tools** Federal support for energy audits (Federal Ministry for Economic Affairs and Energy) – DE15 [carrot]	A 50 % subsidy on certified energy consulting fees for an individual renovation roadmap, showing how a building can be renovated to improve energy efficiency.	Owners and tenants of residential buildings
Malta	**Financial compensation and energy-cost support** Fixed energy price policy – MT57 [carrot]	Financial support scheme that provides untargeted support to households and businesses, introducing energy price subsidies to keep electricity and fuel prices at pre-crisis levels (introduced in 2021).	Not targeted at specific groups

Notes: ARA, Housing Finance and Development Centre of Finland (Asumisen rahoitus- ja kehittämiskeskus). For a comprehensive list of measures, see Table A2 in Annex 1.
Source: Authors.

The seven examples reported in Table 5 show a pattern that is consistent with the broader pattern in policy choices across the EU and Norway: six out of seven are economic instruments [carrots], and only one is a regulatory instrument [stick]. This distribution mirrors the broader composition of national policy responses collected by the Network of Eurofound Correspondents and listed in Table A2 in Annex 1, where subsidies, grants and tax credits dominate the policy mix, with regulatory measures playing a more limited role.

Target groups and approaches to eligibility

A review of the groups targeted by the 82 measures reported reveals that a number of schemes are universal in design, with no formal restrictions on who can apply. On paper, this may appear inclusive, but, in practice, universal eligibility does not translate into universal access. As the preceding chapters have demonstrated, the households least likely to undertake retrofitting (i.e. private renters, low-income households and those in the worst-performing dwellings) are also those more at risk of finding it more challenging to navigate application processes, cover upfront costs or meet co-financing requirements. Universal measures, therefore, tend to be used by households that are already better positioned, reinforcing rather than closing the adoption gaps identified in the data.

Where policies do have a clear target, a hierarchy emerges. **Owner-occupiers are by far the most common target group**, followed by the public sector and municipal buildings. **Tenants**, who represent approximately 30 % of EU households (Eurostat, 2025), **are seldom explicitly targeted**. Only 9 of the 82 policy instruments reviewed address tenants directly (in Austria, Belgium, Denmark, France, Latvia, Malta, Poland and Portugal), while just 4 schemes address landlords (in Belgium, Ireland and the Netherlands). However, even when landlords are encouraged to participate, tenants depend entirely on the landlord's initiative for energy-efficient renovations to be made to their homes.

Some measures target **specific vulnerable groups**. Many policies refer broadly to low- or middle-income households, the elderly, families with children, pensioners with disabilities, recipients of social welfare payments, disability benefit recipients and those on social tariffs for electricity. However, a number of other support schemes are untargeted and do not specify which groups might be vulnerable at all, leaving it to the implementing authorities to identify them, which may lead to unsatisfactory coverage. **Income-based targeting** is used in some measures. Where income thresholds are applied, authorities typically define the threshold either as membership of the bottom two income quintiles or as a fixed income ceiling. In France, for example, the energy voucher (Chèque énergie, FR32) uses a reference tax income threshold of EUR 11 000 per consumption unit to identify eligible households. While the voucher was originally designed to help cover both energy bills and energy renovation costs, in 2025 it was limited to paying energy bills, with renovation support now directed through separate schemes such as MaPrimeRénov' (FR27). Several countries use the **receipt of social welfare benefits** as their primary eligibility criterion, including Ireland, Malta, Portugal and Slovenia. Ireland's National Home Energy Upgrade Scheme (IE44), for example, provides free home energy upgrades to homeowners receiving specific social welfare payments, such as the fuel allowance, working family payment, one-parent family payment, domiciliary care allowance and carer's allowance, as well as longer-term recipients of the jobseeker's allowance or disability allowance who have a child under seven. Tying eligibility to the receipt of benefits in this way is administratively efficient and sharply targeted: it directs support to households already identified as being on a low income, without a separate means assessment. The design has its trade-offs, however. It excludes those who are eligible for a qualifying benefit but do not claim it, a well-documented problem of non-take-up, and low-income households that do not qualify for the specific payments listed. The complexity of the qualifying criteria can itself act as a barrier, and verifying benefit status may introduce additional administrative steps and delays. In effect, the scheme inherits both the reach and the access gaps of the welfare system on which it is built. Other countries target households at **risk of or experiencing energy poverty**, including Croatia, Ireland, Portugal, Romania and Slovakia. Portugal's efficiency voucher programme (Vale Eficiência – II fase, PT72) provides vouchers which can be used to purchase services, materials or equipment to improve the energy performance of a household's permanent place of residence, with eligibility tied to the receipt of specific social benefits. Similarly, Slovenia's Environmental Public Fund (Eco Fund, SI80) provides non-repayable financial incentives to low-income households experiencing energy poverty through its ZER 2024 programme.

Some measures recognise that households in **specific geographical locations** face distinct challenges. The Vienna social housing construction programme (Gemeindebau(t), AT4); the climate bonus in Frankfurt (DE16); Cyprus's e Saving – Upgrading in Residences programme (CY9), covering mountainous areas; and Hungary's rural family housing subsidy (Falusi CSOK, HU41) all target particular localities based on specific characteristics, whether it be social need, energy isolation or population density. However, geographical targeting does not always entail social targeting. Hungary's Falusi CSOK, for instance, provides subsidies to families in villages with fewer than 5 000 inhabitants, but, beyond this location criterion, the measure does not differentiate by income or vulnerability, meaning that wealthier households in eligible areas benefit from

the same terms as those most in need. In Sweden, the support for energy efficiency in multi-family buildings (SE79) takes a different approach by targeting geographical vulnerability rather than individual income, providing support to property owners who renovate buildings in areas characterised by low purchasing power.

Housing cooperatives, social housing providers and developers are featured in fewer measures. A small number of measures (12 across 7 countries) specifically target the social housing sector. Denmark's 2020 Green Housing Agreement (Grøn Boligaftale 2020, DK19) is widely regarded as a positive example. The agreement allocated approximately EUR 4 billion from the National Building Fund to the green renovation of social housing over 2020–2026, channelling support through an existing institutional mechanism that social housing organisations already use. It also introduced a new green support criterion and a green guarantee into the fund's structure, embedding energy efficiency requirements into the social housing renovation process rather than relying on stand-alone grant applications to increase energy efficiency. In Finland, social housing providers are among the eligible beneficiaries of the Housing Finance and Development Centre of Finland (ARA) energy renovation subsidy (FI25), and in Czechia the new green savings programme (CZ11) extends grants to housing cooperatives and municipalities, enabling renovation decisions to be made on behalf of tenants who cannot act independently. A further five measures (across Czechia, Denmark, Finland and Italy) are directed not at individual households but at housing cooperatives, social housing providers, developers and investors, who make renovation decisions on behalf of large numbers of tenants with no direct control over the energy efficiency of their homes. However, these examples remain the exception. Many national-level policy schemes either exclude the social housing sector entirely or lack a systematic retrofitting strategy for social housing, leaving large numbers of tenants in publicly owned or subsidised dwellings without access to energy efficiency improvements.

Structural barriers to participation

Although many national and regional policies have clear target beneficiaries, the way that they are designed creates barriers that prevent adequate outreach. Analysis of the 82 national policy measures, combined with the opinions of stakeholders (including civil society organisations, social partners, consumer protection bodies and research organisations), as collected by the Network of Eurofound Correspondents through desk research, reveals the following main barriers:

- **financial constraints**, including the inability to cover upfront costs even when grants are available;
- **tenure barriers**, particularly the split-incentive problem affecting renters;
- **misaligned policy sequencing** and a lack of prioritisation of the worst-performing buildings;
- **administrative and procedural complexity** in accessing support;
- **gaps in information and awareness** about available schemes.

The groups most frequently identified as unable to avail themselves of these policies are low-income households, tenants, those experiencing energy poverty and households that cannot afford the upfront costs of energy renovations, even where subsidies exist to cover part of the expense. These are, notably, the same groups identified in the preceding chapters as those least likely to have undertaken retrofitting measures. While there is overlap between these categories, they are not always the same. In particular, households unable to afford upfront costs may include not only low-income households but also those slightly above the eligibility thresholds for welfare support, who manage day-to-day expenses yet lack the financial flexibility to cover the initial costs of renovations. The relative prominence of these groups in the analysis is reflected in Table 6, which summarises how frequently each group was identified as being excluded across the 82 reviewed policy measures. The 'intensity' categories (very high, high, moderate and low) correspond to the relative frequency with which each group was reported as being unable to benefit from a policy, based on the number of measures they were identified as being excluded from.

Table 6: Groups most frequently identified as excluded from policies focused on energy-efficient housing, by number of measures failing to reach them

Group left out	Total number of policy measures failing to reach that group	Intensity
Low-income households	31	Very high
Tenants	21	High
Households in energy poverty	11	Moderate
Groups that cannot afford upfront costs	8	Low

Notes: 'Total number of policy measures failing to reach that group' refers to the number of measures the identified group was highlighted as being unable to benefit from, due to eligibility criteria, design features or implementation barriers. A single policy measure may fail to reach more than one group. 'Intensity' is derived directly from the number of measures in which that group was identified as being overlooked.
Source: Authors.

While many countries have introduced retrofitting policies for low-income households, there remains a critical need to refine these measures to ensure they effectively reach the most vulnerable groups in practice. For example, while Hungary's solar panel programme for residents (HU37) targets households with just-below-average incomes, civil society organisations (e.g. the NGOs Energiaklub and Habitat for Humanity) have argued that the measure should prioritise low-income households. Romania's national multiannual programme on increasing the energy performance of apartment buildings (RO77) is aimed at homeowners' associations regardless of heating system used, but a report from the Romanian Energy Poverty Observatory (2022) highlights that, in rural areas, 71.6 % of dwellings are single-family homes heated mainly with wood, with no access to alternative energy sources.

Where targeting is well designed, the results are more promising. France's Energy Solidarity Pact (FR30) provides incentives for companies to finance roof renovation for low-income homeowners at a cost of just EUR 1 to the household, and the French energy-saving certificates scheme (FR31), funded by energy suppliers, achieves good coverage across various groups. Spain's social discount scheme for electricity and heating (ES24) provides a 35 % discount for vulnerable consumers and 50 % for severely vulnerable consumers, with those at risk of social exclusion exempt from paying their electricity bill entirely. Slovakia's Restore the House scheme (part of Slovakia's recovery and resilience plan, SK81) targets people at risk of energy poverty through its mini schemes, which set thresholds for maximum net yearly income per person. Notably, the previous 'first come, first served' allocation system was abolished as it was considered unsatisfactory, and low-income households can now receive up to 50 % of the estimated costs in advance (up to a maximum of EUR 5 000, paid within 15 days of grant approval).

Reach and impact

To assess the effectiveness of these policies, Eurofound sought official evaluation and monitoring reports that provide evidence of their reach and impact. Reports were publicly available in 17 Member States: Austria, Belgium, Bulgaria, Denmark, France, Germany, Greece, Ireland, Italy, Latvia, Malta, the Netherlands, Poland, Romania, Slovakia, Slovenia and Sweden. However, the scope of these evaluations is limited. Most focus on financial and administrative metrics, such as budget absorption and the number of applications processed and dwellings upgraded, rather than on whether the measures are reaching the groups most in need. Very few provide information on the extent to which vulnerable groups are accessing and benefiting from the support available. In some Member States, such as Germany, evaluations of certain schemes were still in progress at the time data were collected for this report.

Where evaluations do examine distributional impacts, they reveal both encouraging results and persistent challenges.

- **Reaching vulnerable groups effectively is possible.** France's MaPrimeRénov' programme (FR27) demonstrates effective targeting of low-income households: in 2024, 73 % of beneficiaries were low- or very-low-income households, with 72 % reporting lower heating bills within two years and 86 % reporting improved comfort (ANAH, 2024). It is noteworthy that, in this case, outreach was embedded in the programme, with a network of 2 661 local advisors providing territorial support nationwide to support policy implementation. Austria's renovation bonus (AT1) and Clean Heating for All (AT3) schemes cover up to 100 % of costs for the lowest-income households, and the Netherlands' National Heat Fund (Nationaal Warmtefonds, NL60) has seen rising uptake among lower-income homeowners, with the share of loans going to those earning below EUR 60 000 increasing from 54 % in 2023 to 58 % in 2024.
- **Rural and peri-urban areas can be targeted specifically.** At regional level, Normandy's Chèque éco-énergie (FR32) targeted ageing and energy-intensive housing stock in rural and peri-urban areas, while also providing economic stimulation for local construction ecosystems (Chèque éco-énergie Normandie, 2017). In the Hauts-de-France region, the spatialised mapping of aid distribution across intermunicipal entities helps ensure that these areas are not overlooked (Région Hauts-de-France, 2023).
- **Financial and administrative barriers persist in some instances.** Austria's Clean Heating for All scheme (AT3) funded approximately 1 450 households in 2022 (Frühmann et al., 2023), with its slow uptake attributed to the requirement that households pre-finance expenses and a 'first come, first served' allocation system that disadvantages those with less capacity to act quickly. In the Netherlands, 15 % of households still cannot finance energy efficiency upgrades, and a separate evaluation of the investment subsidy for renewable energy and energy saving (Investeringssubsidie duurzame energie (ISDE), NL61) found that low-income and less digitally literate groups are missing out (Konijn et al., 2025). In Ireland and Latvia, evaluations identify accessibility, affordability and willingness to renovate as major ongoing challenges, alongside complex procedures, shortages of competent contractors and the persistent exclusion of rented accommodation.
- **Unequal uptake across population groups can be seen.** Evaluations from Germany and Slovakia reveal that beneficiaries of certain schemes tend to be male, well-educated homeowners in urban areas, confirming the pattern identified in the

preceding chapters: those already better positioned are more likely to benefit from the support available.

- **Innovative strategies for closing the gap have been tested.** Some Member States are actively addressing the barriers identified. In the Netherlands, a pilot project in Arnhem in 2023 allowed municipalities to apply for the ISDE on behalf of residents, coordinating applications for whole streets or neighbourhoods, arranging contractors centrally and in some cases providing pre-financing. This approach has since been integrated into the national scheme, removing the application burden from individual households and addressing both administrative complexity and upfront cost barriers. France's Court of Auditors (Cour des Comptes) has recommended automating application processes and strengthening the auditing of renovation works to prevent fraud.

In the absence of formal evaluation reports, national research provides additional insights.

- **Renovation barriers are multidimensional and not solely financial.** A report commissioned by the Danish Energy Agency (Transition, 2022) found that low income alone does not explain why households fail to renovate. Age, employment status, physical capability and local housing market conditions all play significant roles. Low-income households often live in areas with low property values and are unable to borrow against their homes, while upfront costs and rejected loan applications create further obstacles. Those most at risk are older homeowners, people on disability benefits and those in low-value housing markets. The report recommends strengthening the role of municipalities, extending policy schemes to cover renters and expanding affordable financing options.
- **Incentives are more effective than restrictions.** National research consistently recommends incentive-based approaches over restrictions. Evidence from Germany suggests that bans on older heating technologies have been met with strong resistance and created social tensions (Voigtländer, 2025). Researchers argue that well-designed incentives, combined with the CO_2 price mechanism, are more effective in steering consumer choices without disproportionately harming low-income households who lack alternatives.
- **Financial support must be adequate and more targeted.** Research from Greece found that, in 2021, only 3 % of the lowest-income households applied for the Energy Saving at Home (Εξοικονομώ 2025) programme (GR33), and an estimated 500 000 low-income households suffering from energy poverty were effectively excluded from the programme due to a lack of access to private or public financing (Oikonomou et al., 2022). The researchers recommend increasing and accelerating investment, continuing funding over time and covering up to 100 % of costs for the most financially vulnerable households. Without additional measures, heating costs for vulnerable households in Greece could rise by up to 22 % by 2050.
- **Energy poverty remains poorly defined and inadequately measured.** Schumacher et al. (2025) argue that the absence of a standard definition of energy poverty in Germany creates difficulties for policymakers in designing appropriate support measures and determining who is eligible for assistance. They estimate that approximately 3 million German households remain vulnerable to rising fossil energy or CO_2 prices, as their heating systems are still based on fossil fuels. Relying on the CO_2 price as the sole instrument to encourage people to shift their energy consumption would impose severe financial burdens on these households. In Ireland, the Economic and Social Research Institute found that energy inflation had increased the estimated share of households in energy poverty to 29 % (Barrett et al., 2022). These findings underscore the need for a clearer, more consistent approach to defining and measuring energy poverty at EU level if policies are to reach those most in need.
- **Tenancy law gaps leave renters unprotected.** German research (Herkel et al., 2025) recommends that, alongside new funding programmes, tenancy regulations must be updated to balance the interests of landlords and tenants fairly, particularly regarding the distribution of renovation costs. The Berlin Tenants' Association notes that over 60 % of German citizens live in rented accommodation, with low-income households disproportionately concentrated in buildings in poor condition and in need of renovation (Ausschuss für Klimaschutz und Energie, 2023). The central challenge is ensuring that energy efficiency improvements do not result in rising rents and the displacement of the very tenants they are intended to benefit. This tension between renovation and affordability is one of the most significant unresolved policy challenges in the EU's approach to building decarbonisation.

Further insights can be drawn from the remarks and suggestions made by various stakeholders.

- Regarding **low-income households**, the main issue identified is the inability of the group to cope with the expenses linked to home energy efficiency measures. Stakeholders suggested that, beyond explicitly targeting (or expanding policies to) low-income and vulnerable groups, pre-funding options should be made available, financing options should be made more appealing and

subsidy rates should be revisited. There is also the issue of identifying income categories (within the low-income group), particularly as some very-low-income households struggle to make ends meet and may not even consider making such upgrades to their homes.

- Several stakeholders recommended that **municipalities should be allowed to apply on behalf of residents**, which could potentially remove the risk of low-income residents being overlooked. Using this approach, the municipality could also manage applications for a group of homes, leveraging economies of scale and acting as an information hub. Furthermore, because local authorities have a clearer understanding of vulnerable groups within their communities, their involvement would help ensure these policies effectively reach those most in need.
- A combination of audit reports and suggestions from stakeholders in Poland stresses the importance of **including welfare services** in activities such as home upgrades for low-income households. Other policy schemes (e.g. Poland's Stop Smog Programme (PL68)) could benefit from **targeting specific districts** where many low-income families reside (i.e. being more spatially targeted). In the same vein, experts and stakeholders in Hungary suggest that policies introducing subsidies that do not successfully target families in low-density villages or undeveloped regions fail to address the needs of some of the most vulnerable groups (e.g. HU38, HU41, HU43).
- Another group that is consistently included in the national stakeholders' recommendations is **tenants**. Stakeholders suggest that subsidies be extended to renters and that measures be taken to compel landlords to initiate energy efficiency renovation measures. The main solution proposed was to design targeted financial measures, such as prioritising zero-interest loans and establishing dedicated public and private credit lines. Additionally, tenants' associations in Germany suggest tying funding grants to rent caps to avoid tenant displacement, as low-income tenants usually live in the buildings that most urgently need renovation (DE13). Other suggestions included strengthening tenant protections (e.g. BE6) and extending renovation subsidies to rental housing in protected heritage areas, where energy efficiency improvements are restricted and costly and where many low-income households live (e.g. NL63).
- **Energy-poor households** are not adequately covered by these policies, and this is often because of an insufficient understanding of energy poverty and a lack of indicators. Energy poverty mapping and an assessment of the energy performance ratings of building stock would help national and regional, as well as local, authorities to better address the needs of energy-poor households. Other suggestions include, for example, increasing the subsidies for energy-saving measures for households with high housing costs, as in Norway (NO65), and raising the maximum amount of support available to a level that is useful for households with zero savings, as in Slovenia (SI80). Some civil society organisations in Greece note that the old building stock has low resilience to heatwaves and that there is a need to provide cooling (and not only heating) interventions for energy-poor and vulnerable groups. Researchers in Poland suggest better coordination of programmes such as the Polish My Warmth Programme (PL69) with retrofitting programmes (e.g. the Clean Air Programme (PL67) or the Stop Smog Programme (PL68)) to offer bundled assistance (Przywojska et al., 2025).
- Finally, several overarching recommendations aim to improve the performance of these programmes and policies. To address low participation rates, assistance should be bundled to offer a more coordinated service. Priorities include focusing on the oldest and most frequently used buildings, as well as increasing overall budgets for large-scale delivery. Crucially, works should be sequenced to improve energy efficiency first, prioritising insulation and windows, before installing renewable technology like heat pumps.

Table 7 summarises and organises the suggestions from national stakeholders and experts to improve the reach of policies focused on energy-efficient housing in order to leave nobody behind.

Table 7: Suggestions from national stakeholders and experts on policies focused on energy-efficient housing

Vulnerable group or type of barrier	Problem (point of friction)	Suggestions from stakeholders
Low-income households	Inability to pay; upfront cost barrier	○ Increase subsidy rates and funding; introduce pre-funding for investments in certain categories and easier financing options; create a designated sub-mechanism for households with very low incomes; and tie financing to the building, not the individual. ○ Increase the role of municipalities. ○ Link social welfare registries with policy measures and adapt them to regional conditions.
Tenants	Split incentive: landlord pays, tenant saves	○ Create specific and simple public and private credit lines, advance payment mechanisms, and microfinance and interest-free tools. ○ Tie funding grants to rent caps to protect tenants (and avoid their displacement); prioritise the rental sector; compel landlords to make renovations; ensure the bodies responsible for assessing whether rent increases are reasonable take renovation subsidies into account; and strengthen tenant protections. ○ Enable housing associations to target tenants on low incomes.
Households in energy poverty	Insufficient understanding of and action on energy poverty	○ Introduce energy poverty indicators; expand the scope of policies to energy-poor households; encourage local-level diagnostics and energy poverty mapping by combining socioeconomic and housing condition data; alert social services; and provide municipal and one-stop-shop support to applicants, particularly in rural areas. ○ Increase the maximum amount of support available and support energy communities (local legal entities (e.g. cooperatives or partnerships) that enable collective and citizen-driven energy actions to support the clean energy transition). ○ Implement comprehensive and coordinated public policies and spatial targeting (for highly vulnerable districts).
Administrative barriers	'First come, first served' favours the tech-savvy; complicated procedures	○ Remove the 'first come, first served' principle and reduce or remove upfront costs. ○ Support vulnerable groups; set up help desks; and provide human support in addition to digital tools.

Source: Authors.

Who is at risk of being left behind?

Tenants are at particular risk. Most renovation programmes target owner-occupiers exclusively, effectively excluding the approximately 30 % of EU households who rent, many of whom live in the worst-performing housing stock. Without schemes compelling landlords to upgrade properties or protecting tenants from rent increases post-renovation, millions will remain in cold, costly homes.

Low-income households face a further barrier: even where subsidies exist, upfront payment requirements make them inaccessible to those who cannot advance the costs. Reimbursement models that favour the financially comfortable remain the prevailing practice across most Member States. Financing options, such as paying installers in instalments, could also address the liquidity problem faced by financially tight and energy-poor households.

Digitally less literate, elderly and rural populations are systematically disadvantaged by complex online applications, tight deadlines and 'first come, first served' allocation models that reward the organised and connected. Automated eligibility can dramatically increase uptake, and one-stop shops with in-person support could also improve outreach.

Households in the oldest and least efficient buildings are not adequately reached by current frameworks, which lack sufficient mechanisms to prioritise the building stock where the potential for energy gains is greatest and where vulnerable households are disproportionately concentrated. Energy poverty is poorly understood and insufficiently addressed.

These four gaps overlap and reinforce one another: a low-income tenant in a poorly insulated apartment, lacking digital access and living in an area with little administrative support, faces all four barriers simultaneously.

On what should policymakers focus to leave no one behind in home energy efficiency?

End the upfront payment barrier. Replace post-payment reimbursement models with advance funding mechanisms. For the lowest-income households, grants should cover up to 100 % of costs, as demonstrated by Austria's Clean Heating for All programme (AT3). For households above the lowest income thresholds but below median income, pre-financing mechanisms such as Slovakia's advance payment model, which disburses up to 50 % of costs to applicants within 15 days of approval, should become standard practice. The key principle is that no household should be required to pay upfront costs it cannot afford.

Extend support to tenants and make landlords responsible for retrofitting. Subsidy schemes should be extended to tenants directly, as is the case with Austria's renovation bonus (AT1) and Portugal's efficiency voucher (PT72). Where the landlord undertakes a renovation, regulations should limit the share of costs that can be passed on to tenants through rent increases, as Germany's Building Energy Act (2023) does. Regulatory pressure on landlords to upgrade the energy performance of rental properties, as piloted in Ireland and the Netherlands, should be expanded. Funding grants should be tied to rent caps to prevent the displacement of low-income tenants.

Build one-stop support infrastructure and increase the role of local authorities. Expand municipal-assisted application models, such as the Netherlands' Arnhem pilot programme, where local authorities coordinate applications, arrange contractors and provide pre-financing on behalf of residents. Fund local energy offices that have staff to assist vulnerable applicants in person. Digital-only processes can exclude a large portion of potential beneficiaries, and human support must be available alongside digital tools, not as an afterthought.

Automate eligibility. Link housing benefit and social assistance databases to energy efficiency programmes to identify eligible households automatically, following Portugal's successful automation of eligibility for the social tariff, which significantly increased rural uptake. This removes the application burden from vulnerable households and reduces the risk of eligible groups being overlooked.

Target the worst-performing buildings. Use building registry data to proactively identify and prioritise the least efficient housing, which is often occupied by the most vulnerable people. Reactive 'first come, first served' models reward the organised and connected and should be replaced with needs-based allocation. The retrofitting of social housing stock and housing occupied by low-income households should be explicitly prioritised.

Ensure 'efficiency first' sequencing and deliver bundled renovation pathways. Adopt a fabric-first approach by incentivising the adoption of insulation and building envelope improvements as a prerequisite for heat pump installation. Stakeholders warned that heat pumps installed in uninsulated homes deliver poor comfort gains and have high running costs. Whole-home or bundled renovation pathways, combining efficiency upgrades with socioeconomic support where needed, achieve higher energy savings and better outcomes for low-income households.

Applying behavioural insights to green public policy

Whether acting as private citizens, members of the workforce or public servants, individuals across Europe have been called upon to contribute to the systemic effort of combating climate change. Yet the scale of behavioural change required cannot be achieved through standard policy tools alone. Instead, policy mixes intended to shift behaviour should also include behavioural insights (BI). This report labels the policy instruments founded on BI as **roads**, to accompany carrots, **sticks** and sermons.

To be more specific, BI refers to the practice of applying findings from behavioural science (cognitive psychology, behavioural economics, anthropology, social psychology, sociology and related disciplines) to improve the design and delivery of public policies and services. Rooted in decades of research into how people actually make decisions (including the role of cognitive heuristics, social norms and contextual framing), BI moves beyond assumptions that people are fully rational, information-responsive actors towards a more nuanced understanding of human behaviour. In the context of the just green transition, BI can therefore make valuable contributions to policy effectiveness by first improving policymakers' understanding of why certain behaviours occur or fail to occur and by informing the design of appropriately targeted policy instruments. In practice, this is implemented by BI units that typically work with governments to test and implement interventions informed by this evidence base, often using randomised controlled trials and quasi-experimental methods to assess what works (Sousa Lourenço et al., 2016; OECD, 2017). BI is not,

however, a panacea, and its use warrants caution. Three concerns recur in the literature. First, behavioural instruments are best understood as a complement to carrots, sticks and sermons, not as a substitute for them: there is a risk that an emphasis on individual behaviour shifts responsibility onto citizens and crowds out the structural measures that drive the largest emissions reductions. Second, behavioural effects can be modest, context-specific and liable to fade, so their contribution should not be overstated relative to the scale of change required. Third, because behavioural instruments work by reshaping the context of choice rather than by informing or mandating, they raise ethical questions related to transparency, autonomy and consent (Sunstein, 2015; Bruns et al., 2018). Used transparently and as part of a broader policy mix, BI can strengthen the design of green policy; used as a lighter-touch alternative to harder measures, the approach risks promising more than it can deliver.

The application of BI to green and climate policy has attracted growing institutional and academic attention. Several landmark contributions have shaped this field (Park, 2020). Eurofound has contributed to this body of evidence with a research paper that offers the first systematic mapping of green behavioural public policy (GBPP) capacity across all 27 Member States and Norway, plus a collection of policies applying BI in the areas of green mobility and energy efficiency (Eurofound, 2026). While the reader is referred to that document for an in-depth analysis, the main results are highlighted in this section.

The information used for this assessment was gathered primarily through the Network of Eurofound Correspondents, whose members reported on national GBPP landscapes and, where contacts were available in the time frame, conducted interviews with relevant experts. These contributions were complemented by systematic desk research and a review of the publicly available literature, encompassing policy documents, academic publications and grey literature relevant to each country. The availability and accessibility of information varied considerably across countries. This heterogeneity reflects several factors. In part, it is a feature of the BI approach itself: not all relevant BI activities are publicly documented; some interviewees had only partial access to information; and some initiatives, particularly those at an early or informal stage, had not yet developed a sufficiently visible presence to be captured by this study. It also reflects a limitation of the data collection exercise: not all identified experts could be reached within the project time frame. While there is no reason to expect this to have skewed the findings in a particular direction, the resulting picture is inherently partial. The assessments presented here should therefore be read as the most comprehensive picture currently achievable rather than a definitive account.

Maturity framework for green behavioural public policy capacity

The structure used for mapping GBPP capacity across the EU and Norway was adapted from previous work on assessing the readiness of behavioural public policy in the domain of public health (Baggio et al., 2024). The phased maturity framework adapted for this study contains six stages (compared with only five in the original model).

- **Phase 0 – Pre-inception.** No BI structures/units or applications of GBPP are identified. Behavioural approaches do not yet feature in policy initiatives, institutional arrangements or documented activities in the areas of green, environmental or climate policy. An intention to apply BI is not detected, because none exists or because none could be detected through the available resources.
- **Phase 1 – Inception.** The initial establishment of a BI function, typically through isolated academic projects, exploratory pilots or ad hoc government consultations, is detected. Institutional BI structures are absent or embryonic and their application to green, environmental or climate policy is limited and unsystematic.
- **Phase 2 – Preliminary implementation.** The active application of BI in selected projects, with growing awareness among policymakers, is identified. Some institutional stakeholders are engaging with BI methods, though no dedicated national unit exists or, if it exists, it is not fully developed and embedded. Green policy applications are present but project-based and fragmented.
- **Phase 3 – Organisational embedding.** BI is formally established within government structures, typically through a dedicated unit or team with recognised expertise and stable institutional support. Its application in green, environmental and climate policy is regular and established, though it may still be concentrated in particular departments or policy areas rather than spread across government.
- **Phase 4 – Expansion and mainstreaming.** BI capacity extends beyond a single unit or department to multiple areas and levels of government, including ministerial and sub-national levels. Coordination mechanisms scale up activity and share learning across these areas. BI is increasingly a standard component of policy design rather than the responsibility of a single dedicated team.
- **Phase 5 – Refinement and excellence.** BI practice is mature and self-improving, marked by a strong evaluation culture, methodological innovations and its systematic application across green, environmental and climate policy. Interventions increasingly aim to reshape entire systems and decision environments rather than individual choices alone. Learning is shared across government and, where relevant, with other countries.

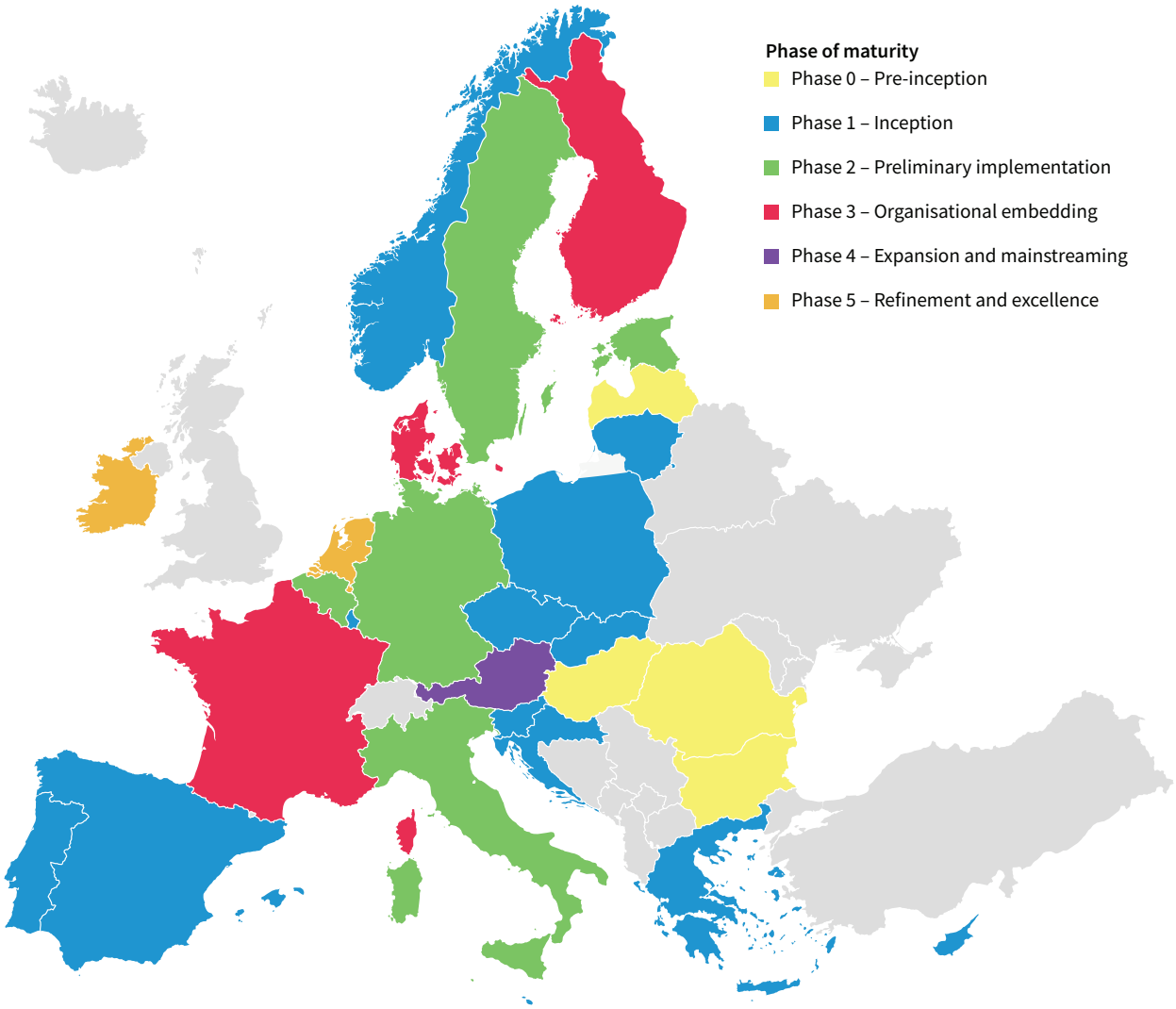
To be placed in one of the six phases above, each country was assessed on the basis of (1) the presence and maturity of dedicated BI units or teams working on GBPP; (2) the existence and scope of policies, programmes or initiatives designed or implemented with explicit reference to GBPP; and (3) observable trends in BI institutional development, including changes in capacity, political support or application over approximately the past two to three years.

The analysis, based on the methodology described above, produced a map illustrating the maturity of GBPP across the EU and Norway (Figure 33).

The mapping revealed a distribution strongly skewed towards the lower end of the maturity spectrum. In total, 17 of the 28 countries assessed fall into Phase 0 or Phase 1, meaning that, across the large majority of these countries, GBPP remains either absent or at the earliest stage of development. Only six countries have reached Phase 3 or above, and just two – Ireland and the Netherlands – have achieved the kind of systematic, multilevel embedding that the framework characterises as advanced practice. The two are not equivalent, however: they sit at opposite ends of this phase. The Netherlands represents the more established case, whereas Ireland's position is less consolidated and would benefit from further cross-sectoral collaboration.

The Member States further along in the development of their GBPP capacity (Austria, Belgium, Denmark, Finland, France, Ireland and the Netherlands) are mainly clustered in the north-western part of the continent. These Member States share strong academic traditions in behavioural science, well-developed civil service cultures oriented towards evidence-based policy and comparatively high levels of institutional trust (OECD, 2017). Conversely, a contrasting cluster is visible in central and eastern Europe, where Bulgaria, Croatia,

Figure 33: Maturity of green behavioural public policy across the EU-27 and Norway



Source: Authors.

Czechia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia are all at Phase 0 or Phase 1. This pattern broadly mirrors wider disparities in public administration capacity and research infrastructure across the EU. It carries particular significance for the just green transition, because the regions facing the greatest transition burden, those most dependent on coal and carbon-intensive industries, are concentrated in the same lower-capacity cluster (Charron et al., 2024). The risk is one of compounding disadvantage: the Member States most in need of effective green transition policy are also those currently least equipped to design and implement it using the full range of behavioural tools available to them.

Furthermore, the mapping highlights that country size is a double-edged sword. Smaller Member States can, in principle, move more quickly through the early phases of capacity development: decision-making structures are less complex, key actors are more likely to know one another and a single well-placed unit or champion can exert disproportionate national influence. Ireland's position at Phase 5 is partly a reflection of this institutional agility, as is Cyprus's positive trajectory within Phase 1. However, the same structural features that enable early momentum can constrain later progress. Luxembourg and Malta both demonstrate genuine interest in commissioning behavioural research, yet neither has translated that interest into durable internal institutional capacity. For smaller Member States, EU-level expertise-based support mechanisms, in the form of shared networks, joint capacity-building initiatives and access to cross-border know-how, may therefore be particularly important in enabling progression.

The role of EU-level support was also highlighted by the finding that, across multiple Phase 1 countries, participation in EU-funded projects emerged as the primary, and sometimes sole, driver of GBPP. While this demonstrates the potential of leveraging EU funding to seed GBPP, it also signals a structural dependency: when projects conclude, activity tends not to continue. A more strategic approach would use EU project funding not only to deliver GBPP interventions but to build the institutional infrastructure (units, training and evaluation frameworks) that enables Member States to sustain and scale GBPP applications independently.

A further finding concerns the structural fragility that results from dependence on individual BI units or personal champions. The cases of Austria and Estonia, both of which developed meaningful BI capacity that was subsequently dismantled following leadership changes or budget cuts, illustrate the risk of under-institutionalised BI functions. Where BI has taken root, it has often done so through the vision and drive of committed advocates rather than through a structural reform of how policy is designed and evaluated. An approach that depends on the presence of such individuals is inherently contingent and unlikely to survive the institutional transitions that are a normal feature of public administration.

Last but not least, several Member States, including Bulgaria, Lithuania, Portugal and Slovenia, present a pattern in which substantive academic engagement with behavioural approaches to environmental issues coexists with an only partial and fragile translation into policy practice. Collaborations between academic institutions and public bodies exist, and project-based initiatives have generated relevant evidence. Yet this activity rarely accumulates into durable policy change: findings tend to remain within academic channels, projects conclude without institutional follow-through and the insights generated do not consistently reach or reshape the design of green policy instruments. Bridging this translation gap represents one of the most rewarding opportunities for capacity building in these countries.

Green transition policies using behavioural insight approaches

In order to map BI capacity across the EU and Norway, the Network of Eurofound Correspondents recorded the existence and scope of policies, programmes and initiatives designed or implemented with explicit reference to GBPP. Several policies covering green mobility and energy efficiency with reference to GBPP were identified, corresponding to the **roads** instruments category in this report's framework. While a companion research paper examines these measures in greater detail, this section highlights the main findings.

In terms of green mobility, interventions tend to work by disrupting habits and reshaping incentives. Finland's Climate Nudge project reached people at moments of change, such as retirement, when new routines can more easily take hold, while the sustainable mobility behaviours in the Alpine region (SaMBA) project found that non-financial rewards, from reserved parking to social recognition, often outperformed cash, which risks having short-lived effects that fade once the payment stops. Denmark's work on carpooling addressed the psychological reasons people avoid ride-sharing, and Austria's cycling initiative harnessed social norms and community 'multipliers', noting that rural areas respond better to collective approaches than to individual messaging. In terms of energy and housing, the recurring lesson was that financial support alone often fails when bureaucracy overwhelms those it is meant to help. A Cypriot study found that many eligible households missed out on policies because financial scarcity leaves them little capacity to navigate complex applications, pointing towards the role that pre-filled forms, default enrolment and trusted messengers may play, while Irish evidence showed that overstated energy-savings projections can erode public trust. The most systemic applications of BI approaches go further.

Luxembourg's SOC2050 project (which assessed citizens' interest in transitioning society and the economy in the country towards greater resilience and sustainability) corrected a widespread misperception that others were not acting sustainably, which in turn raised support for climate measures. The Dutch 2025–2035 climate plan, the most advanced example, requires policies to be tested for their 'mental feasibility' and seeks to make the green choice the easy and default one. Germany illustrates the limits of this, as constitutional protection of individual autonomy constrains the state's ability to reshape choice architecture (the design of the environment and context in which people make decisions), pushing German policy towards voluntary industry commitments instead.

A crucial finding is that **roads** can support policymakers in leaving no one behind. BI plays an important part in ensuring the green transition is just, because it helps to identify and remove the cognitive, psychological and administrative barriers that keep vulnerable groups from taking part in, and benefiting from, climate policy. Where conventional analysis asks whether people can afford to act, BI analysis also asks whether the way a policy is designed makes acting realistic given the pressures people are already under. A central theme is the effect of scarcity on mental capacity. Financial and social insecurity impose what has been termed a 'bandwidth tax': the stress of managing immediate needs, such as paying rent or buying food, consumes cognitive resources and leaves little room for the kind of complex, long-term planning that energy efficiency decisions demand. The lesson for policymakers is that measures must be designed around citizens' mental and cognitive capacity, not only their financial means. Closely related is the problem of administrative friction, or 'sludge' – the complex forms, digital-only processes and repeated verification requirements that quietly exclude disadvantaged groups. For households already stretched by poverty, these frictions can become insurmountable. Behavioural approaches respond by simplifying processes through the use of pre-filled applications, default enrolment and local one-stop shops that bring several services together in a single place, reducing the bureaucratic load on citizens.

How communication is framed matters as much as the actual process. A study of a renewable energy grant scheme in Cyprus found that the majority of the intended beneficiaries did not access the funds and that part of the problem lay in how the scheme addressed them: labelling the target group as 'vulnerable' was stigmatising and discouraged take-up, while using politicians as messengers fell flat because of low public trust. The behavioural response was to use positive framings, such as 'working provider', and to rely on trusted local intermediaries, for instance welfare officers who already had relationships with the households concerned. This connects to a broader design principle illustrated by the Dutch 2025–2035 climate plan, which requires that policies be tested not only for financial viability but also for their 'mental feasibility'. The aim is to shape the surrounding environment so that the sustainable option becomes the easy, logical and fair default, rather than something citizens must expend considerable effort to work out and pursue.

Who is at risk of being left behind?

Beyond the groups already highlighted in previous sections, the analysis of GBPP capacity highlighted the following other groups that are at risk.

Countries in the lower-capacity cluster. In total, 17 of the 28 countries assessed remain at the earliest phases of behavioural policy capacity, with this cluster forming across central and eastern Europe. Because these are also among the regions most exposed to the socioeconomic shocks of the green transition, they risk being least equipped to design the accessible, low-friction policies their situation most requires.

Countries dependent on external project funding. Where BI activity rests on time-limited EU projects rather than permanent structures, it tends to lapse once projects conclude, leaving no durable capacity behind.

Countries reliant on individual champions. Capacity built around particular advocates rather than institutions, as in Austria and Estonia, is vulnerable to being dismantled when those individuals or their budgets go.

On what should policymakers focus to leave no one behind when leveraging GBPP?

Apply the existing BI evidence to improve policy design. Complex forms, digital-only processes and repeated verification quietly exclude those least able to navigate these systems, and financial insecurity leaves people with little spare capacity to cope with these issues. Pre-filled applications, default enrolment and local one-stop shops are some of the possible solutions.

Build lasting capacity, not one-off projects. Across several countries at the earliest phases of implementing BI approaches, EU-funded projects are the main and sometimes only driver of behavioural policy activity, which stops when the funding ends. EU support should be used not only to deliver individual interventions but to build durable institutional infrastructure, such as units and training and evaluation frameworks, so that Member States can sustain and scale this work independently. Another avenue for improving capacity is through the strengthening of the links between academic institutions and public bodies.

Institutionalise expertise rather than relying on individuals. Where behavioural capacity has taken root, it has often depended on committed champions rather than structural reform. The dismantling of established capacity in Austria and Estonia after leadership changes or budget cuts shows how fragile such capacity can be. Capacity should be embedded in stable structures that can survive the normal turnover of public administration.

Support smaller and lower-capacity Member States through the sharing of resources. The regions facing the greatest transition burden are concentrated in the same lower-capacity cluster, raising the risk of a compounding disadvantage. Shared networks, joint capacity-building initiatives and cross-border access to expertise can help smaller and less-established Member States progress, given that a single well-placed unit can exert disproportionate national influence.

4 Conclusions

This report set out to examine whether the EU's commitment to leaving no one behind in the green transition is being met, and what the design of climate policy would need to look like for that commitment to hold. To do so, it drew on two guiding frameworks: one categorising the instruments through which governments pursue climate and energy goals, and one setting out the dimensions of justice against which the fairness of those instruments can be judged.

The instrument framework in this report distinguished between four types of policies: **carrots** (economic incentives such as subsidies and grants); **sticks** (regulatory mandates, taxes and bans); **sermons** (information and advice); and **roads** (behavioural instruments that reduce friction and make sustainable choices easier). The central argument, however, is that these instruments are only as good as the way they are designed and combined. Their fairness, and ultimately their effectiveness, depend on how well they rest on three interconnected dimensions of justice. **Distributional justice** is concerned with the fair allocation of the transition's costs and benefits. **Procedural justice** is concerned with there being a meaningful voice for affected communities in how policies are designed and delivered. **Recognitional justice** is concerned with the acknowledgement of the diverse needs, identities and circumstances of those most exposed to structural disadvantages. The overview of this guiding framework is illustrated in Figure 1.

The analysis proceeded in three steps. The first chapter traced the path from climate awareness to action, establishing a baseline of climate sentiment across the EU and examining how financial security, institutional trust and feelings of political recognition are associated with support for green policy and individual behavioural change. The second chapter turned to the gaps between support and action in two domains, green mobility and home energy efficiency, identifying which socioeconomic and geographical groups are transitioning and which are held back by structural barriers. The last chapter moved from outcomes to design, drawing on 151 national measures, a mix of **carrots**, **sticks** and **sermons**, to examine how features such as upfront cost requirements or digital-only applications can unintentionally exclude the households a policy is meant to serve. The same chapter also looked at the **roads**, assessing how far behavioural approaches to green policy have matured across the Member States and Norway and what they can contribute to the cause.

Two recurring visual devices present the arguments throughout the report. Red boxes flag the groups most at risk of being left behind, among them private renters affected by the split-incentive problem; rural residents without viable public transport options; low-income households unable to meet upfront retrofit costs; and digitally excluded citizens unable to navigate complex application processes. Green boxes set out targeted responses to those same barriers: shifting to advance funding rather than reimbursement; addressing the landlord–tenant divide through a mix of obligations and protections; automating eligibility using existing social assistance data; and prioritising demand-responsive transport in underserved rural areas.

This report is timely given the current status of the just green transition. Much of the past decade has been devoted to establishing targets and kick-starting the transition, building a critical mass of investment and regulatory architecture, and worrying about the process being too slow. Now the focus is shifting. The question is no longer only whether the transition is moving fast enough, but also whether it is moving in a way that is fair rather than deepening existing inequalities. At a time when climate policies need course correction and finer calibration, this report offers both systematic grounds for reflection and concrete, actionable guidance for policymakers.

This is, however, not a one-off exercise. **A transition of this scale, depth and duration requires regular and structured stocktaking, conducted not only at EU level but also with sufficient granularity within each Member State to reveal how different groups of citizens are faring.** Accordingly, the overarching conclusion of this report is that such stocktaking, with clear indicators of the distributional, procedural and recognitional outcomes of the transition, should be embedded in recurring cycles of evaluation and correction. It should become a normal feature of the just green transition, rather than an exceptional action.

The second conclusion of this report is best understood as a reminder: **the effectiveness and fairness of the green transition must be pursued simultaneously, as each is a condition for the other**. The report's evidence shows repeatedly that the people most likely to bear the costs of restrictive green policies (**sticks** such as low-emission zones and bans on high-emission vehicles) are also those least able to access the supports designed to help them adapt (**carrots** such as financial incentives for green vehicles or renovation bonuses). Low-income households, private renters, rural residents, older people and those living in the worst-performing buildings are simultaneously disproportionately exposed to the costs of the green transition and excluded from the support designed to offset them.

When groups of citizens find themselves caught in this double bind, the risk is not only that they are left behind, but also that their trust in the institutions delivering the green transition erodes, and the sense of being recognised by them fades. The analysis of citizen attitudes makes this point with particular clarity. **Environmental concern, trust in EU institutions and the feeling of being recognised by the government generally emerge as stronger predictors of engagement with the transition than income, age or geography.** People who feel seen and fairly treated engage more readily with collective efforts, including costly ones. People who feel ignored or disrespected often disengage – not because they reject climate action in principle, but because they have reason to expect that the policies will not work for them. The recognition gap is not a soft or secondary dimension of policy design. It is a substantive driver of policy acceptance.

The EU has begun to address these fundamental issues by establishing guard rails to prevent leaving people behind. Member States, too, are following the EU's recommendations and implementing effective, innovative policy. For example, Austria's Clean Heating for All scheme covers up to 100 % of costs for the lowest-income households. France's social leasing scheme, despite its shortcomings, aims to put EVs within reach of the bottom half of earners for under EUR 100 a month, and Portugal's automation of social tariff eligibility has measurably increased rural uptake of the tariff. These examples show that fairness and effectiveness can be reconciled in practice; the task ahead is to make such approaches the rule rather than the exception.

The third conclusion is that **the household is one of the key places where the transition either happens or stalls, but the drive to make it happen cannot be placed primarily on individuals**. Policy design must do the heavy lifting – deliberately, systematically and with attention to how different instruments, sectors and administrative systems interact with the lives of the people they are intended to reach. The evidence is unambiguous on the scale of the task. Fewer than 4 % of EU households have undertaken deep home renovations in the past five years. Only a small minority have switched to an electric or hybrid vehicle, and the vast majority of those who have are homeowners, higher earners and urban residents. Among private renters, retrofitting rates are markedly lower, not because renters are less aware of climate change or less willing to act, but most likely because they have no authority over the dwellings they live in. Among rural residents, the take-up of greener mobility is lower not because these residents are indifferent to climate action, but because most of the alternatives to private cars that exist in cities do not exist where they live.

These are clearly not the failings of individuals or households. A retrofitting incentive structured as a post-payment reimbursement assumes the household has the capital to advance; a green vehicle incentive tied to company car benefits assumes the household has access to formal, stable employment; and a digital-only application process assumes the household has digital literacy and the time to navigate the application form. Each of these assumptions systematically excludes a substantial group of citizens.

The fourth conclusion is that **there is significant untapped potential for the EU and its Member States to strengthen the design of green policies**. Realising this will require policy innovation: trying new instruments, testing new combinations and drawing more systematically on emerging bodies of evidence. One of these approaches, BI, is attracting growing attention. BI applies findings from behavioural science to understand why people make the choices they do and to design policy instruments that reduce friction and make sustainable options easier to adopt. Representing the **roads** of the policy toolbox, behavioural instruments complement the economic **carrots**, regulatory **sticks** and information-based **sermons** on which the transition has so far mainly relied. The report's mapping of GBPP capacity found that most Member States are still in the early stages of applying these methods to green policy, and that this capacity tends to be least developed in the regions most exposed to the social and economic effects of the green transition. The pattern reflects wider differences across the EU in administrative resources, research infrastructure and institutional continuity. Addressing this disparity represents one of the more workable opportunities for improvement: where capacity is currently most limited, even modest well-targeted investment, supported at EU level through shared networks and joint capacity building, could seed durable capability.

Seen as a whole, the picture presented by this report suggests that whether the transition leaves anyone behind is not a fixed outcome but a function of how the relevant policies are designed, combined and revised over time. The evidence offered here is therefore best read not as a verdict but as a basis for reflection: a record of what is currently working, who it is working for, and under what conditions. It is against this record that future policy can be examined and adjusted. The transition's success will ultimately be measured not only by the emissions it averts but also by how fairly its costs and benefits are shared, a question this report has aimed to make visible and one that the evidence invites policymakers and researchers alike to keep asking.

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Annexes

Annex 1: Relevant policies

Table A1: Policies on green mobility and transport poverty

Policy code	Country	Policy name
AT1	Austria	Climate bonus (Klimabonus)
BE2	Belgium	Federal tax incentives for low-carbon mobility
BE3	Belgium	Low-emission zones
CY4	Cyprus	Grant for the purchase of a new bicycle for the season 2022–2023
CY5	Cyprus	Grant scheme to promote electric mobility
CZ6	Czechia	Electromobility guarantee (Záruka elektromobilita)
CZ7	Czechia	Electromobility in Opava – charging station for electric buses
CZ8	Czechia	Green infrastructure of cities and municipalities – national priority defined within the integrated regional operational programme
CZ9	Czechia	Clean mobility – a national priority formulated in the national resilience and recovery plan
DE10	Germany	Deutschland-Ticket
DE11	Germany	Subsidy for electric cargo bike purchases
DE12	Germany	Tübingen – climate neutral by 2030
DK13	Denmark	Policies to improve mobility in rural areas
DK14	Denmark	2035 infrastructure plan
EE15	Estonia	Financial subsidy to support the purchase of zero-emission vehicles
ES16	Spain	Free Renfe-Operadora (Renfe rail passes) and bus passes
ES17	Spain	MOVES III programme for electric mobility incentives (Programa MOVES III de incentivos a la movilidad eléctrica)
ES18	Spain	Barcelona's Superblocks (Superilles Barcelona)
FI19	Finland	Helsinki Regional Transport Authority senior ticket
FI20	Finland	Kutsuplus – on-demand bus service
FI21	Finland	Bicycle benefit scheme, also known as 'employer-provided bicycles' (Polkupyöräetu)
FR22	France	Reduction of transport costs and greenhouse gases (Renforcement des aides à la mobilité) – Decree No 2022-1151 of 12 August 2022 and Law No 2022-1157 of 16 August 2022
FR23	France	Commitment charter to develop carpooling among employees (Charte d'engagement pour le développement du covoiturage auprès des salariés)
FR24	France	Social leasing of electric cars (Leasing social de voiture électrique)
FR25	France	Collective agreement on ecological transition and sustainable mobility in the pharmaceutical industry (Accord collectif du 17 octobre 2023 sur la transition écologique et la mobilité durable dans l'industrie pharmaceutique)
FR26	France	Agreement on the environment and ecological transition at Engie Green France (Accord relatif à l'environnement et à la transition écologique au sein d'Engie Green France)
FR27	France	Reduced social security contributions linked to the provision of electric vehicles by employers (Évaluation des avantages en nature liés à la mise à disposition par l'employeur d'un véhicule électrique)
FR28	France	Mobility Orientation Law – Law No 2019-1428 of 24 December 2019 (Loi d'orientations des mobilités – Loi No 2019-1428 du 24 décembre 2019)
FR29	France	Fostering vehicle reuse in support of sustainable and inclusive mobility – Law No 2024-310 of 5 April 2024 (Réemploi des véhicules au service des mobilités durables – Loi No 2024-310 du 5 avril 2024)
GR30	Greece	Public transport – electromobility (Δημόσιες Μεταφορές – Ηλεκτροκίνηση)
HR31	Croatia	Integrated National Energy and Climate Plan 2021–2030
HU32	Hungary	Discounted regional public transport passes and a new tariff system

Policy code	Country	Policy name
HU33	Hungary	Green Bus Programme and its pilot projects (Zöld Busz Program és Mintaprojekt)
HU34	Hungary	Interreg SMACKER project for demand-responsive transport services, behavioural change and smart mobility practices
HU35	Hungary	Gyerebusz, a demand-responsive transport service in Nyíregyháza, eastern Hungary
IE36	Ireland	Vehicle grant scheme
IE37	Ireland	CycleConnects
IE38	Ireland	Young Adult and Student Leap Cards
IE39	Ireland	Cycle to work scheme
IE40	Ireland	Safe Routes to School Programme
IE41	Ireland	Connecting Ireland
IT42	Italy	Mobility bonus/bike bonus (Bonus Mobilità/Bonus Bici)
IT43	Italy	Ecobonus for sustainable mobility (Ecobonus per la mobilità sostenibile)
LT44	Lithuania	Promotion of public transport and sustainable mobility (scooters, bicycles, sharing services, etc.), 2024-01 No KK-AM-V04
LU45	Luxembourg	Free public transport introduced in March 2020
LV46	Latvia	Reducing greenhouse gas emissions in the transport sector – Supporting the purchase of zero- and low-emission vehicles
MT47	Malta	Grant scheme for new electric vehicles and pedelecs for 2025
MT48	Malta	Free public transport with the tallinja card
NL49	Netherlands	City Deal Cycling for Everyone
NL50	Netherlands	Public transport discount for low-income residents (OV-minimaproduct), delivered in Utrecht via the U-pas
NL51	Netherlands	Provision of bicycles for children in low-income households through Leergeld Nederland's fundraising campaign Geen Kind Achterop (No Child Left Behind)
NO52	Norway	Government incentives for the electrification of the car fleet (Norwegian Automobile Federation 2025)
NO53	Norway	Enova subsidy scheme for the purchase of electric scooters and motorbikes
NO54	Norway	Municipal subsidies for installing charging stations
NO55	Norway	National policies restricting car use implemented by municipalities
PL56	Poland	Our E-car Programme (Program NaszEauto)
PL57	Poland	Warsaw low-emission zone (Warszawska strefa czystego transport)
PL58	Poland	Act on Electromobility and Alternative Fuels (2018, amended 2021–2024) (Ustawa z dnia 11 stycznia 2018 r. o elektromobilności i paliwach alternatywnych)
PL59	Poland	Wierzchowo transport on demand pilot (Transport na Życzenie – Gmina Wierzchowo)
PL60	Poland	Kraków Park-e-Bike and LajkBike programmes (Kraków – rowery miejskie LajkBike i Park-e-Bike)
PL61	Poland	Białystok microbus transport service for people with disabilities (Białystok – Przewóz osób niepełnosprawnych)
PT62	Portugal	Circulate.pt (Circula.pt)
PT63	Portugal	Social green mobility – Acquisition of electric vehicles for private social solidarity institutions (Mobilidade Verde Social – Aquisição de Veículos Elétricos para IPSS)
RO64	Romania	Integrated urban development strategy for the Municipality of Buzau (2016–2023) (Strategia integrată de dezvoltare urbană a Municipiului Buzău (2016–2023))
SE65	Sweden	Government scrappage incentive for older cars (Statlig skrotningspremie för äldre bilar)
SE66	Sweden	Electric car subsidy (Elbilspremien)
SI67	Slovenia	Free public transport tickets (Brezplačne vozovnice za javni potniški promet)
SI68	Slovenia	Free on-demand transport (Brezplačni prevoz na zahtevo)
SK69	Slovakia	Clean Mobility (Interreg Slovakia–Austria project)

Table A2: Policies on energy-efficient housing and the decarbonisation of buildings

Policy code	Country	Policy name
AT1	Austria	Renovation bonus (Sanierungsbonus)
AT2	Austria	Move away from oil and gas (Raus aus Öl und Gas)
AT3	Austria	Clean Heating for All (Sauber Heizen für Alle)
AT4	Austria	Vienna social housing construction programme (Gemeindebau(t))
BE5	Belgium	Renolution (renovation strategy for the Brussels-Capital Region)
BE6	Belgium	Flemish long-term renovation strategy for buildings 2050 (Vlaamse langetermijnrenovatiestrategie voor gebouwen 2050)
BE7	Belgium	My Renovation Grant (Mijn VerbouwPremie) (Flanders)
BG8	Bulgaria	Energy efficiency of multi-family residential buildings national programme (Национална програма за Енергиина Ефективност на многофамилни жилищни сгради)
CY9	Cyprus	Saving – Upgrading in Residences (2024)
CY10	Cyprus	Grant scheme for the encouragement of the use of renewable energy sources and energy savings in households 2024–2025 (Σχέδιο χορηγιών για την ενθάρρυνση της χρήσης ανανεώσιμων πηγών ενέργειας και εξοικονόμησης ενέργειας σε κατοικίες)
CZ11	Czechia	New green savings programme (Nová zelená úsporám)
CZ12	Czechia	National recovery and resilience plan – reducing energy consumption in the public sector
DE13	Germany	Federal funding for efficient buildings (Bundesförderung für effiziente Gebäude (BEG)), specifically subprogrammes that cover residential buildings (which includes a heating subsidy) and non-residential buildings
DE14	Germany	Home Ownership for Families (Wohneigentum für Familien (300))
DE15	Germany	Federal support for energy audits
DE16	Germany	Frankfurt – 50 % climate bonus
DK17	Denmark	Heat pump grant scheme
DK18	Denmark	Energy renovation subsidy
DK19	Denmark	2020 Green Housing Agreement (Grøn Boligaftale 2020)
DK20	Denmark	Building regulations of 2018 and 2025 (BR18 and BR25)
DK21	Denmark	Energy Efficiency through Data (Energieffektivisering gennem)
EE22	Estonia	Reconstruction grant 2022–2027
ES23	Spain	Support programme for building-level renovation measures (Programa de ayuda a las actuaciones de rehabilitación a nivel de edificio)
ES24	Spain	Electricity social tariff and thermal social tariff (Bono social eléctrico and bono social térmico)
FI25	Finland	ARA energy renovation subsidy (ARA energia-avustus)
FI26	Finland	Subsidy for discontinuing oil heating in residential buildings (Avustus asuinrakennuksen öljylämmityksestä luopumiseksi)
FR27	France	My Renovation Allowance (MaPrimeRénov')
FR28	France	Action by regional collectives for energy efficiency (l'Action des Collectivités Territoriales pour l'Efficacité Energétique (ACTEE))
FR29	France	Zero-interest eco-loans
FR30	France	Energy Solidarity Pact
FR31	France	Energy-saving certificates (Certificats d'Économies d'Énergie (CEE))
FR32	France	Energy voucher (Chèque énergie and Chèque éco-énergie for Normandy)
GR33	Greece	Energy Saving at Home 2025 (Εξοικονομώ 2025) (ΚΥΑ Β' 6970/2024, ΥΠΕΝ ΥΠΟΙΚ)
HR34	Croatia	Incentives for solar energy
HR35	Croatia	Energy renovation of family houses for the most vulnerable households
HR36	Croatia	Green Energy Cooperative (Zelena energetska zadruga)
HU37	Hungary	Solar panel programme for residents (Lakossági napelemes pályázat) and Solar Energy Plus (upgraded) programme (Lakossági napelemes pályázat)

Policy code	Country	Policy name
HU38	Hungary	Energy Saving Obligation Scheme (Energiamegtakarítási Kötelezettségi Rendszer (EKR))
HU39	Hungary	Electric heating for households in need (Közösségi energiatermelés és -felhasználás a hátrányos helyzetű településeke)
HU40	Hungary	Pre-paid meters for protected customers (Védett fogyasztó számára előre fizetős mérő felszerelése)
HU41	Hungary	Rural family housing subsidy (Falusi CSOK)
HU42	Hungary	Local governments for energy efficiency improvements
HU43	Hungary	Home renovation programme for the implementation of residential energy efficiency investments (upgraded) (KEHOP Plusz Otthonfelújítási Program Lakossági energiahatékonysági beruházások megvalósításához)
IE44	Ireland	National Home Energy Upgrade Scheme
IE45	Ireland	Warmer Homes Scheme
IE46	Ireland	Community Energy Grant Scheme
IE47	Ireland	Better Energy Homes and Solar PV grants
IE48	Ireland	Warmth and Wellbeing Scheme
IT49	Italy	Superbonus
LT50	Lithuania	Promoting renovation of buildings (Progress measure No 02-001-06-04-01)
LT51	Lithuania	Replacement of inefficient biomass-fired or fossil fuel boilers with more efficient, renewable-energy-based heat production technologies in individual houses not connected to a centralised heat supply system (Neefektyvių biomasę ar iškastinį kurą naudojančių katilų keitimo į efektyvesnes, atsinaujinančius energijos išteklius naudojančias šilumos gamybos technologijas individualiuose namuose, neprijungtuose prie centralizuotos šilumos tiekimo sistemos)
LU52	Luxembourg	Climate bonus programme – housing (Klimabonus Wunnen)
LV53	Latvia	Energy Efficiency Programme for Apartment Buildings 2021–2027 (Programma Daudzdzīvokļu māju energoefektivitāte 2021–2027)
LV54	Latvia	Reduction of greenhouse gas emissions in households – support for the use of renewable resources
MT55	Malta	Luqa – Social Housing
MT56	Malta	Deep renovation of a social housing block to zero energy levels
MT57	Malta	Fixed energy price policy
MT58	Malta	Renewable Energy Sources Scheme
MT59	Malta	Energy benefit
NL60	Netherlands	National Heat Fund (Nationaal Warmtefonds)
NL61	Netherlands	Investment subsidy for renewable energy and energy saving (Investeringssubsidie duurzame energie (ISDE))
NL62	Netherlands	Programme Accelerating Sustainability in the Built Environment (Beleidsprogramma Versnelling Verduurzaming Gebouwde Omgeving (PVGO))
NL63	Netherlands	Subsidy scheme for sustainability and maintenance of rental homes (Subsidieregeling Verduurzaming en Onderhoud Huurwoningen (SVOH))
NO64	Norway	Enova subsidies for implementing energy-saving measures in private and commercial buildings
NO65	Norway	Norwegian State Housing Bank's subsidies for energy-saving measures in municipal rental housing, care homes and nursing homes
NO66	Norway	Norwegian State Housing Bank's loans for quality housing
PL67	Poland	Clean Air Programme (Czyste Powietrze)
PL68	Poland	Stop Smog Programme
PL69	Poland	My Warmth Programme (Program Moje Ciepło)
PL70	Poland	Warm Apartment Programme (Ciepłe Mieszkanie)
PL71	Poland	My Electricity 6.0 (Mój Prąd 6.0)
PT72	Portugal	Efficiency voucher – phase II (Vale Eficiência – II fase)
PT73	Portugal	Social tariff for energy (Tarifa Social de Energia)
RO74	Romania	Programme for the installation of photovoltaic panel systems for electricity production to cover consumption needs and supply the surplus to the national grid (Programul privind instalarea sistemelor de panouri fotovoltaice pentru producerea de energie electrică, în vederea acoperirii necesarului de consum şi livrării surplusului în reţeaua naţională)

Policy code	Country	Policy name
RO75	Romania	Vouchers for the purchase of solar panels and energy-storing (Vouchere pentru achiziţia de panouri solare şi pentru stocarea energiei produse)
RO76	Romania	Energy card for vulnerable people (Cardul de energie pentru persoanele vulnerabile)
RO77	Romania	National multiannual programme on increasing the energy performance of apartment buildings (Programul naţional multianual privind creşterea performanţei energetice a blocurilor de locuinţe)
SE78	Sweden	Grants for energy efficiency in single-family houses (Bidrag för energieffektivisering i småhus)
SE79	Sweden	Support for energy efficiency in multi-family buildings (Stöd till energieffektivisering i flerbostadshus)
SI80	Slovenia	Environmental Public Fund (Eco Fund) (Slovenski okoljski javni sklad (Eko Sklad))
SK81	Slovakia	Restore the House (Obnov dom mini+)
SK82	Slovakia	Green Solidarity and Green for Households

Annex 2: Descriptive statistics

Table A3: Descriptive statistics from the Living and Working in the EU e-survey

Variables	Mean	Standard deviation	Minimum	Maximum	*N*
Dependent variable (support for green policies)					
Support for restrictive policies	0.580158	0.493533	0	1	26 905
Support for incentive-based policies	0.875296	0.330383	0	1	26 905
Dependent variable (policy support and behavioural change)					
Yes support and yes change	0.379198	0.485188	0	1	26 905
Yes support but no change	0.254774	0.435734	0	1	26 905
No support but yes change	0.121261	0.326431	0	1	26 905
No support and no change	0.244767	0.429949	0	1	26 905
Health					
Self-reported health	3.393473	0.963075	1	5	24 447
Trust and recognition					
Trust in the national government	3.587023	2.655361	1	10	26 627
Trust in the EU	4.535833	2.889776	1	10	26 552
Individual recognition	2.614269	1.210455	1	5	25 363
Community recognition	2.97705	1.130756	1	5	25 058
Financial security					
Making ends meet easily	0.443454	0.496792	0	1	26 315
Making ends meet with difficulty	0.556546	0.496792	0	1	26 315
Income quintile					
1st income quintile (poorest)	0.224001	0.416923	0	1	23 956
2nd income quintile	0.190763	0.392902	0	1	23 956
3rd income quintile	0.177042	0.381704	0	1	23 956
4th income quintile	0.179665	0.383908	0	1	23 956
5th income quintile (wealthiest)	0.228529	0.419885	0	1	23 956
Concern about the environment					
Not concerned	0.226341	0.418462	0	1	25 646
Moderately concerned	0.202614	0.401947	0	1	25 646
Very concerned	0.571046	0.494927	0	1	25 646
Type of tenure					
Homeowner	0.601981	0.489489	0	1	24 544
Renter	0.398019	0.489489	0	1	24 544
Main source of news					
Traditional media	0.679515	0.466663	0	1	26 363
Social media	0.196272	0.397176	0	1	26 363
Other sources	0.087679	0.282828	0	1	26 363
Does not follow the news	0.036534	0.187614	0	1	26 363
Gender					
Male	0.493062	0.499952	0	1	26 408
Female	0.506938	0.499952	0	1	26 408

Variables	Mean	Standard deviation	Minimum	Maximum	*N*
Age					
18–34	0.230699	0.42128	0	1	26 905
35–49	0.227282	0.419076	0	1	26 905
50–64	0.28739	0.452545	0	1	26 905
65+	0.254629	0.435652	0	1	26 905
Employment status					
Employed	0.506947	0.499952	0	1	26 667
Unemployed	0.084976	0.278846	0	1	26 667
Inactive	0.087635	0.282763	0	1	26 667
Retired	0.26099	0.439175	0	1	26 667
Student	0.059452	0.236469	0	1	26 667
Level of education					
Primary	0.048827	0.215507	0	1	26 375
Secondary	0.639283	0.480209	0	1	26 375
Tertiary	0.31189	0.463265	0	1	26 375
Degree of urbanisation					
Urban	0.570818	0.494959	0	1	25 673
Rural	0.429182	0.494959	0	1	25 673

Table A4: Descriptive statistics from the EU Statistics on Income and Living Conditions

Variables	Mean	Standard deviation	Minimum	Maximum	*N*
Retrofitting					
Any retrofitting	0.27	0.44	0.00	1.00	601 402
Deep retrofitting	0.04	0.19	0.00	1.00	601 402
Degree of urbanisation					
Cities	0.47	0.50	0.00	1.00	603 698
Towns and suburbs	0.27	0.44	0.00	1.00	603 698
Rural areas	0.27	0.44	0.00	1.00	603 698
Age					
18–24	0.09	0.28	0.00	1.00	545 303
25–39	0.22	0.41	0.00	1.00	545 303
40–64	0.43	0.50	0.00	1.00	545 303
65+	0.26	0.44	0.00	1.00	545 303
Income quintile					
1st income quintile (poorest)	0.22	0.41	0.00	1.00	653 547
2nd income quintile	0.20	0.40	0.00	1.00	653 547
3rd income quintile	0.19	0.40	0.00	1.00	653 547
4th income quintile	0.20	0.40	0.00	1.00	653 547
5th income quintile (wealthiest)	0.20	0.40	0.00	1.00	653 547
Level of education					
Primary or lower	0.10	0.30	0.00	1.00	539 116
Secondary (including post-secondary non-tertiary)	0.58	0.49	0.00	1.00	539 116
Tertiary	0.32	0.47	0.00	1.00	539 116

Variables	Mean	Standard deviation	Minimum	Maximum	*N*
Employment status					
Employed	0.52	0.50	0.00	1.00	549 744
Unemployed	0.05	0.22	0.00	1.00	549 744
Retired	0.25	0.44	0.00	1.00	549 744
Inactive	0.08	0.27	0.00	1.00	549 744
Student	0.07	0.26	0.00	1.00	549 744
Other	0.02	0.15	0.00	1.00	549 744
Gender					
Male	0.49	0.50	0.00	1.00	653 547
Female	0.51	0.50	0.00	1.00	653 547
Household type					
One-person household	0.16	0.37	0.00	1.00	653 547
Single parent with children	0.05	0.21	0.00	1.00	653 547
Couple with no children	0.25	0.43	0.00	1.00	653 547
Couple with children	0.34	0.47	0.00	1.00	653 547
Other household type	0.21	0.41	0.00	1.00	653 547
Dwelling type					
Detached house	0.36	0.48	0.00	1.00	649 767
Semi-detached or terraced house	0.16	0.37	0.00	1.00	649 767
Apartment	0.48	0.50	0.00	1.00	649 767
Tenure					
Owner (no mortgage)	0.45	0.50	0.00	1.00	652 605
Owner (with mortgage)	0.25	0.43	0.00	1.00	652 605
Tenant (market price)	0.20	0.40	0.00	1.00	652 605
Tenant (reduced price/free)	0.10	0.30	0.00	1.00	652 605

Annex 3: Regression results

Table A5: Model 1: modelling support for stick and carrot policies

Dependent variable	Support for stick policies	Support for carrot policies
Making ends meet easily (0/1)	0.19*** (0.05)	–0.01 (0.08)
Quintile of equivalised household disposable income (ref. = 1st income quintile (poorest))		
2nd income quintile	0.003 (0.07)	–0.09 (0.11)
3rd income quintile	–0.17* (0.07)	–0.19 (0.11)
4th income quintile	0.02 (0.08)	0.01 (0.13)
5th income quintile (wealthiest)	0.23*** (0.08)	0.11 (0.14)
Trust in the national government	–0.01 (0.01)	–0.07*** (0.02)
Trust in the EU	0.24*** (0.01)	0.25*** (0.02)
Individual recognition	0.02 (0.03)	0.06 (0.04)
Community recognition	0.15*** (0.02)	0.21*** (0.04)
Main source of news (ref. = traditional media)		
Social media	–0.15*** (0.05)	–0.22*** (0.08)
Other sources	–0.28*** (0.08)	–0.38*** (0.1)
Does not follow the news	–0.46*** (0.11)	–0.59*** (0.14)
Concerned about environmental issues (ref. = not concerned)		
Moderately concerned	0.59*** (0.06)	0.53*** (0.08)
Very concerned	1.59*** (0.05)	1.43*** (0.08)
Tenure (ref. = homeowner)		
Renter	0.10* (0.05)	0.07 (0.07)
Female	0.14*** (0.04)	0.19*** (0.07)
Age (ref. = 18–34)		
35–49	–0.31*** (0.06)	–0.55*** (0.11)
50–64	–0.49*** (0.06)	–0.79*** (0.11)
65+	–0.51*** (0.1)	–0.84*** (0.16)
Employment status (ref. = employed)		
Unemployed	0.08 (0.08)	–0.22 (0.12)
Inactive	0.06 (0.08)	–0.24 (0.12)
Retired	0.002 (0.08)	–0.06 (0.13)
Student	0.25* (0.11)	0.3 (0.25)
Level of education (ref. = low (ISCED 1–2))		
Medium (ISCED 3–4)	0.14 (0.11)	0.55*** (0.14)
High (ISCED 5–8)	0.14 (0.12)	0.78*** (0.15)
Household type (ref. = one-person household)		
Couple with no children	–0.14*** (0.06)	–0.22* (0.09)
Couple with children	–0.20*** (0.06)	–0.28*** (0.1)
Single-parent household	–0.11 (0.08)	–0.06 (0.13)
Other household type	–0.15* (0.07)	–0.43*** (0.12)
Degree of urbanisation (ref. = rural)		
Urban	0.13** (0.04)	0.15* (0.06)
Observations	17 319	17 319

Notes: *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$. ISCED, International Standard Classification of Education. Standard errors are in parentheses. Member State-level fixed effects are included in the model. Survey weights are applied. The results are shown in Figure 13.

Table A6: Model 2: modelling green policy support and changes to behaviour

Dependent variable	Yes support and yes change	Yes support but no change	No support but yes change	No support and no change
Making ends meet easily (0/1)	0.13*** (0.05)	–0.02 (0.05)	–0.36*** (0.06)	0.12* (0.06)
Quintile of equivalised household disposable income (ref. = 1st income quintile (poorest))				
2nd income quintile	0.03 (0.07)	0.20** (0.07)	–0.22* (0.09)	–0.13 (0.08)
3rd income quintile	–0.04 (0.07)	0.09 (0.07)	–0.07 (0.09)	–0.0004 (0.09)
4th income quintile	0.05 (0.07)	–0.002 (0.08)	0.04 (0.1)	–0.14 (0.09)
5th income quintile (wealthiest)	0.16* (0.08)	0.14 (0.08)	–0.39** (0.11)	–0.18 (0.1)
Concerned about environmental issues (ref. = not concerned)				
Moderately concerned	0.86*** (0.06)	0.21*** (0.06)	0.12 (0.07)	–0.87*** (0.06)
Very concerned	1.73*** (0.05)	0.26** (0.05)	–0.51*** (0.06)	–2.04*** (0.06)
Tenure (ref. = homeowner)				
Renter	–0.21** (0.04)	0.40** (0.05)	–0.26** (0.06)	–0.04 (0.06)
Self-reported health	0.05* (0.02)	–0.09** (0.02)	0.05 (0.03)	–0.02 (0.03)
Individual recognition	0.17** (0.02)	0.07*** (0.02)	–0.09*** (0.03)	–0.28*** (0.03)
Community recognition	0.09** (0.02)	0.11** (0.02)	–0.05 (0.03)	–0.22*** (0.03)
Main source of news (ref. = traditional media)				
Social media	–0.27** (0.05)	–0.003 (0.05)	0.03 (0.07)	0.36** (0.06)
Other sources	–0.45** (0.08)	–0.38** (0.09)	0.22* (0.09)	0.71** (0.08)
Does not follow the news	–0.87*** (0.12)	–0.05 (0.11)	0.27* (0.14)	0.76*** (0.12)
Female	0.13*** (0.04)	0.20** (0.04)	–0.08 (0.05)	–0.39** (0.05)
Age (ref. = 18–34)				
35–49	–0.33*** (0.05)	–0.06 (0.06)	0.44** (0.09)	0.39*** (0.07)
50–64	–0.40*** (0.06)	–0.41** (0.06)	0.70** (0.09)	0.68*** (0.07)
65+	–0.36*** (0.09)	–0.39*** (0.1)	0.72** (0.13)	0.69** (0.12)
Employment status (ref. = employed)				
Unemployed	–0.01 (0.08)	0.05 (0.08)	–0.1 (0.11)	0.02 (0.09)
Inactive	0.30** (0.08)	–0.01 (0.08)	–0.26* (0.12)	–0.21* (0.1)
Retired	0.15 (0.08)	–0.30*** (0.09)	0.13 (0.11)	–0.03 (0.1)
Student	0.38*** (0.09)	–0.1 (0.09)	–0.43** (0.18)	–0.67*** (0.16)
Level of education (ref. = low (ISCED 1–2))				
Medium (ISCED 3–4)	0.52*** (0.12)	–0.38*** (0.11)	–0.03 (0.14)	–0.14 (0.12)
High (ISCED 5–8)	0.64*** (0.12)	–0.47*** (0.12)	–0.03 (0.15)	–0.29* (0.13)
Household type (ref. = co-living)				
Couple with dependent children	–0.03 (0.12)	–0.12 (0.13)	–0.21 (0.18)	0.37* (0.17)
Couple with children older than 18	0.02 (0.13)	–0.22 (0.14)	0.06 (0.19)	0.23 (0.18)
Couple with no children	–0.05 (0.11)	0.02 (0.12)	–0.15 (0.17)	0.14 (0.17)
Living alone	–0.08 (0.11)	0.15 (0.12)	–0.19 (0.17)	0.08 (0.17)
Multigenerational family	–0.04 (0.12)	0.02 (0.13)	–0.07 (0.19)	0.12 (0.18)
Single parent with dependent children	0.16 (0.14)	–0.21 (0.15)	–0.11 (0.21)	0.23 (0.19)
Single parent with children older than 18	–0.18 (0.15)	0.30* (0.15)	–0.32 (0.22)	0.23 (0.2)
Degree of urbanisation (ref. = rural)				
Urban	0.22** (0.04)	–0.08 (0.04)	0.06 (0.05)	–0.30** (0.05)
Observations	16 374	16 374	16 374	16 374

Notes: *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$. ISCED, International Standard Classification of Education. Standard errors are in parentheses. Member State-level fixed effects are included in the model. Survey weights are applied. The results for 'Yes support but no change' are shown in Figure 16.

Table A7: Model 3: modelling mobility changes

Dependent variable	Has made at least one mobility change
Trust in the national government	–0.00115 (0.00520)
Trust in the EU	0.0323*** (0.00403)
Quintile of equivalised household disposable income (ref. = 1st income quintile (poorest))	
2nd income quintile	–0.0703** (0.0326)
3rd income quintile	–0.0624* (0.0349)
4th income quintile	–0.0671* (0.0357)
5th income quintile	–0.0743** (0.0368)
Making ends meet with difficulty (0/1)	–0.0442 (0.0302)
Individual recognition	0.00599 (0.0117)
Community recognition	0.00868 (0.0108)
Age (ref. = 18–34)	
35–49	–0.0317 (0.0311)
50–64	0.0507* (0.0297)
65+	0.0308 (0.0421)
Level of education (ref. = low (ISCED 1–2))	
Medium (ISCED 3–4)	0.0390 (0.0622)
High (ISCED 5–8)	0.0890 (0.0626)
Employment status (ref. = employed, can work from home)	
Employed, cannot work from home	–0.0510* (0.0262)
Unemployed	0.0194 (0.0447)
Inactive	–0.0213 (0.0453)
Retired	–0.0359 (0.0402)
Student	0.0578 (0.0588)

Dependent variable	Has made at least one mobility change
Female	0.0439** (0.0185)
Household type (ref. = couple with children)	
Couple with no children	–0.0107 (0.0267)
Single-parent household	–0.0108 (0.0390)
One-person household	–0.0319 (0.0298)
Other household type	0.0351 (0.0341)
Tenure (ref. = homeowner)	
Social rental	0.0294 (0.0354)
Private rental	0.0438* (0.0235)
Degree of urbanisation (ref. = rural)	
Towns	0.0571** (0.0234)
Cities and suburbs	0.0617*** (0.0226)
Main source of news (ref. = traditional media)	
Social media	–0.0911*** (0.0251)
Other sources	–0.0178 (0.0363)
Does not follow the news	–0.0966* (0.0558)
Observations	17 734

Notes: ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$. Standard errors are in parentheses. Member State-level fixed effects are included in the model. Survey weights are applied. The results are shown in Figure 25.

Table A8: Model 4: modelling retrofitting activity

Dependent variable	Any retrofitting	Deep retrofitting
Degree of urbanisation (ref. = rural areas)		
Cities	–0.0143*** (0.00282)	–0.00236** (0.000997)
Towns and suburbs	–0.0119*** (0.00284)	–0.000212 (0.00102)
Age (ref. = 18–24)		
25–39	0.00495 (0.00577)	0.00433** (0.00221)
40–64	–0.00600 (0.00559)	–0.00589*** (0.00214)
65+	–0.0123* (0.00681)	–0.00605** (0.00270)
Quintile of equivalised household disposable income (ref. = 1st income quintile (poorest))		
2nd income quintile	0.0248*** (0.00323)	0.00400*** (0.00109)
3rd income quintile	0.0393*** (0.00327)	0.00486*** (0.00112)
4th income quintile	0.0509*** (0.00340)	0.00610*** (0.00114)
5th income quintile	0.0648*** (0.00364)	0.0112*** (0.00125)

Dependent variable	Any retrofitting	Deep retrofitting
Level of education (ref. = primary or lower)		
Secondary	0.0317*** (0.00377)	0.00606*** (0.00140)
Tertiary (including post-secondary non-tertiary)	0.0381*** (0.00419)	0.00734*** (0.00152)
Employment status (ref. = retired)		
Employed	–0.0120*** (0.00422)	–0.000370 (0.00177)
Unemployed	–0.0306*** (0.00632)	–0.00126 (0.00257)
Inactive	–0.0172*** (0.00512)	2.59e-05 (0.00209)
Student	–0.0103 (0.00788)	–0.00809*** (0.00244)
Other	–0.00507 (0.00815)	–0.00479* (0.00260)
Female	0.000473 (0.00204)	–0.000368 (0.000724)
Household type (ref. = couple with children)		
One-person household	–0.0399*** (0.00341)	–0.00951*** (0.00117)
Single parent with children	–0.0209*** (0.00600)	–0.00657*** (0.00203)
Couple with no children	–0.00828*** (0.00303)	–0.00501*** (0.00110)
Other household type	0.00909*** (0.00340)	–0.00777*** (0.00117)
Dwelling type (ref. = detached house)		
Semi-detached or terraced house	–0.00170 (0.00331)	–0.00473*** (0.00115)
Apartment	–0.0389*** (0.00266)	–0.00949*** (0.000983)
Tenure (ref. = owner (no mortgage))		
Owner (with mortgage)	0.0262*** (0.00306)	0.0170*** (0.00119)
Tenant (market price)	–0.0848*** (0.00318)	–0.00476*** (0.00101)
Tenant (reduced price/free)	–0.0387*** (0.00416)	0.00414*** (0.00148)
Observations	443 055	443 055

Notes: ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$. Standard errors are in parentheses. Member State-level fixed effects are included in the model. Survey weights are applied. The results are shown in Figure 32.

Annex 4: Network of Eurofound Correspondents

Table A9: National correspondents who contributed to this report

Country	Contributors	Company/institution
Austria	Bernadette Allinger	Working Life Research Centre (FORBA)
Belgium	Dries Van Herreweghe	Research Institute for Work and Society (HIVA) KU Leuven
Bulgaria	Vassil Kirov	Institute of Philosophy and Sociology, Bulgarian Academy of Sciences
Croatia	Predrag Bejaković	Faculty of Economics, Business and Tourism, University of Split
	Irena Klemenčić	Faculty of Law, University of Zagreb
Cyprus	Loucas Antoniou	Cyprus Labour Institute
Czechia	Jana Váňová	Research Institute for Labour and Social Affairs
Denmark	Christoffer Madsen	MBC A/S
Estonia	Miriam Lehari	Praxis Think Tank
Finland	Mikael Lundqvist	Oxford Research
France	Fiona Bernard, Victória Fonseca, Camille Hue	IR Share
Germany	Sandra Vogel, Lena Holtmeyer	German Economic Institute
Greece	Penny Georgiadou, Elena Kousta	Labour Institute of the General Confederation of Greek Workers
Hungary	Nóra Krokovay	Kopint-Tárki Institute for Economic Research
Ireland	Rosanna Angel	Industrial Relations News (IRN)
Italy	Michele Faioli, Barbara De Micheli, Alessandro Smilari	Fondazione Giacomo Brodolini, Università Cattolica del Sacro Cuore
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The European Green Deal commits to leaving no one behind, but whether climate policy delivers on that promise depends on how individual measures are designed and received. This report examines the extent to which that promise has been kept for people and households across the EU, combining survey evidence on attitudes and behaviour with an analysis of over 150 national policy measures related to energy-efficient housing and green mobility. The findings show that financial security, institutional trust and feelings of political recognition are all associated with engagement in the transition. Conversely, particular constraints on such engagement are faced by rural residents, private renters who have no authority over retrofitting decisions, low-income households unable to meet upfront costs and digitally excluded citizens.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.

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