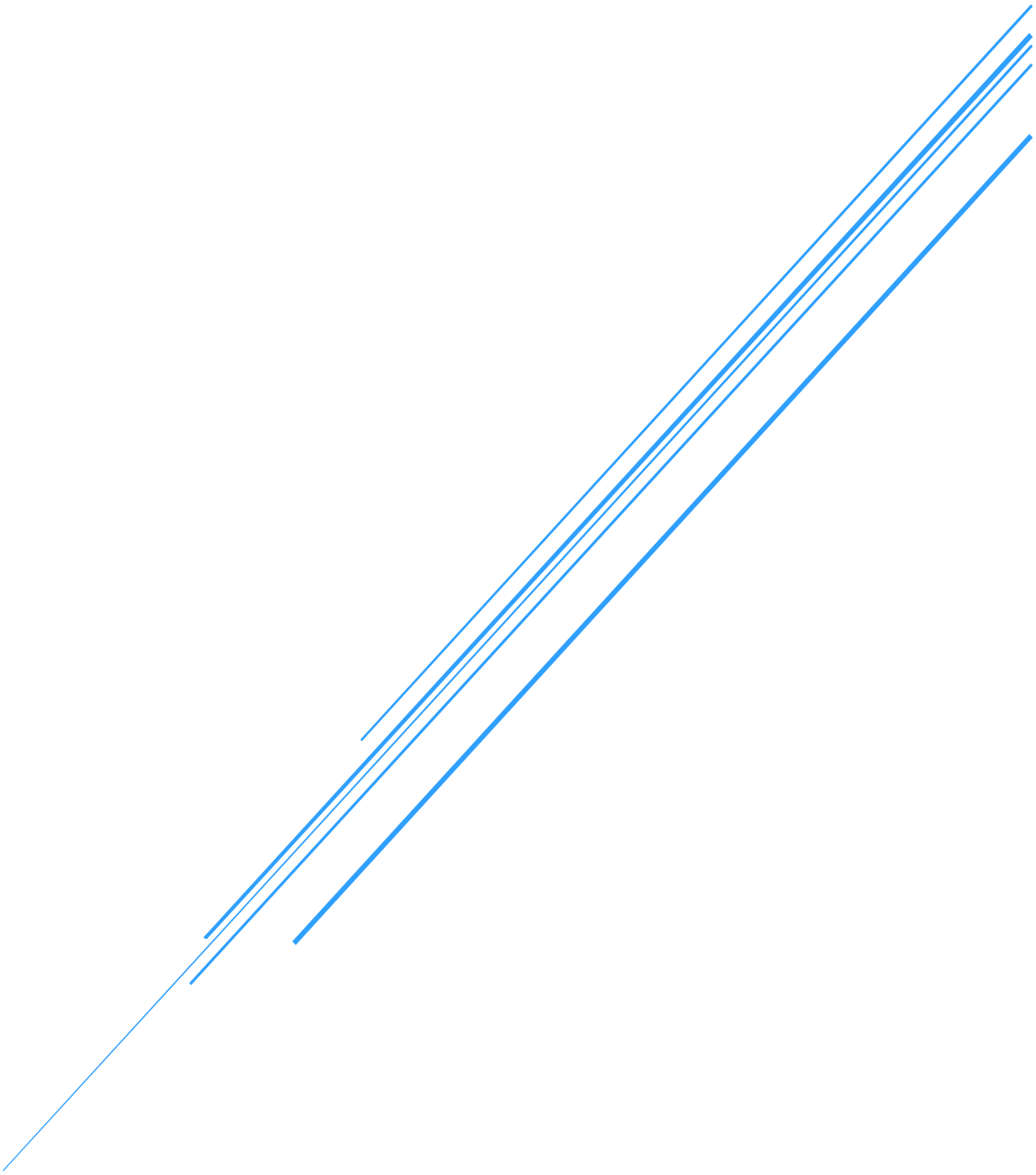
A FAIR TRANSITION TOWARDS CLIMATE NEUTRALITY

Towards a Strategic Research & Innovation Agenda for the New European Partnership on Social Transformations and Resilience



IMPRINT

This document has been prepared by the DLR Project Management Agency (DLR-PT). DLR-PT is commissioned by HERA Humanities in the European Research Area to conduct Strategic Foresight exercises to support the drafting of the Strategic Research and Innovation Agenda for the future European Partnership on Social Transformations and Resilience.

Authors:
Dr. Julia Schmälter, Simon Winter
Dr. Gaia di Luzio & Henriette Kirch

Contact:
DLR Projektträger
Heinrich-Konen-Str. 1
53227 Bonn
Email: STR-Foresight@dlr.de
DLR-PT.de

Editor:
DLR Projektträger
Deutsches Zentrum für Luft und Raumfahrt e. V.
Heinrich-Konen-Str. 1
53227 Bonn

January 2026

Content:

Executive Summary 4
1. Background and Introduction 6
2. Strategic Foresight: Our Process at a Glance 7
2.1 Trend Analysis 8
2.2 Online Survey 9
2.3 Expert Interviews 11
2.4 Trend Workshop 11
Participants 11
Agenda 12
2.5 Scenario Development 13
3. Interview Insights 13
3.1 Refining and Stress-Testing Key Trends 13
3.2 Emerging Issues, Blind Spots, and Forward-Looking Reflections 14
4. Trend Collection: A Fair Transition Towards Climate Neutrality 15
4.1 Climate impacts are challenging Europe's adaptation capacity 15
4.2 Access to sustainable technologies and mobility expands unevenly across society 16
4.3 Fiscal policy increasingly integrates climate and social objectives 16
4.4 Fairness principles become embedded in legal and regulatory frameworks 16
4.5 Cultural narratives and emotions increasingly influence acceptance of transition policies 17
4.6 Solidarity within the EU weakens as transition costs diverge between regions 17
4.7 Energy poverty becomes a core target in EU climate and energy policy 18
4.8 Local implementation capacity gains importance in fair transition governance. 18
4.9 EU carbon pricing extends to buildings, transport, and imports 18
4.10. New technologies and the green transition outpace Europe's ability to reskill workers 19
5. First- and Second-Order Implications 19
6. Best-case Scenario for a Fair Transition towards Climate Neutrality 26
6.1 Fairness Embedded in Climate Governance and Fiscal Design 26
6.2 Shielding Households and Communities from Unequal Transition Burdens 27
6.3 Participatory and Place-Based Transition Pathways 27
6.4 Inclusive Economic and Skills Transformation for Climate Neutrality 28
7. Next steps: Backcasting 28
References 30

ANNEX 32

Long list of 24 Trends 32

Futures Wheel Template 35

Expert Interview Guideline – A Fair Transition towards Climate Neutrality 36

Executive Summary

This report presents the findings of a Strategic Foresight process examining future developments shaping a fair transition towards climate neutrality in Europe. The aim of this foresight cycle was to inform the Strategic Research and Innovation Agenda (SRIA) of the future European Partnership on Social Transformations and Resilience, which will guide research and innovation activities from 2027 to 2033. As part of a broader foresight programme covering four impact areas of the Partnership, this fourth and final cycle focused on the social, economic, governance, and territorial dimensions of the climate transition, with particular attention to fairness, inclusion, and societal acceptance.

To anticipate key developments and assess their strategic relevance, the foresight cycle combined systematic desk research, expert interviews, an online survey, and a trend workshop. The process began with the identification of 24 trends related to climate impacts, mitigation and adaptation policies, social and territorial inequalities, fiscal frameworks, governance arrangements, and cultural and emotional dimensions of the transition. These trends were derived from academic literature, institutional reports, and foresight studies and grouped inductively into four thematic domains reflecting governance, social protection and vulnerabilities, economic transformation, and territorial and infrastructural dynamics.

The trend landscape was refined and contextualised through five semi-structured expert interviews with scholars and practitioners from various disciplines and European regions. In parallel, an online survey was conducted between late October and mid-December 2025. The survey gathered responses from 168 participants across 22 countries. Survey participants assessed the perceived impact of the trends, provided qualitative feedback, and suggested additional developments.

Based on the survey results, the ten trends with the highest mean impact scores were selected for deeper analysis. These trends highlight accelerating climate impacts that outpace adaptation capacity, unequal access to sustainable technologies and mobility, the growing integration of climate and social objectives in fiscal policy, the embedding of fairness principles in legal and regulatory frameworks, and the increasing influence of cultural narratives and emotions on public acceptance of transition policies. Together, they illustrate how distributional effects, governance capacity, and questions of legitimacy are becoming central to the feasibility of Europe's climate-neutral pathway.

The first-, second-, and third-order implications of the selected trends were explored during an online expert workshop held in December 2025, which brought together 42 participants from 17 countries representing academia, public authorities, funding organisations, civil society, social partners, and non-profit organisations. Using the Futures Wheel method, participants mapped cascading effects across social groups, regions, institutions, and policy domains. The discussions highlighted strong interdependencies between climate policy, social protection, fiscal choices, labour markets, territorial capacities, and democratic trust, underlining that fairness outcomes depend on coordinated and anticipatory governance.

Building on the validated trends and their implications, a best-case scenario for 2040 was developed. The scenario does not predict the future; rather, it outlines a desirable and achievable direction of travel in which climate neutrality is pursued in ways that are socially fair, inclusive, and widely supported. The scenario is structured around four interconnected pillars:

1. **Fairness Embedded in Climate Governance and Fiscal Design,** where climate and fiscal policies systematically integrate social objectives and distributional impacts are anticipated and addressed.
2. **Shielding Households and Communities from Unequal Transition Burdens**, where social protection, compensation mechanisms, and targeted support reduce exposure to climate impacts and mitigate the uneven costs of mitigation and adaptation policies.
3. **Participatory and Place-Based Transition Pathways**, where local capacities, participatory processes, and territorial specificities shape the design and implementation of transition measures.

4. **Inclusive Economic and Skills Transformation for Climate Neutrality**, where labour-market policies, re-skilling systems, and economic restructuring enable broad participation in the green transition and limit new forms of inequality.

Together, these pillars describe how governance arrangements, fiscal frameworks, access to technologies and services, and economic transformation could evolve under favourable conditions to strengthen social cohesion and legitimacy during the transition.

The scenario provides the foundation for the next stage of the foresight process. In early 2026, a backcasting exercise will identify the enabling conditions, strategic actions, and research and innovation needs required to move towards this desired future. The resulting outputs will feed directly into the SRIA, helping to shape research and innovation priorities that support a fair, inclusive, and resilient transition towards climate neutrality across Europe.

1. Background and Introduction

Europe is undergoing profound transformations. The green and digital transitions, demographic shifts, and unforeseen disruptions such as pandemics or economic crises are reshaping societies and institutions. In this rapidly changing world, it is crucial that European societies become more inclusive, cohesive, and resilient. In an era of accelerating change, strengthening Europe's capacity for social resilience, cohesion, and innovation is not only a strategic necessity, but a foundation for inclusive and sustainable futures.

In response to these challenges, the European Commission has proposed a co-funded **European Partnership on Social Transformations and Resilience** (STR) under the Horizon Europe Framework Programme for Research and Innovation (R&I). The Partnership aims to promote inclusive sustainable development and to strengthen cultural, social and economic resilience through

- enabling challenge-led research that reflects social needs and systemic pressures
- facilitating co-creation and stakeholder engagement, thus ensuring uptake of the generated evidence and strengthening legitimacy and trust

.

The **overarching goals** of the STR Partnership are to:

- Create a 7-year Research and Innovation (R&I) programme for the social sciences and humanities (SSH) to explore and make use of their potential to significantly support political and social initiatives to build resilience, ensure fairness and inclusiveness, and foster social cohesion in the light of changes in climate and environment, technology, demography, and unexpected shocks.
- Develop knowledge, tools and innovative solutions to address contemporary social challenges in a collaborative, interdisciplinary and systematic way.
  Contribute to new strategies and policy solutions at European, national, and regional level.'

Throughout 2024, a drafting group has developed the Commission's initial proposal into a fully-fledged programme of interest to the Partnership's future partners. The Draft Guidance Proposal focuses on **four key impact areas**:

1. Supporting the modernisation of social protection systems and essential services
2. Shaping the future of work
3. Fostering education and skills development
4. Contributing to a fair transition towards climate neutrality

A central element of the future Partnership will be a **Strategic Research and Innovation Agenda** (SRIA) that will guide the Partnership's work from 2027 to 2033. The SRIA is expected to anticipate the main challenges to be addressed, propose lines of enquiry, and outline actions that translate research into strategies for policy-making. It will serve as a flexible framework for topics and activities of short-, medium-, and long-term relevance, while allowing for adaptation and iteration in response to emerging needs.

To ensure the SRIA is future-oriented and policy-relevant, the drafting process is informed by **Strategic Foresight**. This methodology enables the systematic exploration of future developments and supports evidence-based, proactive decision-making. Strategic Foresight is already used by the European Commission, national governments, universities, and various other organisations to identify emerging trends, anticipate shocks, and prepare agile responses. It shifts the perspective from reactive to proactive planning.

Methods and tools such as **trend analysis, visioning, and backcasting** are particularly valuable in navigating the dynamic ecosystem in which networks such as HERA (Humanities in the European Research Area) or NORFACE (New Opportunities for Research Funding Agency Cooperation in Europe) and initiatives such as the STR-Partnership operate. These methods help identify and prioritise issues of relevance over different time horizons. Given the complexity of the task, we adopt a **co-creative process** that integrates diverse perspectives from **across Europe**, encompassing **various**

academic disciplines (including but not limited to the humanities and social sciences) and a **broad range of stakeholders** (such as policymakers and decision-makers from civil society, social partners, public authorities, and the private sector).

To ensure depth and relevance, we carried out a dedicated Strategic Foresight process for each of the Partnership's four impact areas. The results of these individual foresight exercises will then be synthesised into the final SRIA.

In support of this ambition, HERA has committed to contributing actively to the development of the SRIA and to ensuring that the perspectives of the humanities and social sciences are embedded from the outset. To this end, HERA commissioned DLR Projektträger (DLR-PT) to liaise with the Partnership Drafting Group and the Partnership candidature coordinator. Drawing on its expertise in Strategic Foresight and its long-standing experience in supporting humanities and social sciences research, DLR-PT was commissioned to design and implement the foresight process and, based on the results of the foresight process, to draft the SRIA.

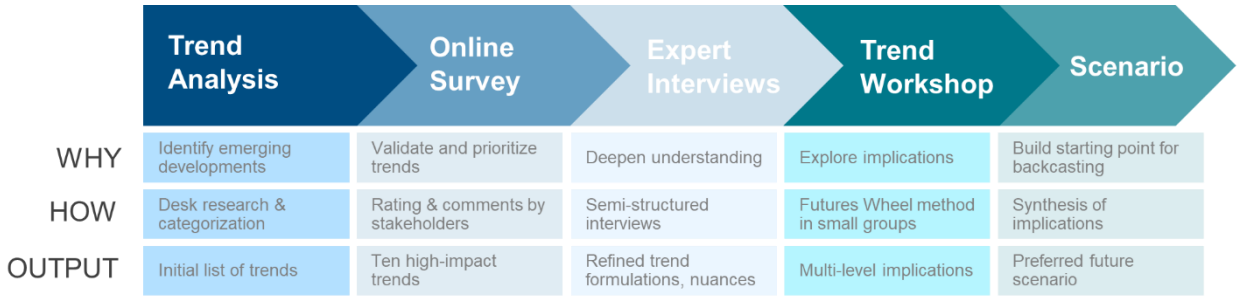
This report presents the findings of the fourth and last foresight cycle on a **Fair Transition towards Climate Neutrality**. Europe's transition toward climate neutrality is unfolding in a context of profound social, economic, and territorial asymmetries. Emerging developments in transition governance, household vulnerabilities, labour markets, and infrastructural systems show that the distribution of costs and benefits is increasingly uneven, with implications for public trust, political legitimacy, and social cohesion. Unequal exposure to climate impacts, divergent regional capacities, and unequal access to technologies and skills amplify questions of fairness across communities, sectors, and generations. Against this backdrop, it has become essential to understand how these trends interact and shape perceptions and realities of justice in order to design transitions that are socially robust, politically sustainable, and territorially balanced.

The report is structured as follows. The **next chapter** provides an overview of the foresight process on a Fair Transition towards Climate Neutrality, including the trend analysis, the online survey, the expert interviews, the trend workshop, and how these activities informed the development of the scenario. **Chapter 3** summarises insights from the expert interviews, which helped refine and contextualise the trend landscape. **Chapter 4** presents the trend collection, combining findings from desk research with stakeholder input gathered through the survey and the interviews. **Chapter 5** outlines the first- and second-order implications for each trend. **Chapter 6** presents the best-case scenario for a fair transition towards climate neutrality, based on the validated trends and the implications discussed in the workshop. Finally, **Chapter 7** describes the next steps and explains how the foresight results will be translated into strategic recommendations for the SRIA.

2. Strategic Foresight: Our Process at a Glance

This chapter provides an overview of the foresight process used to examine the futures of a fair transition towards climate neutrality, with a particular focus on stakeholder engagement and methodological openness. The approach combined systematic desk research with participatory methods to identify, validate, and interpret developments expected to shape the social, economic, and territorial dimensions of the transition over the next 10 to 15 years. Experts from Europe and beyond contributed throughout the process, from trend identification and refinement to the analysis of implications and the development of the scenario. **Input was gathered from 168 survey respondents from 22 countries, 5 in-depth expert interviews, and a trend workshop with 42 participants from 17 countries**. Together, these contributions ensured a wide geographical and disciplinary spread, drawing on perspectives from academia, public authorities, social partners, civil society, non-profit bodies, and funding organisations. The subsections below describe the individual steps of the process: trend collection, the online survey, expert interviews, the trend workshop and scenario development.

Figure 1: Our Process at a Glance



2.1 Trend Analysis

The first step in our foresight process focused on identifying key trends shaping a fair transition towards climate neutrality in the next 10–15 years. The aim of this phase was to establish a robust, evidence-based foundation for the subsequent steps. By mapping existing knowledge and anticipating potential drivers of change, we sought to build a shared understanding of how the social, economic, governance, and territorial dimensions of the transition may evolve over the coming decade.

The trend collection was conducted through **systematic desk research**, drawing on recent foresight studies, academic literature, and institutional analyses addressing the social, economic, governance, and territorial dimensions of a fair transition towards climate neutrality. The reference base spans a wide range of policy domains, including climate governance, carbon pricing, labour markets, regional cohesion, infrastructure development, climate risks, and household vulnerabilities. It includes analyses from European and international institutions (European Commission, Eurofound and the EEA, OECD, European Court of Auditors, World Bank), sector-specific studies on energy systems, grids, and industrial transformation, as well as research on distributional impacts, public attitudes, and social fairness. This diversity of sources ensured that the trend landscape captured multiple perspectives and emerging developments relevant to fairness in Europe's transition (see list of references).

From this wide base of literature, an initial **longlist of 24 trends** (see ANNEX) was compiled. Each trend captured an emerging, accelerating, or evolving direction of change with relevance for the fairness, legitimacy, and societal robustness of Europe's transition towards climate neutrality. Rather than applying a predefined framework, the trends were grouped inductively as patterns and linkages emerged across the literature. This process yielded four thematic domains that reflect the interconnected nature of governance dynamics, social vulnerabilities, economic restructuring, and territorial disparities in the transition:

- **Governance, Public Participation & Trust:** How institutions, participation practices, and public perceptions shape the legitimacy and acceptance of transition policies.
- **Social Protection, Households & Vulnerabilities:** How distributional effects, affordability, and unequal exposure to risks condition people's ability to participate in the transition.
- **Work, Industry & Economic Transformation:** How technological change, reskilling demands, industrial restructuring, and labour-market inequalities affect fairness.
- **Infrastructure, Territories & Systemic Interdependencies:** How spatial divides, climate impacts, systemic bottlenecks, and global linkages create unequal capacities and outcomes across Europe.

The goal at this stage was not to filter or prioritise, but to ensure breadth, relevance, and coverage of diverse perspectives on a fair transition towards climate neutrality. The trend catalogue was designed to capture structural, economic, governance-related, and territorial developments shaping the distributional and societal dynamics of the transition, including climate risks, energy affordability, labour-market restructuring, infrastructure bottlenecks, regional disparities, and evolving public attitudes. This structured catalogue provided the basis for the next stage of the process: the online survey,

which aimed to validate, refine, and complement the trend landscape with input from a broad range of external experts. While the desk research established a grounded starting point, the trend list remained open to revision and expansion as new insights emerged during subsequent phases of the foresight process.

2.2 Online Survey

To build on the initial trend collection and ensure its relevance from a broader stakeholder perspective, we conducted an **online survey targeting experts** in fields such as environmental studies (including energy systems, sustainable mobility) environmental economics, governance studies, public policy and administration, environmental policy (including climate and energy policy), environmental law, political economy, social ecology, social policy, inequality studies (including energy poverty), labour market studies, sociology of work and employment, labour law, organisational studies, education and training, sustainable urban and regional planning, cultural anthropology, digital anthropology, economic anthropology, social attitudes, environmental history, philosophy of law (including environmental justice), philosophy of ethics, transformation studies (including digital and ecological transformation), creative technologies (including ecological building, sustainable design), environmental health.

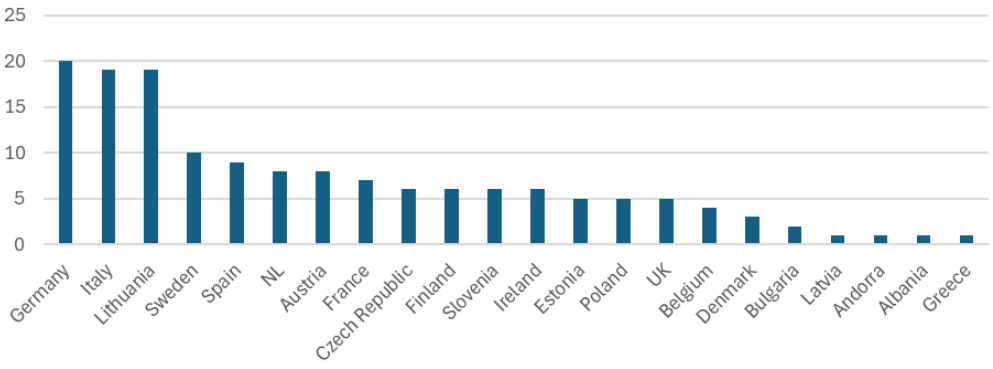
The survey served four key purposes: to validate the trends identified through desk research, to collect expert feedback and suggestions, to establish a ranking based on perceived impact, and to gather initial reflections on potential implications of each trend.

The survey was conducted in English using the LimeSurvey platform. It included a mix of closed and open questions and took between 10 and 20 minutes to complete, depending on how many trends participants chose to comment on. All responses were anonymous and used strictly for research purposes.

The **survey was disseminated** through a combination of targeted outreach and open expert identification. Participants were identified via project-related networks (e.g. CHANSE, HERA, NORFACE), the Partnership Drafting Group, and an online search for individuals working on a fair transition towards climate neutrality. The survey was sent to approximately 600 hand-picked individuals and additionally circulated via targeted mailing lists (including newsletters) and expert communities, in particular social sciences and humanities communities. We also reviewed and acted upon suggestions regarding additional individuals or organisations who should receive the survey, forwarding it accordingly where feasible. While due to the mailing list and expert community circulation, no precise response rate could be calculated, the participant pool reflects a broad range of disciplinary and institutional backgrounds.

The survey was open from late October to mid-December 2025 and gathered responses from **168 experts across 22 countries**. The majority of participants were affiliated with academia (125 respondents), complemented by contributions from public authorities (18), civil society organisations (9), and a smaller number of participants from the private sector and other organisations. This composition reflects a strong research-based perspective, enriched by insights from policy and practice. As several background questions were optional, not all respondents provided information for each category, meaning that totals do not always sum to the full sample. Among respondents who provided gender information, 57% identified as female, 41% as male, and 1% as diverse. Participation was geographically broad, although responses were more strongly represented from a small number of countries, notably Germany, Italy, and Lithuania. At the same time, contributions from across Europe and several non-EU countries ensured that the survey captured diverse regional perspectives, supporting the identification of regionally different challenges and priorities, particularly in relation to fairness, governance capacity, and the social impacts of the transition (see Figure 2).

Figure 2: Geographical distribution of 168 survey responses



The **analysis of survey results followed a four-step process**. First, all 24 trends were ranked according to their mean impact scores. The ten trends with the highest averages were selected for deeper analysis, representing those developments perceived as most influential for a fair transition towards climate neutrality, resulting in the following list:

1. Climate impacts are accelerating faster than Europe's adaptation capacity.
2. Access to sustainable technologies and mobility expands unevenly across society.
3. Fiscal policy increasingly integrates climate and social objectives.
4. Fairness principles become embedded in legal and regulatory frameworks.
5. Cultural narratives and emotions increasingly influence acceptance of transition policies.
6. Solidarity within the EU weakens as transition costs diverge between regions.
7. Energy poverty becomes a core target in EU climate and energy policy.
8. Local implementation capacity gains importance in fair transition governance.
9. EU carbon pricing extends to buildings, transport, and imports.
10. New technologies and the green transition outpace Europe's ability to reskill workers

Together, these trends reflect the most salient drivers shaping Europe's Fair Transition landscape and provide a balanced foundation for exploring implications and future pathways in the workshop.

Second, the free text comments associated with each selected trend were analysed. These were used to **refine the wording, clarify ambiguous formulations, and integrate missing nuances**. While no substantive redefinitions were needed, expert feedback from the free text comments improved the precision and representativeness of the trend descriptions (see Chapter 4).

Third, we analysed the open-text responses regarding **potential implications of each trend**. These were summarised and categorised into first- and second-order implications, forming a structured foundation for the subsequent scenario development (see Chapter 5).

Finally, we analysed the survey responses addressing whether any trends were missing. While respondents generally viewed the trend catalogue as comprehensive, several areas emerged that warranted stronger emphasis. Many comments concerned governance dynamics, including growing socio-political conflict over who benefits and who bears the costs of the transition, the rise of right-wing populism and anti-science movements, transparency deficits, multi-level coordination challenges, and the expanding role of deliberative and participatory processes. Others highlighted distributional and intersectional inequalities, administrative and digital barriers to accessing transition support, the role of education and media in shaping cultural narratives and trust, and the importance of well-being and psychosocial factors. Additional suggestions pointed to economic and labour-market aspects such as the integration of industrial, fiscal, and financial policy, care and gender equality, and the concentration of power among corporate and technological actors. Finally, several responses stressed territorial and global dimensions, including infrastructure legacies, uneven regional capacities, global justice concerns, and the need to better account for climate-related shocks and systemic risks.

Overall, the feedback did not identify major thematic gaps but underscored the importance of making these cross-cutting issues more visible across the four trend domains. These considerations were incorporated when refining the trend descriptions in Chapter 4 and informed the scenario development in Chapter 6.

2.3 Expert Interviews

To complement the trend collection and survey, we conducted a series of expert interviews. The interviews served **three main purposes**: (1) to discuss and validate key trends identified through our desk research and online survey; (2) to complement the trend landscape with expert insights, including weak signals and overlooked developments; and (3) to explore the implications of these trends for research, policy-making, and society at large.

Five semi-structured expert interviews were conducted with scholars and practitioners based in Netherlands, Denmark, Poland, Slovenia, and Germany, covering a broad range of perspectives relevant to a fair transition towards climate neutrality. In contrast to the survey, which predominantly reflected social science expertise, the interviews were deliberately used to strengthen the integration of humanities-based perspectives. The interview partners represented disciplines such as environmental economics, human geography, ethics and philosophy, history, and cultural and regional studies, alongside practitioners from civil society organisations engaged in sustainability and transition processes. Their expertise spanned energy and climate transitions, territorial development, governance and legitimacy, ethical dimensions of sustainability, and the social and cultural foundations of environmental policy. Interviewees reflected on the distributional and territorial impacts of climate action, the role of local and regional actors in implementing transition measures, and the challenges of maintaining social cohesion, trust, and legitimacy under conditions of rapid transformation. Further insights were provided on questions of responsibility, solidarity, and justice across regions and social groups, as well as on the capacity of institutions to manage transition-related conflicts and trade-offs. Together, these contributions added qualitative depth and critical reflection to the trend analysis, helping to contextualise the survey findings and situate them within broader societal, cultural, and governance transformations shaping Europe's pathway towards climate neutrality.

The **interviews** were conducted using a **semi-structured guide** designed to ensure comparability while allowing space for open reflection. Each interview lasted around 60 minutes and was structured around **four thematic blocks**: (1) general perspectives on the future of a fair transition towards climate neutrality, including long-term developments and overlooked or emerging issues; (2) validation and refinement of selected trends identified in the earlier phases of the project; (3) discussion of implications for research, policy, and societal priorities in the context of a fair transition; and (4) next steps and potential areas for follow-up. Experts were asked to comment on three trends of their choice, enabling a focused yet flexible exchange based on their areas of expertise (see also Chapter 3).

2.4 Trend Workshop

As the final step in the trend validation phase, an **online workshop was held on 15 December 2025** to deepen the analysis of key trends shaping the future of a fair transition towards climate neutrality. The workshop had **three main objectives**: (1) to validate and enrich the implications of ten pre-selected trends identified through desk research, survey, and expert interviews; (2) to bring together diverse perspectives from across sectors and disciplines; and (3) to generate structured input for the subsequent scenario development process.

Participants

To ensure a diverse and balanced discussion while maintaining an interactive format in the breakout sessions, we aimed to engage around 40 participants for the trend workshop. Participants were selected from the pool of experts identified through (1) an online search for individuals working on a fair transition, climate governance, distributional effects, and related socio-economic dynamics; (2) project-related networks; and (3) nominations from the Partnership Drafting

Group. A core selection criterion was professional and technical expertise relevant to the thematic and impact areas of the foresight cycle. Beyond academic researchers, the selection aimed to reflect a broad range of stakeholders, including policymakers, social partners, civil society representatives, and public authorities, to ensure that multiple perspectives on fairness in the transition were represented.

A total of **42 participants took part in the Fair Transitions workshop, comprising 23 women and 19 men. Participants represented 17 countries**: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Italy, the Netherlands, Poland, Slovenia, Spain, Sweden, and the United Kingdom. Institutional affiliations were highly diverse. The majority of participants were affiliated with universities and public research organisations, including national academies of sciences and interdisciplinary research institutes. This was complemented by representatives from public authorities at national and European level, research funding organisations, civil society and advocacy organisations, social partners, and cultural and non-profit institutions.

Agenda

The online workshop was designed to support structured, collaborative reflection while creating space for in-depth exchange and cross-sectoral insights. The session opened with a short context-setting presentation, introducing the foresight process and presenting the final top-10 trend set. Participants were then divided into five breakout groups, each working with two of the validated trends.

Table 1: Agenda Fair Transitions Trend Workshop

Time	**Agenda Item**	**Description**
10:00	Welcoming remarks	Introduction by the moderators
10:05	Context setting	Introduction to the project with a focus on the Strategic Foresight process & aims of this specific workshop.
10:10	Icebreaker	What if…? What if in 2040 the transition has given people more time, cleaner air and stronger communities – how does your typical weekday feel different from today?
10:20	Presentation of selected trends	Presentation of the 10 most impactful key trends relevant to the project
10:30	The Futures Wheel	Introducing the Futures Wheel tool and the approach for the Breakout Sessions
10:35	Breakout Sessions	In-depths discussions on two selected trends for each Breakout Session and their implications
11:40	Break	
11:50	Presentation of results	Reporting back key findings and insights
12:55	Closing remarks	Summary of key findings and future outlook
13:00	The End	

To guide the discussions, each group used a **Futures Wheel template** (see ANNEX), i.e. a structured tool for mapping first-, second-, and even third-order implications of a given trend. This method encouraged participants to look beyond immediate effects and explore cascading consequences for individuals, organisations, and society. Each group was chaired by an expert and supported by a facilitator, who documented the results.

The workshop format was deliberately designed to foster expert-driven knowledge production. Trends were not explained in detail during the breakout sessions; instead, participants had received preparatory material (incl. the top-ten trends) by email in advance. This allowed the available time to be used primarily for discussion. Each group's results were presented by the expert chairs in a short plenary session following the breakout phase, providing a shared view of the diverse implications discussed. Following the workshop, additional feedback was collected from participants to capture further reflections and ensure that no key insights were missed.

The insights generated during the workshop served a dual purpose. First, they helped to test the robustness of the trends by surfacing overlooked dynamics and boundary conditions. Second, they provided a rich pool of implications that will inform the scenario development process and help translate trends into strategic narratives.

2.5 Scenario Development

Following the trend validation and implications analysis, we developed a desirable scenario for the futures of a fair transition. This scenario is grounded in insights gathered across all earlier phases of the process – the online survey, expert interviews, and the trend workshop – and reflects the collective knowledge generated through those engagements. Specifically, it builds on the implications identified for each of the ten key trends, including first- and second-order effects discussed by the experts.

To prepare this input for scenario development, we first filtered out general reflections or comments that were not directly linked to specific implications. We then grouped similar ideas into core thematic clusters and structured them into a hierarchy of effects. The resulting set of first- and second-order implications provided the foundation for constructing a future-oriented, preferred scenario (see Chapter 5).

The scenario reflects a shared vision of what a desirable future could look like, assuming that key challenges are addressed and opportunities are actively pursued. It is not a prediction but a normative orientation that synthesises expert perspectives, institutional knowledge, and stakeholder priorities into a coherent narrative. The goal was to translate trend knowledge into a forward-looking scenario that can guide strategic thinking and inspire the next steps in the SRIA-drafting process. This scenario now serves as the basis for the next phase of the foresight process, where action steps and milestones will be developed to explore priorities of the forthcoming SRIA.

3. Interview Insights

The expert interviews provided in-depth perspectives on how a fair transition towards climate neutrality is unfolding across Europe and where critical tensions and implementation challenges are emerging. While interviewees approached the topic from different disciplinary, professional, and regional contexts, their reflections converged on a central insight: achieving climate neutrality is no longer primarily a question of setting ambitious targets, but of translating these ambitions into socially acceptable, territorially sensitive, and institutionally credible action. Fairness was consistently framed not as a secondary consideration, but as a decisive condition for political legitimacy, public trust, and the long-term viability of transition policies.

Across the interviews, experts emphasised that the transition is experienced very unevenly. Climate policies increasingly intersect with everyday domains such as housing, energy use, mobility, employment, and local infrastructure, making distributional effects more visible and politically salient. Interviewees highlighted that even well-designed EU or national strategies risk remaining abstract if their local implementation fails to account for capacity constraints, social realities, and competing pressures on local authorities. At the same time, the interviews revealed a shared concern that fairness is often acknowledged in principle, but inconsistently embedded in decision-making, cost allocation, and accountability structures.

3.1 Refining and Stress-Testing Key Trends

A recurring theme in the interviews was the acceleration of climate impacts relative to institutional preparedness. Experts noted that adaptation challenges are no longer a future concern but an immediate reality, particularly in regions exposed to heat, drought, flooding, or infrastructure decay. These impacts interact with socio-economic vulnerabilities, such as low income, poor housing quality, health conditions, and limited mobility options, creating compound risks that existing policy frameworks struggle to address. Several interviewees stressed that fairness debates increasingly centre on

questions of compensation, relocation, and loss and damage, raising politically sensitive issues about responsibility and solidarity within and across regions.

Unequal access to the benefits of the transition was another major concern. Interviewees pointed to persistent gaps in access to energy-efficient housing, clean mobility, and financial instruments that enable participation in the green transition. While technological solutions are advancing, their uptake remains socially and territorially uneven. Experts warned that without targeted and easily accessible support, transition policies risk reinforcing existing inequalities, particularly for rural populations, tenants, older people, and low-income households. Administrative complexity was repeatedly mentioned as a barrier that disproportionately affects vulnerable groups, even when funding or support schemes formally exist.

Fiscal and regulatory instruments were featured prominently in the interviews. Experts broadly agreed that climate neutrality cannot be achieved without carbon pricing, regulatory standards, and fiscal reform, but stressed that their social effects depend critically on design and sequencing. Carbon pricing in buildings and transport was seen as a necessary but politically fragile tool, with interviewees emphasising that inadequate compensation mechanisms could trigger resistance and undermine trust. Several experts highlighted tensions between climate-social investment and competing fiscal priorities, including security and defence spending, raising concerns about shrinking political space for redistribution and social buffering.

Legal and regulatory frameworks were described as increasingly embedding fairness principles, yet interviewees questioned their practical effectiveness. While EU-level instruments require Member States to consider vulnerable groups and distributional impacts, experts noted significant variation in administrative capacity, political commitment, and enforcement across countries. Some warned that fairness risks becoming a formal reporting requirement rather than a substantive guide for policy choices, particularly where social impact assessments remain weak or disconnected from budgetary decisions.

Cultural narratives and emotions emerged as a critical cross-cutting dimension. Interviewees consistently emphasised that acceptance of transition policies is shaped less by technical details than by perceptions of responsibility, credibility, and moral coherence. Feelings of fatigue, resentment, and hypocrisy were frequently mentioned, especially where citizens perceive that costs are borne by households while large polluters or wealthy actors remain insufficiently accountable. At the same time, experts stressed the mobilising potential of positive narratives, shared responsibility, and visible examples of successful local action. Cultural institutions, artists, and community initiatives were highlighted as important but underutilised actors in shaping public understanding and emotional engagement with the transition.

Territorial solidarity within the EU was another area of concern. Interviewees pointed to widening disparities in regional capacity to adapt, invest, and benefit from the transition. Regions with strong economic bases and administrative resources are often able to move faster, while less affluent or structurally constrained regions face higher relative costs. Several experts warned that if these dynamics persist, support for EU-level solidarity mechanisms may erode, undermining cohesion and political stability. Fairness, in this context, was framed not only as a social issue but as a territorial and institutional one.

3.2 Emerging Issues, Blind Spots, and Forward-Looking Reflections

Beyond refining the existing trend framework, the interviews highlighted several issues that remain underexplored or insufficiently integrated into current transition debates. One such issue concerns the limits of technological optimism. While innovation is widely seen as essential, several interviewees cautioned against over-reliance on future technologies or efficiency gains without addressing underlying patterns of consumption, production, and inequality. Some experts questioned whether current transition strategies sufficiently confront the tension between climate goals and growth-oriented economic models, warning that unresolved contradictions could fuel disillusionment and backlash.

Another emerging theme related to governance responsibility. Interviewees expressed concern that increasing emphasis on local implementation capacity may inadvertently shift responsibility for fairness downward, allowing national governments to avoid difficult distributional decisions. Adaptive and participatory governance approaches were widely

supported, but experts stressed that they can only complement, not replace, binding national frameworks, clear accountability, and adequate resourcing. Without coordination across governance levels, local experimentation risks remaining fragmented and uneven.

Skills and labour-market transformation featured prominently in forward-looking reflections. Interviewees agreed that reskilling and lifelong learning are essential for a fair transition, yet highlighted structural barriers, particularly for older workers, workers in declining industries, and those in regions with limited training infrastructure. Education and training systems were widely perceived as conservative and slow to adapt, raising concerns that labour-market transformation may outpace social adjustment. Several experts stressed that reskilling must be treated as a shared responsibility of employers, public authorities, and social partners, rather than an individual burden.

Finally, the interviews underscored the importance of trust, legitimacy, and democratic anchoring. A fair transition was described not only as technical or economic projects, but as moral and political ones that depend on credible narratives of justice, solidarity, and shared responsibility. Experts highlighted the risk that disinformation, polarisation, and geopolitical tensions could further erode trust, making it harder to sustain long-term commitment to climate neutrality. In this context, transparent decision-making, visible fairness in outcomes, and sustained engagement with citizens were seen as essential conditions for maintaining social cohesion during the transition.

Overall, the interview insights reinforce the view that a fair transition towards climate neutrality requires more than well-designed policies or ambitious targets. They demand governance arrangements capable of anticipating social impacts, coordinating across levels and sectors, and embedding fairness not only in formal frameworks but in everyday practice.

4. Trend Collection: A Fair Transition Towards Climate Neutrality

Europe's transition towards climate neutrality is no longer defined only by technological choices or emission targets, but by how social impacts are distributed and managed. Climate policies increasingly shape everyday life, from housing and mobility to energy use and employment, while differences in income, territory, and institutional capacity condition who can adapt and benefit. As a result, questions of fairness, affordability, and burden-sharing have become central to the political and societal feasibility of the transition.

To explore how these dynamics are unfolding, this chapter identifies and examines key trends shaping a fair transition towards climate neutrality. An initial trend set was developed through desk research and refined through expert interviews, which helped clarify interactions between developments and their implications. The trends were subsequently assessed in an expert survey, where participants evaluated their significance and potential impact (see Chapter 2.2). The following section presents the ten trends that experts identified as most influential for shaping a fair transition towards climate neutrality.

4.1 Climate impacts are challenging Europe's adaptation capacity

Climate risks in Europe are escalating more quickly than policy and investment responses. The European Environment Agency warns that major risks such as heat, drought, floods, and coastal erosion have already reached critical levels, while "Europe's policies and adaptation actions are not keeping pace with the rapidly growing risks" (EEA 2024). Current adaptation spending falls far short of estimated needs, particularly in southern and low-income regions, leaving poorer households and local governments most exposed (EDPP2 2024). As a consequence, heatwaves hit low-income and older residents hardest, as access to affordable cooling remains limited. Growing losses from floods and fires are also forcing increasingly contested debates on where rebuilding is fair or feasible and who should bear relocation, compensation, and loss-and-damage costs. Public-health impacts and climate-related shocks are therefore not only technical adaptation

challenges but increasingly shape political expectations of protection and responsibility. Without faster and fairer investment in adaptation, climate impacts risk deepening inequalities, fuelling distributional conflict, and straining Europe's solidarity mechanisms and the legitimacy of public action (EEA 2024; EDPP2 2024).

4.2 Access to sustainable technologies and mobility expands unevenly across society

Opportunities to participate in the green transition through cleaner mobility, energy-efficient housing, and access to green finance are expanding across Europe, yet adoption remains highly uneven. Electric-vehicle uptake and charging infrastructure continue to concentrate in wealthier and urban areas, while rural residents and low-income commuters face higher costs and fewer alternatives, limiting their ability to shift to clean mobility options. Renovation and energy-efficiency schemes increasingly target vulnerable households, but many still struggle to access financing or navigate complex administrative procedures, which reduces uptake of home upgrades and low-carbon technologies (European Commission 2024a). Interviews underscored that administrative burden itself functions as a distributional filter, disproportionately excluding those with limited time, digital access, or institutional support. Financing instruments for home upgrades and energy-efficiency improvements continue to expand, yet vulnerable households still face barriers to accessing support and overcoming upfront costs. At the same time, climate impacts are driving up insurance costs in some regions, and private coverage is becoming less affordable in high-risk or low-income regions, widening the protection gap for households that already face greater exposure to floods, droughts, and storms (EEA 2024; OECD 2024). These disparities reinforce existing socio-economic divides, as households with limited financial resources, insecure housing conditions, or limited digital access have fewer opportunities to reduce emissions or benefit from the transition (European Commission 2024b). Without targeted, accessible, and administratively simple support measures, unequal access to sustainable technologies, housing improvements, and financial protection will deepen fairness concerns and undermine public support for Europe's climate-neutral pathway (EEA 2024; OECD 2024).

4.3 Fiscal policy increasingly integrates climate and social objectives

European fiscal policy is progressively aligning climate ambition with social fairness, but this integration remains politically fragile and uneven. Modelling of the extension of EU emissions trading to buildings and road transport shows that carbon pricing can create regressive effects unless revenues are recycled through targeted compensation measures, highlighting the need to integrate distributional objectives directly into fiscal design (Antosiewicz et al. 2025; OECD 2024). The introduction of the Social Climate Fund reflects this shift, as EU guidance links ETS2 revenues to targeted support for vulnerable households and micro-enterprises to mitigate higher energy and mobility costs during the transition (European Commission 2025). Analyses of just transition governance emphasise that climate policy cannot succeed without social alignment, as compensation measures, fairness criteria, and redistributive instruments are essential to maintain legitimacy and prevent resistance to decarbonisation (Sabato et al. 2023; Croci & Harmáčková 2025). At the same time, survey and interview feedback indicate that fiscal integration is neither linear nor guaranteed: In some Member States tax incentives for green choices have been reduced, while rising defence spending and competing fiscal priorities constrain the scope for sustained climate–social investment. Respondents also stressed that burden sharing, particularly the balance between taxing labour and taxing wealth, remains central to perceptions of fairness and political acceptance. Overall, fiscal frameworks are moving toward more integrated climate–social approaches, but their durability depends not only on technical design, but on political commitment to maintaining redistribution under conditions of competing budgetary pressures (ECA 2022; ECA 2025).

4.4 Fairness principles become embedded in legal and regulatory frameworks

Fairness considerations are becoming increasingly formalised within Europe's transition governance. EU instruments such as the Just Transition Fund, the Social Climate Fund, and the 2022 Council Recommendation require Member States to link climate action with social and distributional objectives and to design measures for vulnerable groups as part of their planning and reporting obligations (Sabato et al. 2023; European Commission 2025). Independent assessments show that fairness criteria are now integrated into transition and cohesion funding, although administrative capacity and the

ability to assess social impacts vary widely across Member States (ECA 2022; ECA 2025). Work on the just energy transition highlights growing reliance on indicators and monitoring tools to assess vulnerability and guide targeted support, strengthening the procedural visibility of fairness in implementation frameworks (EERA 2023). Survey and interview feedback, however, underline that formal embedding does not automatically translate into effective enforcement or equitable burden-sharing. Divergent interpretations of fairness, weak accountability mechanisms, and limited attention to cost allocation and social rights can reduce fairness to a reporting requirement rather than a substantive decision-making principle. Overall, fairness is increasingly anchored in legal and regulatory architectures, but its practical impact depends on political commitment, enforcement capacity, and the extent to which fairness criteria meaningfully shape policy choices rather than remain procedural add-ons.

4.5 Cultural narratives and emotions increasingly influence acceptance of transition policies

Public support for Europe's transition increasingly depends on how people interpret responsibility, fairness, and change through cultural narratives and emotional responses. Analyses highlight that perceptions of who should bear the costs of the transition shape acceptance more strongly than technical policy details, while shifting identities and group boundaries influence how responsibility is assigned within and across societies (Eichhorn & Grabbe 2025). Emotional reactions such as hope, fear, fatigue, and resentment are amplified by digital media environments, where misinformation and polarising narratives can delegitimise climate action or portray transition policies as unfair, imposed by elites, or morally incoherent (European Commission 2022). Research on socio-economic impacts shows that fairness narratives play a central role in sustaining public support, particularly when citizens expect governments and businesses to share responsibility and visibly carry a fair share of the transition burden (Eurofound & EEA 2023). Interview insights underline that emotional responses are shaped not only by communication styles, but by lived experiences of consistency or hypocrisy between stated goals and policy outcomes. Emotional and cultural framings can mobilise solidarity and collective action, but they can also fuel backlash where policies are experienced as inequitable, contradictory, or disconnected from local realities. Work on democratic innovation suggests that inclusive communication, trust-building, and credible demonstrations of fairness can help counter polarisation and strengthen support for transition measures (OECD 2024b). Cultural institutions and creative actors are increasingly recognised as important mediators of climate narratives, contributing to public engagement and emotional resonance. Overall, cultural narratives and collective emotions have become key determinants of the legitimacy and acceptance of transition policies, though their influence varies across regions and social groups.

4.6 Solidarity within the EU weakens as transition costs diverge between regions

The economic and social costs of Europe's climate transition are increasingly uneven across Member States and regions, placing growing strain on solidarity mechanisms that underpin EU cohesion. Regions with higher income levels, stronger industrial bases, and better access to public and private investment are generally able to adapt more quickly to climate policies and benefit from green and digital transformation. In contrast, less affluent regions face higher relative adjustment costs due to fossil-fuel dependence, weaker infrastructure, and limited administrative and fiscal capacity. The European Commission's *Ninth Report on Economic, Social and Territorial Cohesion* highlights persistent territorial disparities and slowing convergence, noting that regions differ significantly in their capacity to respond to structural challenges such as climate change (European Commission 2024b). Analyses of cohesion policy in the context of the green and digital transitions further show that uneven regional readiness complicates the alignment of climate objectives with cohesion goals, as identical policy instruments can produce highly unequal regional impacts (European Parliament Research Service 2024). Distributional studies of EU climate policy indicate that measures such as the extension of emissions trading to buildings and transport can impose proportionally higher burdens on lower-income regions, particularly where households have limited access to affordable low-carbon alternatives (Antosiewicz et al. 2025; OECD 2024). These dynamics intensify perceptions that transition costs are unevenly shared and risk undermining trust in EU-level redistribution. As a result, resistance to financial transfers and shared instruments, including cohesion funding and the Social Climate Fund, is becoming more visible. Audits of EU transition and cohesion spending underline that where regions experience the transition primarily as a cost rather than an opportunity, political support for redistributive mechanisms

weakens (ECA 2022; ECA 2025). Maintaining credible and equitable burden-sharing across regions is therefore emerging not only as an economic necessity, but as a decisive condition for political legitimacy, social cohesion, and the long-term sustainability of EU fairness mechanisms.

4.7 Energy poverty becomes a core target in EU climate and energy policy

Energy poverty has moved from a marginal concern to a core indicator of fairness in EU climate and energy governance. Since the adoption of the Energy Union Governance framework, Member States have been required to identify and address energy poverty within their National Energy and Climate Plans, explicitly linking climate objectives with social outcomes (European Commission 2024a). This shift reflects growing recognition that rising energy costs, inefficient housing, and unequal access to energy services can undermine public support for decarbonisation if left unaddressed. At EU level, the Energy Poverty Advisory Hub has strengthened this focus by providing harmonised indicators, national and local dashboards, and analytical guidance that make energy poverty visible and comparable across Member States, thereby reinforcing accountability and policy learning (EPAH Observatory 2023). Recent legislation further embeds energy poverty into binding frameworks: the revised Energy Efficiency Directive and Energy Performance of Buildings Directive require Member States to prioritise energy-poor and vulnerable households in renovation and energy-saving measures, moving beyond voluntary commitments toward targeted action (European Commission 2024b). Interview insights underline, however, that energy poverty has become a politically sensitive issue, where reliance on short-term relief measures without parallel investment in structural solutions risks entrenching vulnerabilities rather than reducing them. Treating energy poverty as a measurable and legally anchored policy target can therefore strengthen the alignment between climate ambition and social inclusion, but its effectiveness depends on sustained commitment to long-term solutions that prevent inequalities from being reproduced and fuelled through the transition.

4.8 Local implementation capacity gains importance in fair transition governance.

As transition policies multiply and intersect across climate, energy, social, and economic domains, effective delivery increasingly depends on the capacity of local and regional authorities to translate abstract strategies into visible and tangible outcomes. Public trust in national governments has weakened, with growing frustration that transition policies insufficiently reflect people's financial situations and everyday constraints, contributing to contestation and the risk of backlash against reforms (European Commission 2016; Eichhorn & Grabbe 2024; Wettengel 2025). At the same time, trust is increasingly shifting toward local and community actors, as municipalities and regions implement housing renovation programmes, manage mobility systems, and engage directly with citizens through place-based initiatives, local energy communities, and solidarity networks (European Commission 2023; Eurofound & EEA 2023). Governments and cities are therefore experimenting more actively with participatory and deliberative governance formats, which can enhance legitimacy and fairness when embedded in stable institutional settings rather than treated as one-off experiments (OECD, 2024). Survey and interview feedback highlights, however, that local capacities and willingness to act vary widely, with some administrations well equipped and others overstretched, underfunded, or lacking political backing. If these disparities deepen, fairness risks becoming uneven across territories. Importantly, respondents cautioned against shifting responsibility for fairness downward, emphasising that adaptive and participatory approaches can only complement, not replace, binding national frameworks, stable resourcing, and clear accountability for distributional outcomes (Maguire & Shaw 2021; Eurofound & EEA 2023). In this context, sustained investment in local know-how, professionalised citizen engagement, peer learning mechanisms, and coordinated multi-level governance is emerging as a necessary but insufficient condition for achieving a fair transition in practice, dependent on continued commitment at national and EU level (European Commission 2022; Eichhorn & Grabbe 2024).

4.9 EU carbon pricing extends to buildings, transport, and imports

The EU is expanding carbon pricing beyond power generation and industry to cover buildings, road transport, and imports through the introduction of the new Emissions Trading System for buildings and transport (ETS2) and the Carbon Border Adjustment Mechanism (CBAM), extending the polluter-pays principle across a wider range of economic activities

(European Commission, 2025; OECD, 2024). These instruments are intended to accelerate decarbonisation, improve efficiency, and strengthen accountability across domestic sectors and global supply chains. At the same time, their distributional effects are uneven. Model-based analyses show that welfare impacts vary substantially across households and regions, with outcomes ranging from significant losses to gains depending on energy needs, income levels, and the strength of compensatory measures (Antosiewicz et al. 2025). Households with lower incomes or high energy dependence, particularly in transport and housing, face higher relative burdens where alternatives such as affordable public transport or energy-efficient buildings are limited (Eichhorn & Grabbe 2024). Interview insights underline that these dynamics heighten the risk of social resistance if carbon pricing is perceived as unfair, poorly sequenced, or insufficiently cushioned. To address this, revenues from ETS2 are channelled through the Social Climate Fund, which requires Member States to develop national plans that combine income support, investment in renovation and mobility, and monitoring of social impacts (European Commission 2025; Antosiewicz et al. 2025). The effectiveness and legitimacy of extended carbon pricing therefore depend not only on price signals, but on clear, credible, and visible revenue recycling strategies that distribute costs fairly, support behavioural change, and sustain public trust while driving multi-sector decarbonisation.

4.10. New technologies and the green transition outpace Europe's ability to reskill workers

Rapid technological change and decarbonisation are transforming Europe's labour markets faster than education and training systems can adapt. Evidence shows that automation and the deployment of new technologies are reshaping tasks within occupations rather than eliminating jobs outright, increasing demand for analytical, technical, and coordination skills while eroding routine and some mid-wage roles (Eurofound & EEA 2023; Cedefop & UNESCO-UNEVOC 2025). At the same time, shortages are emerging in sectors central to the transition, including construction, building renovation, renewable energy installation, and maintenance, indicating a growing mismatch between labour demand and available skills (Cedefop & UNESCO-UNEVOC 2025; Reuters 2024). Interview and survey feedback highlight that this creates both risks and opportunities: while new tools and training pathways could support workers in acquiring needed skills, older workers, those in declining industries, and people in vulnerable regions often face structural barriers to reskilling. Education and training systems are widely perceived as conservative and slow to reform, limiting their capacity to respond to rapidly evolving needs. Respondents also stressed that reskilling is not only a technical challenge but a social and institutional one, requiring clear allocation of responsibility among employers, public authorities, and social partners, as well as attention to workers' rights and access to lifelong learning. Without effective and inclusive reskilling strategies, communities may experience job losses without credible pathways into emerging sectors, increasing inequality and resistance to transition policies (European Commission 2023; EERA 2023). Whether the green transition remains fair will therefore depend on the ability of education systems, social partners, and public authorities to expand inclusive reskilling, strengthen social dialogue, and ensure that workers can realistically benefit from labour-market transformation rather than disproportionately bear its costs.

5. First- and Second-Order Implications

The ten prioritised trends presented above do not occur in isolation. Each one sets in motion a chain of ripple effects that shape the wider landscape. These dynamics were captured by identifying and discussing the implications through the online survey, expert interviews, and the trend workshop. Related ideas were clustered thematically and structured into first-, second- and in some cases even third-order effects. This mapping formed the analytical basis for the best-case scenario presented in Chapter 6.

1. Climate impacts are challenging Europe's adaptation capacity

First-order implications	Second-order implications	Third-order implications
Public authorities increasingly fail to prevent or limit climate-related damages	Spending on emergency response and recovery increases	Public budgets become locked into crisis response, limiting long-term resilience building
	Adaptation action focuses on short-term crisis management rather than planned prevention	
Differences in protection from climate risks increase across regions and social groups	Wealthier regions and groups are better protected than poorer regions and vulnerable populations	Long-term gaps in climate risk exposure and living conditions widen.
	Health and livelihood impacts remain higher for low-income and older people.	
Climate-related damages increasingly trigger disputes over compensation, rebuilding, and relocation	Conflicts grow over who should pay for damages and where rebuilding is considered fair or feasible	
	Expectations around compensation and loss-and-damage support increase	
Confidence in public authorities' ability to manage climate risks declines	Perceptions of unfair treatment and unequal protection increase	Protests, political tensions, and demands for protection become more frequent
		Ongoing challenges to the legitimacy of climate-related public governance
Access to climate protection increasingly depends on private resources	Gaps in protection widen between those who can afford private sector solutions ~~measures~~ and those who cannot	Climate security becomes increasingly unequal
Resources are diverted from long-term economic transition toward climate damage control	Investment in industrial modernisation and innovation is reduced	Economic resilience and strategic autonomy weaken over time.

2. Access to sustainable technologies and mobility expands unevenly across society

First-order implications	Second-order implications	Third-order implications
Large parts of the population are unable to participate fully in the green transition	Adoption of clean mobility, energy-efficient housing, and green technologies remains concentrated among affluent, urban, and highly literate households	
	Rural and low-income households face higher costs and fewer viable alternatives, limiting their ability to shift away from carbon-intensive options	Health risks linked to poor housing quality and climate exposure remain higher among low-income households.
Administrative and financial complexity excludes vulnerable groups from renovation and support schemes	Renovation uptake remains low among households lacking upfront capital or administrative capacity	Persistent concentration of inefficient housing and energy poverty among vulnerable populations
Unequal access to sustainable mobility creates transport poverty	Limited access to affordable and clean transport restricts access to employment, education, healthcare, and services	Fragmentation of labour markets and declining economic resilience in peripheral region
Public support for the green transition erodes among excluded groups	Perceptions of unfairness and exclusion from transition benefits increase	Declining trust in climate policy and governing institutions
Political contestation around the transition intensifies	Protests, backlash, and "greenlash" dynamics emerge where costs are visible but benefits are inaccessible	

	Excluded groups become more receptive to anti-transition narratives and disinformation.	Delays in decarbonisation and weakened social cohesion
Urban–rural divides deepen as cities adopt faster than rural areas	Mobility and technology gaps reinforce spatial segregation and perceptions of neglect	
Civil society and collective capacity weaken in excluded communities	Withdrawal from participation in public life and declining engagement in collective problem-solving.	Reduced preparedness and resilience in the face of future climate and economic shocks

3. Fiscal policy increasingly integrates climate and social objectives

First-order implications	Second-order implications	Third-order implications
Fiscal climate measures increasingly affect household incomes and living costs	Carbon pricing and green taxes have visible effects on disposable income, especially for lower-wage groups.	
	Tax increases and spending cuts linked to transition policies generate resentment among affected households.	
Distributional fairness becomes a central condition for political acceptance	Debates intensify over who should bear transition costs (labour vs. wealth, households vs. firms).	Persistent conflict over fairness becomes a structural feature of transition politics.
	Climate policies lose legitimacy when compensation is seen as insufficient or uneven.	
Fiscal constraints shape how far climate–social integration can go	Budget limits force trade-offs between social compensation, industrial competitiveness, and defence or other priorities.	
	Some governments prioritise competitiveness or fiscal discipline over social cushioning.	
Uneven national fiscal capacity leads to divergent outcomes across the EU	Wealthier Member States integrate climate and social objectives more effectively than others.	
	Fragmented national approaches weaken cohesion and strain shared EU instruments.	

4. Fairness principles become embedded in legal and regulatory frameworks

First-order implications	Second-order implications	Third-order implications
Fairness requirements become a formal part of climate and transition law	Member States are required to consider social and distributional effects in climate policy design, planning, and reporting.	
	Measures targeting vulnerable groups become a formal expectation in transition governance.	
Governments face stronger legal accountability for fairness outcomes	Unfair transition measures can be challenged in court.	Increased litigation around climate and transition policies.
	Legal fines and sanctions make unfairness more costly for public authorities.	
	Citizens and civil society gain legal avenues to contest unfair burdens.	Shifts in the balance between executive decision-making and judicial oversight.
Fairness increasingly shapes policy design rather than post-hoc correction	Social and distributional impacts are assessed earlier in the policy process.	
	Ex-ante impact assessments become more common requirements for approval.	Policy processes become longer and more complex.
Uneven administrative capacity limits effective implementation of fairness rules	Some Member States lack the capacity to assess, monitor, and enforce fairness requirements.	Uneven application of fairness principles across the EU.

	Weak capacity means fairness remains formal rather than substantive in some contexts.	
Defining and measuring fairness remains difficult and contested	Fairness is hard to translate into clear legal definitions and indicators.	Legal uncertainty for governments and regulators.
	Different interpretations of fairness coexist across countries and policy areas.	Inconsistent application and enforcement of fairness rules.
Monitoring tools and indicators gain importance in transition governance	Vulnerability indicators and monitoring tools are used to guide targeted support.	
	Consumption-based and distributional metrics increasingly enter policy frameworks.	Broader understandings of responsibility and impact influence regulation.
Fairness criteria affect access to funding and financial support	Transition and cohesion funding is increasingly linked to fairness conditions.	Distribution of public funds becomes more contested.
	Social conditionalities in financial programming expand.	
Embedding fairness can increase legitimacy and acceptance of climate policy	Climate policies are perceived as more legitimate when fairness is enforceable.	Higher acceptance among economically weaker groups.
Weak enforcement limits real social impact	Fairness functions as an add-on where accountability and cost allocation are unclear.	Unequal transition impacts persist despite formal rules.
Distributional conflicts become more visible and politicised	Conflicts arise over who qualifies for support (e.g. citizens vs non-citizens, majority vs minority groups).	Political polarisation and instrumentalisation of fairness increase.
	Right-wing and populist actors frame fairness rules as imposed by distant bureaucrats.	Democratic tensions and resistance to EU-level governance intensify.
Policy processes become more participatory but slower	More actors and social groups are involved in consultations and negotiations.	
Institutional practices and roles change	Officials require new skills to assess social impacts and fairness.	Capacity gaps widen between administrations.
Fairness principles interact with broader political values	Fairness-based regulation strengthens Europe's normative positioning globally.	
	Resistance emerges in less democratic or more illiberal political contexts.	EU-level coordination becomes more difficult.

5. Cultural narratives and emotions increasingly influence acceptance of transition policies

First-order implications	Second-order implications	Third-order implications
Public acceptance of transition policies depends increasingly on emotional resonance	Support is shaped more by feelings and narratives than by technical policy details.	Long-term durability of transition policies depends on emotional legitimacy.
Perceptions of fairness and responsibility strongly shape legitimacy	Acceptance declines when citizens feel they bear most transition costs.	Resistance and disengagement increase where unfairness dominates narratives.
	Acceptance increases when governments and businesses are seen as sharing responsibility.	
Negative emotions reduce support for transition policies	Feelings of loss, fear, fatigue, and resentment weaken acceptance.	Emotional fatigue contributes to disengagement from climate issues.
	Strong emotions override abstract reasoning in public debates.	Evidence-based arguments lose influence in contested contexts.
Cultural narratives intensify social and political polarisation	Narratives of sacrifice, injustice, or exclusion fuel backlash.	Cultural conflict around climate policy becomes more persistent.
	Urban–rural and social divides are reinforced through emotional framing.	

Elites and inequality become central targets of resentment	Policies lose legitimacy when elites are seen as exempt from costs.	Right-wing and populist mobilisation gains traction.
Digital media amplifies emotional and polarising narratives	Misinformation and disinformation undermine trust and cohesion.	Consensus-building around transition policies becomes harder.
Cultural narratives can mobilise collective action	Solidarity and local activism increase where hopeful narratives dominate.	New forms of collective organisation and community action emerge.
Emotional backlash affects policy processes	Contested narratives delay or block transition measures.	Transition timelines become less predictable.
Cultural differences shape transition dynamics across Europe	Acceptance and resistance vary strongly across regions and social groups.	Uneven implementation and progress across Member States persist.

6. Solidarity within the EU weakens as transition costs diverge between regions

First-order implications	Second-order implications	Third-order implications
Transition costs differ strongly across EU regions	Wealthier regions adapt faster and benefit more from the transition.	
	Poorer and fossil-dependent regions face higher adjustment costs and slower adaptation.	
Territorial disparities and uneven readiness increase	Identical EU climate policies produce very different regional impacts.	Persistent slowing of economic and social convergence.
	Lower-income regions bear proportionally higher burdens from measures such as ETS extension.	
Perceptions of unfair burden-sharing intensify	Regions increasingly view the transition as a cost rather than an opportunity.	Support for EU climate policy declines in affected regions.
	Trust in EU solidarity and fairness mechanisms erodes.	
Support for EU redistributive instruments weakens	Resistance to cohesion funding and shared financial tools increases.	EU-level coordination becomes harder to maintain.
Political backlash grows in disadvantaged regions	Populist and anti-EU narratives gain traction by framing climate policy as elite-driven.	Democratic stability and EU legitimacy are weakened.
	Anti-democratic sentiments strengthen.	
Economic divergence between regions accelerates	Job losses and capital flight increase in fossil-dependent regions.	Long-term weakening of regional transition capacity.
	Brain drain from peripheral to core regions intensifies.	
Intra-EU competition replaces solidarity	Regions and Member States compete for limited transition resources.	Fragmentation of the single market and industrial policy.
EU strategic cohesion weakens	Fragmentation concentrates economic and social stress in border and peripheral regions.	External actors can exploit internal divisions, weakening collective security and strategic autonomy.

7. Energy poverty becomes a core target in EU climate and energy policy

First-order implications	Second-order implications	Third-order implications
Energy policy decisions are increasingly evaluated through their social impact on households	Climate and energy measures are judged by effects on affordability and living conditions, not only by emissions outcomes.	
More and more communities are producing energy	More decentralised energy production	

Vulnerable households receive greater priority in energy efficiency and renovation efforts	Energy-poor households are more likely to be targeted in renovation and energy-saving measures.	Improved well-being and health outcomes where measures are effective.
Public support for decarbonisation becomes more sensitive to energy affordability	Rising energy costs without adequate protection weaken acceptance of climate policies.	Political resistance to climate policy increases.
Short-term relief measures expand faster than structural solutions in some contexts	Income support and bonuses dominate over deep renovation of inefficient housing.	Energy poverty persists despite repeated public spending.
	Households remain exposed to energy price volatility.	
Uneven identification of energy-poor households affects policy outcomes	Different national definitions lead to uneven targeting and protection.	Gaps in fairness and protection widen across Member States.
EU-level coordination becomes more complex	Fragmented national approaches complicate alignment of energy and climate policies.	
Energy poverty becomes a focal point in fairness and legitimacy debates	Perceived failure to protect vulnerable households fuels distrust and political contestation.	Trust in EU institutions and solidarity mechanisms erodes.
Energy vulnerability increasingly intersects with energy security concerns	Continued exposure of vulnerable households sustains fossil fuel dependence.	Strategic energy resilience is weakened.
Expanded data use introduces new governance risks	Household-level data collection raises privacy and misuse concerns.	Vulnerability data may be exploited for polarisation or disinformation.

8. Local implementation capacity gains importance in fair transition governance

First-order implication	Second-order implications	Third-order implications
Transition outcomes depend increasingly on local administrative capacity	Local authorities play a decisive role in turning policies into visible outcomes.	
Differences in local capacity become a fairness issue	Regions with strong administrations implement transition measures faster and more effectively.	Territorial inequalities in transition outcomes widen.
	Under-resourced regions lag behind in delivery.	
Responsibility for fair outcomes shifts toward the local level	National governments can deflect responsibility for uneven results.	Accountability for fairness becomes blurred.
	Local authorities face growing workload and political pressure.	Risk of capacity overload increases.
Uneven local capacity amplifies existing regional inequalities	Socio-economic disparities shape how well regions can implement transition policies.	A two-tier transition between regions becomes entrenched.
Local implementation occurs in contested political environments	Bureaucratic delays or weak delivery undermine trust in transition policies.	Support for reforms declines at local level.
	Anti-transition movements become more active where delivery fails.	Risk of protests and political backlash increases.
Policy coherence weakens across territories	Local delivery diverges from national and EU frameworks.	Achieving national and EU transition targets becomes harder.
	Fragmented implementation reduces overall policy effectiveness.	
Coordination failures affect strategic goals	Misalignment between local actions and national strategies undermines competitiveness and energy security.	Strategic coherence at EU level weakens.
Peer learning shapes how capacity spreads	Some regions learn and adapt faster through networks.	Transition speed diverges further across territories.

	Disinformation can circulate through local learning and engagement processes.	Local decision-making becomes more vulnerable to manipulation.
Fairness is interpreted differently across places	Local understandings of fairness differ from national or EU interpretations.	Conflicts over fairness criteria intensify.

9. EU carbon pricing extends to buildings, transport and imports

First-order implications	Second-order implications	Third-order implications
Carbon pricing directly affects households through energy and transport costs	Lower-income and high-energy-need households face higher relative burdens.	Cost-of-living pressures increase for vulnerable groups.
	Regions with limited alternatives (public transport, efficient housing) are more exposed.	
Household welfare impacts vary widely across regions and social groups	Some households experience losses while others benefit, depending on circumstances.	Perceptions of unfairness intensify.
Public acceptance of climate policy becomes more sensitive to distributional outcomes	Carbon pricing is judged by social effects, not only emissions reductions.	Legitimacy of climate policy depends on visible fairness.
Risk of social resistance increases where pricing is seen as unfair	Opposition to carbon pricing grows among affected groups.	Support for transition policies declines.
Carbon pricing becomes a focal point of political contestation	Populist and right-wing actors mobilise cost-of-living fears.	Electoral backlash against climate policy becomes more likely.
Firms face stronger pressure to reduce emissions	Accountability across buildings, transport, and supply chains increases.	Investment in low-carbon technologies accelerates.
	Some businesses challenge carbon pricing by highlighting economic risks.	Political pressure on policymakers increases.
Fuel switching and efficiency incentives strengthen	Demand for energy efficiency and low-carbon solutions grows.	Emissions reductions extend beyond industry and power sectors.
Revenue recycling becomes central to policy credibility	Use of ETS2 revenues strongly shapes public trust.	Uneven national implementation affects perceived fairness.
EU governance becomes more complex	Member States must align compensation, investment, and monitoring.	Differences in implementation quality widen across the EU.
Carbon pricing extends beyond the EU through CBAM	Imported goods face carbon-related costs.	Trade tensions and geopolitical frictions increase.

10. New technologies and the green transition outpace Europe's ability to reskill workers

First-order implications	Second-order implications	Third-order implications
Skills demand changes faster than workforce skills	Shortages emerge in sectors central to the green transition.	Deployment of green technologies slows.
	Skills mismatches delay implementation of climate and energy measures.	Climate targets become harder to reach.
Labour-market advantages concentrate among highly skilled workers	Workers with higher education adapt faster and earn more.	Income inequalities widen.
	Lower-skilled workers face declining job prospects.	Social exclusion risks increase.
Workers in declining industries face limited transition pathways	Job losses occur without credible alternatives.	Resistance to transition policies increases.
Regional disparities in skills and capacity intensify	Vulnerable regions struggle to supply skills needed for the transition.	Structural regional gaps widen within Europe.

	Brain drain toward better-performing regions increases.	
Skills shortages raise costs and constrain firms	Labour costs increase in key transition sectors.	European competitiveness weakens.
	Firms relocate activities to regions with better-skilled labour.	Competing economies strengthen relative to the EU.
Economic growth slows due to labour constraints	Limited skills supply restricts investment and productivity gains.	Public revenues weaken.
Fiscal pressure on welfare systems increases	Job losses and exclusion raise demand for social protection.	Financing fair transition measures becomes harder.
Public support for the transition weakens in affected communities	Perceptions of unfairness grow where reskilling fails.	Populist mobilisation gains traction.
Demographic trends reinforce reskilling gaps	Ageing workforces face greater barriers to skill adaptation.	Long-term labour shortages deepen.

6. Best-case Scenario for a Fair Transition towards Climate Neutrality

The implications identified in the previous step were synthesised into a best-case scenario for a fair transition towards climate neutrality by 2040. By clustering interrelated effects into four thematic pillars, the scenario outlines how Europe's climate transition could unfold under favourable but plausible conditions, assuming that key social, economic, and governance challenges are addressed. The scenario does not predict future developments; rather, it describes a desirable and achievable direction of travel grounded in the validated trends and their first- and second-order implications. It provides a shared reference point for the subsequent backcasting exercise (see Chapter 7), which will focus on identifying the actions, stakeholders, and enabling conditions required to move towards this future.

6.1 Fairness Embedded in Climate Governance and Fiscal Design

By 2040, fairness is embedded as a binding principle of Europe's climate transition, shaping climate governance and fiscal policy from the outset rather than being addressed through ad-hoc compensation. Climate objectives are systematically designed together with social and distributional considerations, ensuring that transition costs and benefits are shared transparently across social groups, regions, and generations. This integration reflects sustained political choices, institutional learning, and deliberate coordination across governance levels rather than a linear or uncontested process.

Fiscal frameworks play a central role in sustaining this approach. Carbon pricing, regulatory measures, and public investment are aligned with social objectives through predictable revenue-recycling mechanisms and targeted support for vulnerable households, workers, and regions. Redistribution is treated as a structural component of climate policy design rather than an afterthought, which strengthens public trust and stabilises political support for long-term decarbonisation even as transition measures become more far-reaching.

Legal and regulatory frameworks reinforce this shift by embedding fairness requirements into climate and energy legislation. Ex-ante social impact assessments, clearer accountability mechanisms, and enforceable protections for vulnerable groups ensure that fairness is not merely a formal principle, but a practical standard guiding policy choices. Citizens and social partners have institutionalised channels to contest unfair burdens and distributional imbalances, reducing polarisation and strengthening the perceived legitimacy of transition governance.

Public communication and cultural narratives evolve alongside these institutional changes. Governments increasingly acknowledge trade-offs and distributional effects openly, reinforcing perceptions of shared responsibility and credibility.

Where fairness is visibly implemented and transparently governed, acceptance of climate policy increases, countering fatigue and resistance while sustaining cohesion across diverse social and regional contexts.

Together, these governance arrangements ensure that fairness functions as a stabilising force of the climate transition. By embedding social equity into fiscal design, regulation, accountability structures, and public narratives, Europe maintains legitimacy, trust, and cohesion while advancing decisively towards climate neutrality.

6.2 Shielding Households and Communities from Unequal Transition Burdens

By 2040, Europe has succeeded in preventing the climate transition from translating into disproportionate burdens for households and communities. Energy poverty has been substantially reduced through a combination of targeted income support, large-scale renovation of inefficient housing, and improved access to affordable, clean energy. These outcomes reflect sustained public investment, simplified administrative procedures, and coordinated delivery across governance levels. As a result, climate policies are experienced not primarily as rising costs, but as tangible improvements in living conditions, health, and security.

Adaptation to accelerating climate impacts is organised around fairness and prevention rather than crisis response. Public investment prioritises vulnerable regions and population groups exposed to heat, flooding, and infrastructure risks, reducing long-term damage and unequal exposure. Transparent criteria guide compensation, relocation, and rebuilding mechanisms, limiting conflict over responsibility and strengthening confidence in public authorities' capacity to manage climate risks in an equitable manner. Preventive adaptation reduces the need for emergency interventions and mitigates the risk that climate shocks amplify existing social and territorial inequalities.

Access to sustainable technologies and mobility has become more equitable as financial instruments, targeted subsidies, and place-based support lower barriers for low-income and rural households. Administrative processes for renovation, mobility support, and energy-efficiency measures are streamlined, enabling broader uptake of low-carbon solutions. Carbon pricing in buildings and transport is embedded in a wider policy mix in which revenues are visibly and predictably recycled into household support and local infrastructure, maintaining public acceptance even as price signals intensify.

Local and regional authorities play a critical role in translating these measures into lived outcomes. Adequate resourcing, professional capacity, and coordination with national frameworks enable municipalities to tailor support to local conditions while ensuring consistency with broader fairness objectives. As a result, communities increasingly associate climate action with improved affordability, resilience, and quality of life. In this best-case scenario, the transition is not perceived as an external imposition, but as a shared project that delivers concrete and visible benefits where people live.

6.3 Participatory and Place-Based Transition Pathways

By 2040, Europe's climate transition is shaped through participatory and place-based governance that strengthens legitimacy, trust, and policy effectiveness. Citizens, workers, and local stakeholders are meaningfully involved in shaping transition pathways through structured participation, social dialogue, and deliberative processes that are embedded in stable institutional frameworks rather than deployed as ad-hoc consultations. Participation enhances policy quality by integrating local knowledge and lived experience into decision-making, ensuring that transition measures respond to concrete territorial realities alongside European and national objectives.

Cultural narratives play a central role in sustaining engagement and acceptance. Climate policies are communicated in ways that resonate with local identities, histories, and everyday experiences, making the transition more tangible and socially embedded. Cultural institutions, creative actors, and local media contribute to translating abstract climate goals into relatable stories of change, helping to counter polarisation, fatigue, and misinformation. By acknowledging trade-offs openly and foregrounding shared responsibility, public communication supports emotional engagement without obscuring distributional realities.

Local and regional authorities act as key intermediaries between EU-level objectives and community-level implementation. They adapt transition measures to territorial conditions while operating within clear national and European fairness

frameworks that define responsibilities, standards, and accountability. This balance between local flexibility and binding multi-level coordination prevents participation from becoming symbolic or unevenly distributed and limits the risk that responsibility for fairness is shifted exclusively to the local level.

In this scenario, participatory governance complements rather than replaces binding policy and redistribution. Democratic engagement, when combined with enforceable fairness frameworks and transparent decision-making, strengthens social cohesion and political legitimacy. By embedding participation and culturally grounded narratives into transition governance, Europe sustains public support for climate neutrality while ensuring that inclusion and fairness remain integral to how transition pathways are designed and implemented.

6.4 Inclusive Economic and Skills Transformation for Climate Neutrality

By 2040, Europe has managed the economic and labour-market transformation associated with climate neutrality in a way that limits social disruption and enables broad participation. Skills development and reskilling are treated as shared responsibilities of public authorities, employers, and social partners, ensuring that workers are not left to absorb transition risks individually. This approach reflects sustained investment, strengthened social dialogue, and deliberate coordination across policy domains rather than a purely market-driven adjustment process.

Education and training systems have undergone accelerated reform to respond to changing skill demands in key transition sectors such as construction, energy, mobility, and infrastructure. Targeted support mechanisms enable older workers, workers in declining industries, and those in vulnerable regions to access reskilling and lifelong learning opportunities, reducing resistance to climate policies and alleviating labour shortages that could otherwise slow implementation. Training pathways are designed to be accessible, flexible, and compatible with employment and care responsibilities.

Technological and digital innovation is increasingly deployed in ways that support job quality, workplace safety, and effective learning rather than intensifying inequality. Public investment and regulatory frameworks guide the use of automation and digital tools toward productivity gains that align with decent working conditions and social inclusion. Innovation is accompanied by safeguards for workers' rights and by measures that ensure broad access to new opportunities.

Regional disparities remain a structural challenge, but coordinated investment and cooperation across European, national, and local levels prevent widening gaps from undermining fairness and cohesion. In this best-case scenario, economic transformation reinforces social stability and labour-market inclusion while advancing climate objectives, ensuring that the transition is experienced as an opportunity for shared progress rather than a source of exclusion.

7. Next steps: Backcasting

Following the completion of all four foresight cycles, we will initiate the next major phase of the process: Translating the developed trend insights and scenarios into steps for developing knowledge, innovative solutions and strategic policy options at European, national, and regional level. This will take place in a backcasting workshop, taking place on 28-29 January 2026, which will bring together experts from across disciplines and sectors.

The workshop will start from the four desirable best-case scenarios developed for each impact area. Using the widely established approach of backcasting, participants will work backwards from these desirable futures to today, systematically identifying the necessary steps, enabling conditions, and interventions needed to move towards the envisioned futures. The guiding question will be: What kind of future is imaginable and desirable in each impact area and how can we work strategically towards achieving it?

Backcasting is an approach that starts by defining a desirable and plausible future scenario. It should be ambitious enough to inspire innovation, but realistic enough that concrete pathways can be identified to reach it. Choosing a preferred scenario helps focus attention on what stakeholders want to achieve, rather than merely reacting to what

seems most probable. Starting with a bold scenario encourages more creative thinking, while keeping the steps needed to achieve it grounded and actionable. Backcasting is not about ignoring potential problems; rather, it focuses on overcoming obstacles in a proactive, solution-oriented way, even in the face of uncertainty.

This method allows us to focus not only on what is likely, but on what is possible and desirable, helping to formulate proactive, solution-oriented pathways even in the face of uncertainty. Starting from a bold but plausible scenario encourages all stakeholders to think creatively, while maintaining a realistic view on the steps and conditions needed to achieve these outcomes. Rather than ignoring challenges, the backcasting approach explicitly addresses obstacles, fostering a strategic and action-oriented mindset.

The action steps developed through this process will provide a strong evidence base for the formulation of the SRIA for the European Partnership on Social Transformations and Resilience. Through its innovative Strategic Foresight approach, the SRIA will provide a framework for issues and activities not only for the short and medium term, but also for the long term, allowing for changing needs and iterations.

References

Antosiewicz, M., Burzynski, M., Lewandowski, P., Machado, J., Rausch, S., & Sokolowski, J. (2025). *The distributional effects of EU carbon pricing* (WeLaR Project Deliverable D4.5).

Cedefop, & UNESCO-UNEVOC. (2025). *Meeting skill needs for the green transition: Skills anticipation and VET for a greener future* (Cedefop Practical Guide No. 4). Publications Office of the European Union. https://doi.org/10.2801/6833866

Croci, E., & Harmáčková, Z. (2025). *Fair transition to climate neutrality*. Publications Office of the European Union.

EDPP2. (2024). *Climate adaptation costing in a changing world* (EDPP2 C2 Cost Report). World Bank.

EEA. (2024). Europe is not prepared for rapidly growing climate risks. Press releases, March 11, 2024, https://www.eea.europa.eu/en/newsroom/news/europe-is-not-prepared-for

European Court of Auditors. (2022). *EU support to coal regions: Limited focus on socio-economic and energy transition* (Special Report No. 22/2022).

European Court of Auditors. (2025). *The future of EU cohesion policy: Drawing lessons from the past* (Review No. 04/2025).

European Environment Agency. (2024). *Europe is not prepared for rapidly growing climate risks*.

EERA. (2023). *A just energy transition in the EU* (White Paper).

Eichhorn, J., & Grabbe, H. (2025). *Europeans still want climate action, but don't trust governments to deliver* (Policy Brief No. 08/2025). Bruegel.

Energy Poverty Advisory Hub Observatory. (2023). *Energy poverty observatory*. European Commission. https://energy-poverty.ec.europa.eu/observatory

Eurofound, & European Environment Agency. (2023). *The transition to a climate-neutral economy: Exploring the socio-economic impacts*. Publications Office of the European Union.

European Commission. (2016). *European value changes: Signals, drivers, and impact on EU research and innovation policies*. Publications Office of the European Union.

European Commission. (2022). *2022 Strategic foresight report: Twinning the green and digital transitions in the new geopolitical context* (COM(2022) 289 final).

European Commission. (2023). *Towards a fair and sustainable Europe 2050: Social and economic choices in sustainability transitions*. Publications Office of the European Union.

European Commission. (2024a). *Energy poverty*. https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/energy-poverty_en?utm.com

European Commission. (2024b). *Ninth report on economic, social and territorial cohesion*. Publications Office of the European Union.

European Commission. (2025, October 9). *Commission provides new guidance to Member States on implementing the Social Climate Fund*. Directorate-General for Employment, Social Affairs and Inclusion.

European Parliament Research Service. (2024). *The future of EU cohesion: Scenarios and their impacts on regional inequalities*. European Parliament.

Maguire, D., & Shaw, C. (2021). *Fair energy transition for all: Literature review*. Climate Outreach.

OECD. (2024). *Pricing greenhouse gas emissions 2024: Gearing up to bring emissions down*. OECD Publishing.

OECD. (2024b). *Reshaping climate governance through democratic innovation*. OECD Publishing.

Reuters. (2024, Ocotber 24). *Europe's data centre power demand expected to triple by 2030, McKinsey report says*. https://www.reuters.com/technology/europes-data-centre-power-demand-expected-triple-by-2030-mckinsey-report-says-2024-10-23/

Sabato, S., Büchs, M., & Vanhille, J. (2023). *A just transition towards climate neutrality for the EU: Debates, key issues and ways forward* (OSE Paper Series, Research Paper No. 52). European Social Observatory.

Wettengel, J. (2025, September 8). *Polls reveal citizen support for climate action and energy transition*. Clean Energy Wire. https://www.cleanenergywire.org/factsheets/polls-reveal-citizens-support-energiewende

ANNEX

Long list of 24 Trends

Governance, Public Participation and Trust

This category covers trends that determine how fair transition decisions are made, implemented, and contested. It focuses on transparency, inclusion, public trust, and the legitimacy of climate governance.

1. **Public trust in transition governance shifts from national to local actors:** Public confidence in national institutions to manage the green and social transition is weakening amid rising polarisation and online misinformation. At the same time, citizens increasingly engage through local initiatives, community projects, and participatory processes where outcomes feel more tangible. This shift is redistributing legitimacy within the transition, making local and civic actors as well as participatory practice central to sustaining public trust.
2. **Local implementation capacity gains importance in fair transition governance:** As transition policies multiply and intersect across sectors, effective delivery increasingly depends on the capabilities of local and regional authorities. These actors must coordinate complex measures, interpret evidence, and engage citizens in decision-making. Capacity-building, peer learning, and adaptive governance approaches are therefore becoming central to ensuring that fairness objectives are achieved on the ground.
3. **Social dialogue and collective negotiation regain importance in transition policymaking:** Governments, employers, and unions increasingly negotiate how to share the costs and benefits of structural change. Alongside these formal arenas, community projects and citizen networks (from local energy cooperatives to repair movements) are gaining visibility, broadening who shapes fairness in Europe's evolving green transition.
4. **Fairness principles become embedded in legal and regulatory frameworks:** Fairness is moving from a policy add-on to an integrated and enforceable norm. EU and national instruments now embed social and distributional objectives in their design, while new legal rulings and binding standards make governments accountable for unequal transition impacts.
5. **Cultural narratives and emotions increasingly influence acceptance of transition policies:** Ideas of who "owes" what in the green transition are shifting. Emotional responses such as hope, fatigue, and resentment influence acceptance of change, while fairness debates move from individual sacrifice toward shared responsibility among citizens, governments, and businesses. This evolving cultural narrative now strongly affects public support for the transition.
6. **Debates on transition pace reshape ideas of fairness:** Across Europe, disagreements over the speed of climate and social transformation are becoming more visible in public discourse. Tensions between rapid decarbonisation and social continuity increasingly shape policy choices and narratives of what constitutes a "fair" transition.

Social Protection, Households and Vulnerabilities

This category covers trends that shape how the transition affects people's daily lives, living costs, and exposure to new risks. It connects social protection, redistribution, and affordability as the foundations of perceived fairness.

1. **Fiscal policy increasingly integrates climate and social objectives:** European governments are aligning tax, spending, and welfare systems with climate and fairness goals. Fiscal frameworks now link transition investment and social protection, while limited budgetary space constrains how far this alignment can progress.
2. **EU carbon pricing extends to buildings, transport, and imports:** The EU is extending carbon pricing to buildings, transport, and imports, making firms more accountable but households unevenly affected. Lower-

income and high-energy-need groups bear higher costs, while fairness depends on how well revenues are distributed through social compensation schemes.

3. **Energy poverty becomes a core target in EU climate and energy policy:** Once a niche concern, energy poverty is now a core EU policy target. Member States must identify and address it in their energy and climate plans, with new laws requiring concrete measures to support vulnerable households and ensure a fair transition toward climate neutrality.
4. **Climate-risk insurance becomes less affordable for vulnerable communities:** Floods, droughts, and storms are driving up insurance costs, leaving low-income and high-risk regions increasingly uninsured. As the protection gap widens, governments explore public–private and EU-wide solutions to keep climate-risk coverage fair and accessible.
5. **Access to sustainable technologies and mobility expands unevenly across society:** Opportunities to participate in the green transition are growing through cleaner transport, home renovation, and green finance schemes. However, adoption remains concentrated among higher-income and urban households, while low-income and rural groups face higher upfront costs and administrative barriers. As access gaps persist, fairness in the transition increasingly depends on targeted support for disadvantaged groups.
6. **Food-system transitions reshape production and pricing structures:** Sustainability standards, new dietary patterns, and carbon pricing are transforming how food is produced, distributed, and priced. Farmers face rising costs linked to compliance and adaptation, while consumers experience growing price sensitivity. These shifts are reconfiguring economic relationships along the food chain and raising new questions about fairness and support within the transition.

Work, Industry & Economic Transformation

This category covers trends that reshape how Europe produces, employs, and competes in a decarbonising economy. It highlights how fairness is negotiated through jobs, skills, gender equality, and regional industrial change.

1. **New technologies and the green transition outpace Europe's ability to reskill workers:** Technological change and decarbonisation are reshaping jobs faster than education and training systems can adapt. Demand for new technical and analytical skills is rising, yet persistent skill gaps and uneven access to learning risk leaving many workers behind in the green-digital transition.
2. **Transitions increasingly affect gender inequalities in the labour market:** Women remain more exposed to energy poverty, job insecurity, and barriers to reskilling in the green economy. EU and national policies increasingly promote gender equality and intersectional approaches to ensure that the transition's benefits and opportunities are shared more equally.
3. **Industrial decarbonisation concentrates benefits in advanced regions and sectors:** Hydrogen and low-carbon technologies are expanding rapidly, but capital-rich regions and established industries capture most benefits. Less advantaged areas face challenges accessing funding, jobs, and innovation.
4. **EU funding mechanisms increasingly embed social and regional fairness criteria:** The EU now links green investment and state aid to job protection, reskilling, and social dialogue. This shift seeks to balance benefits across regions and sectors, though wealthier areas still capture more opportunities and vulnerable regions risk being left behind.
5. **EU climate policy extends into carbon-removal and supply-chain markets:** New EU rules on carbon removals and critical-mineral sourcing create markets that shift who pays and who benefits from environmental action. While they improve transparency and labour standards, they also raise costs for developing-country suppliers, testing global fairness in Europe's green transition.

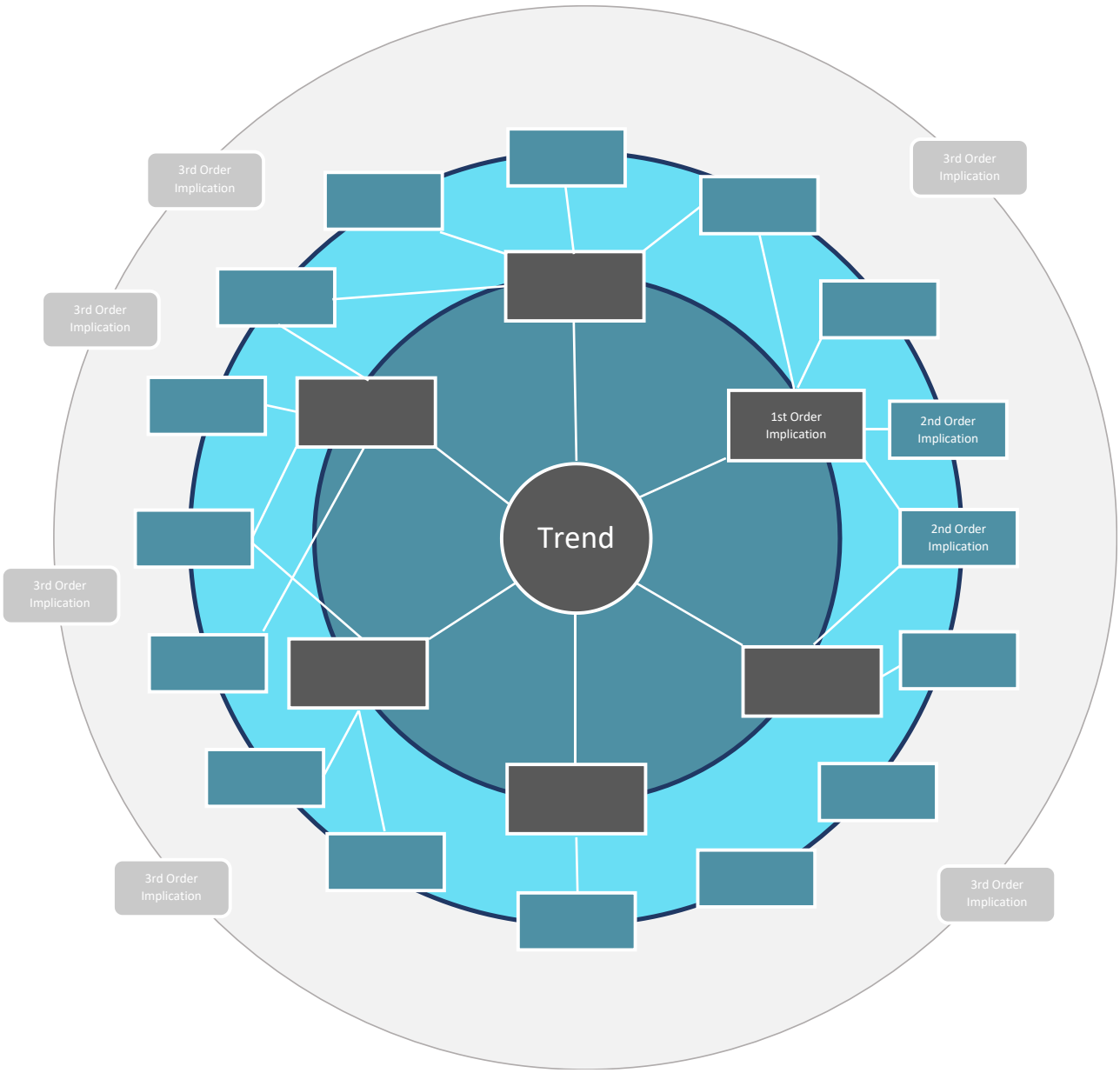
6. **The green–digital nexus emerges as a defining driver of transformation:** Digitalisation is enabling cleaner production and smarter resource use, while increasing energy demand and inequality risks. The interaction between the two transitions is reshaping competitiveness and social outcomes.

Infrastructure, Territories & Systemic Interdependencies

This category covers trends that reveal how structural conditions (energy systems, spatial divides, and global linkages) affect fairness across regions, generations, and sectors. It links systemic capacity with solidarity and long-term resilience.

1. **Climate impacts are accelerating faster than Europe's adaptation capacity:** Heat, droughts, and floods are intensifying faster than Europe can adapt. Limited funding and uneven protection leave poorer regions and vulnerable groups most exposed, raising urgent questions about fairness, compensation, and solidarity in climate adaptation.
2. **Grid bottlenecks create new fairness gaps in Europe's energy transition:** Renewables, electric vehicles, and data centres are expanding faster than power networks can handle. Regions with weak grids face higher prices and slower access to clean energy, making faster investment and inclusive planning essential for an equitable transition.
3. **Governance shifts from sectoral policies to integrated transition management:** Policymaking is moving beyond separate climate, social, and economic silos toward systemic approaches that connect environmental, social, and territorial goals. Cross-sectoral coordination and design-based methods are increasingly used to plan and deliver fair, long-term transitions.
4. **Intergenerational and demographic change reshape expectations of fairness:** Fairness debates increasingly link duties to future generations with tensions among age groups today. Ageing societies redirect fiscal resources toward pensions and care, while younger Europeans demand investment in climate and skills, redefining how fairness is understood and financed across generations.
5. **New global markets for carbon and critical materials redistribute economic and environmental risks:** Expanding carbon-removal and mineral-sourcing systems are creating new winners and losers in the green economy. These markets shift costs, profits, and environmental risks between regions, testing how fairly global supply chains and climate solutions distribute their burdens and benefits.
6. **Solidarity within the EU weakens as transition costs diverge between regions:** Wealthier regions adapt more easily to climate policies, while poorer ones face steeper costs. Resistance to burden-sharing and EU funding grows, testing the Union's ability to maintain fairness, cohesion, and political stability during the transition.

Futures Wheel Template



Expert Interview Guideline – A Fair Transition towards Climate Neutrality

1. Introduction

- Duration & Structure: Interview will last 30–60 minutes, covering:
  - General perspective on Fair Transitions towards Climate Neutrality
  - Trend validation and refinement
  - Implications for future research
  - Closing & next steps

---

2. General Perspective on the Future of a Fair Transition towards Climate Neutrality

- What do you perceive the most significant shifts shaping the future of a Fair Transition towards Climate Neutrality in Europe?
- Imagine it's ten years from now: What scenarios do you see unfolding regarding a Fair Transition towards Climate Neutrality?

- Are there any important trends we may have overlooked?
- Have you observed any counter-trends or unexpected/surprising developments?
- What's not yet on most people's radar but should be? Could you highlight any emerging or weak signals that may not yet be widely discussed?

---

3. Trend Validation and Refinement

Trend #1 & #2 & #3 (chosen by you as expert): Respective questions for each of the selected trends:

- To what extent do you agree with the trend?
- Is this trend accurate and relevant from your perspective?
- Is it overestimated, underestimated, or missing nuances?

---

4. Implications for Future Research

- How should research in Social Sciences and Humanities address these trends?
- What research priorities do you see to respond to these trends? Where do you see the most critical knowledge gaps?

---

5. Closing & Follow-up

- Is there anything else you would like to add that we haven't covered?
- Is there anything you should've asked that you didn't?
- Can you name additional experts, who we could contact to interview or engage in the Foresight process?
- Follow-up: Would you be open to reviewing preliminary findings or participating in future discussions?
- Next steps