

Global Stakeholder Workshop: *Co-Shaping the Net-Zero Transition*

Workshop Summary



New Pathways for Equitable Climate Action in Line with
the Paris Agreement and Sustainable Development

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1. Introduction

1.1 About NEWPATHWAYS

In line with the Paris Agreement (PA), countries worldwide have pledged to reduce greenhouse gas emissions (GHG) to keep global temperature rise to well below 2°C above pre-industrial levels while striving to limit the temperature increase to 1.5°C above pre-industrial levels. After a temporary reduction of GHG emissions as a result of the COVID-19 pandemic, emissions have rebounded reaching record levels in 2023. It is now evident that a temporary overshoot of 1.5°C is inevitable, making urgent, collective climate action and increased ambition more critical than ever.

The NEWPATHWAYS project aims to overcome the following deadlocks, which drive high global emissions and continued reliance on fossil fuels:

- Limited ambition and weak international cooperation to align Nationally Determined Contributions (NDCs) with the global long-term objectives of the PA;
- Fragmented cross-sectoral coordination, slowing down the necessary emissions reductions;
- Insufficient focus on equity and finance, undermining their role in fostering collective climate action.

NEWPATHWAYS will provide up-to-date scientific information to policymakers and key stakeholders at the international and national levels to strengthen national policies including NDCs and Long-term Strategies (LTSs), ultimately informing the next Global Stocktake (GST) in 2028. The project will do so through combining the **development of next-generation global and national low-emission transformation pathways with a thorough analysis of opportunities, risks, synergies and trade-offs associated with these pathways.**

The project brings together a multidisciplinary team, drawing on expertise from social sciences, economics, and policy analysis, in collaboration with leading global and national Integrated Assessment Modelling (IAM) teams.

1.2 Workshop Overview

This report presents a comprehensive summary of the key insights and reflections from the inaugural **NEWPATHWAYS Global Stakeholder Workshop: Co-Shaping the Net-Zero Transition**, held on 20 June 2025 in Bonn, Germany, and online. The event took place alongside the United Nations Framework Convention on Climate Change (UNFCCC) June Climate Meetings.

The workshop convened over 60 participants, both in-person and virtually, representing a broad spectrum of expertise across climate policy, research and practice. As part of NEWPATHWAYS' commitment to **co-creation**, the workshop provided a platform for stakeholders to shape the research process, ensuring its relevance to real-world policy and implementation. These efforts aim to inform and enhance the Global Stocktake (GST) process in 2028.

Structured around a **World Café-style dialogue**, the workshop engaged participants in interactive discussions on **four thematic areas** (please refer to the visuals in the following section of the report for an overview of key takeaways):

1. Informing the Global Stocktake
2. Addressing Equity in Climate Change Pathways
3. Aligning Climate Action with Development Objectives
4. Challenges in the Policy Implementation of Scenarios

Participants engaged in cross-cutting conversations exploring how science, policy, industry, and civil society perspectives can be integrated into the design of national and global low-emission pathways. Emphasis was placed on aligning these pathways with development and equity goals and translating them into actionable policy inputs for processes such as the GST.

Informing the Global Stocktake

What types of scenarios and their key features best support the Global Stocktake and inform policy engagement?



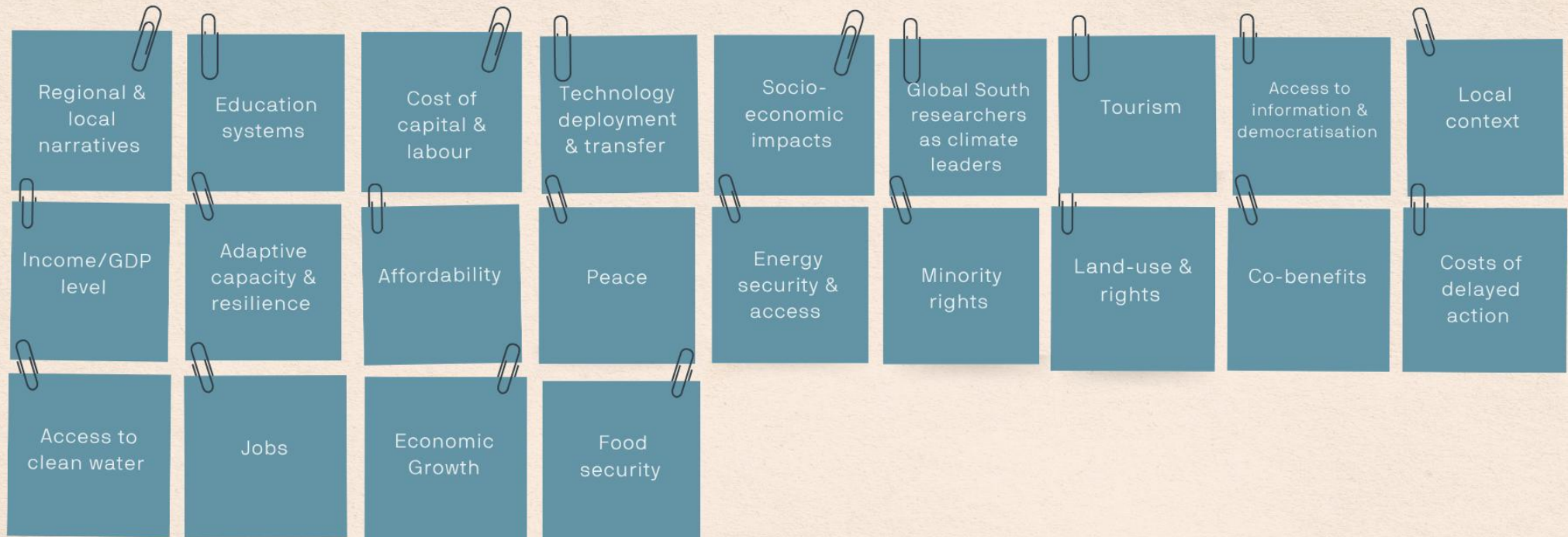
Addressing Equity in Climate Change Pathways

How can climate transition pathways meaningfully reflect equity and justice across different country contexts, responsibilities, and burdens—and provide the information needed for stakeholders to assess their implications?



Aligning Climate Action with Development Objectives

What development priorities are most important for global climate action, and how can mitigation scenarios and research better reflect the diverse needs, barriers, and climate vulnerabilities of countries, especially in the Global South?



Challenges in the Policy Implementation of Scenarios

What challenges and opportunities exist for translating global scenario insights into national policies, especially amid geopolitical shifts and implementation barriers?



2. Workshop Report

2.1. Setting the Tone

The workshop opened with a keynote by the project coordinator, **Dr. Elmar Kriegler** (Potsdam Institute for Climate Impact Research– PIK), who set the tone for the discussions that followed. This presentation introduced the core research objectives of NEWPATHWAYS and how they are grounded in the latest climate science, respond to the dynamics of the evolving multilateral climate governance system, and engage with the implications posed by the 1.5°C temperature overshoot. Dr. Kriegler also outlined how project milestones are planned to align with the climate policy cycle at both national¹ and international levels. These milestones represent key opportunities for ongoing stakeholder engagement over the next few years.

Following the keynote, **Theofania Troupi** (Climate Strategies) facilitated the World Café session. Participants joined one of four thematic tables and rotated every 25 minutes, enabling cross-cutting contributions and layered discussions on each topic. Each table explored the themes listed above, guided by specific questions designed to surface both opportunities and challenges in the co-design of equitable, implementable pathways. The following sections will explore the key takeaways from each theme.



Figure 1. Introduction to the Workshop by Elmar Kriegler and Theofania Troupi.

¹ NEWPATHWAYS will focus on national policy processes of the following countries/regions: Brazil, China, India, Japan, Kenya (with modelling also for Ghana and South Africa), Saudi Arabia (and the wider Gulf region), South Korea, Thailand, the United States of America, Vietnam, the EU and wider Europe.

2.2. Informing the Global Stocktake

Facilitators (in-person): Takeshi Kuramochi (NewClimate Institute), Diamantis Koutsandreas (PIK)

Facilitators (online): Lara Aleluia Reis, Matteo Calcattera (Euro-Mediterranean Center on Climate Change – CMCC)

This conversation focused on the **usefulness of climate scenarios and their role in meaningfully contributing to the GST process**. Participants had the opportunity to reflect on the topic and explore various ways in which future scenario work could be enhanced to ensure that insights of this kind can play a concrete role in shaping ambitious climate policy through the GST process and beyond, to ultimately achieve the objectives of the Paris Agreement.

Guiding questions:

- What types of scenarios are most useful for informing the Global Stocktake?
- What scenario features (e.g., granularity, regional relevance, narratives, path dependency, emission drivers, uncertainty) enhance their usefulness for the Global Stocktake?
- Can you share examples of how scenarios have (or haven't) supported your work or policy engagement?

Key Takeaways from the Discussion:

- To meaningfully contribute to the GST, **scenarios should be tailored to policymakers' needs**, focusing on the **short-term** (e.g. 2030), **sector-specific** (e.g. land use, buildings, industry), **enhanced region/(country)-level insights**, and **actionable pathways** that are aligned with political and investment cycles, and reflect immediate development needs.
- There is a pressing need for **explicit alignment between climate and development objectives**. Pressing development needs, particularly in the Global South, often take precedence over mitigation concerns. This calls for scenarios more explicitly placing development as a central pillar, rather than as a second-order consideration after mitigation. Such a shift would greatly increase the interest of Global South policymakers towards scenarios. Scenarios must leverage metrics focused on well-being, climate damages, local needs, contextual realities, and the co-benefits of integrated climate-development strategies. Moreover, incorporating diverse modelling teams across various regions and backgrounds can assist in reflecting a broad range of narratives and socioeconomic pathways.
- **Finance** is identified **as a cross-cutting priority** that is critical for scenario credibility and relatability for certain stakeholders. Scenarios should reflect

investment needs, cost of capital variations, affordability at country Gross Domestic Product (GDP) levels, financial and technological feasibility at national and sectoral levels, as well as consider the role of the private sector to better define implementable pathways. Furthermore, **international cooperation** in financing mitigation pathway implementation should be a core aspect of scenario design, as highlighted by stakeholders.

- Holistic pathways should account for **adaptation**, as well as address **physical climate risks** (wildfires, droughts, water shortages, floods, heat waves) and **vulnerability** perspectives. Examining these interactions (i.e., synergies and trade-offs) is essential for countries and regions where resilience is a much more urgent concern than mitigation (i.e., regions more prone to climate change impacts).
- Participants highlighted the need for greater **transparency** in scenario assumptions, as well as the incorporation of themes including **equity, historical responsibility, nature impacts, and socio-economic implications**. For instance, one participant commented that the current scenario vetting process in e.g. IPCC process focuses too much on technical robustness, which in the past led to geographically skewed representation of models. Additionally, incorporating this multidimensionality in scenario design can assist in identifying resilient strategies from the perspective of multiple policy objectives.
- Finally, enhanced translation of scenario insights into **concrete and actionable policy recommendations** for public and private sector decision-making can significantly improve their usefulness for the GST. This includes explicitly communicating the uncertainties related to mitigation pathway results and reporting the key drivers behind these uncertainties.

2.3. Addressing Equity in Climate Change Pathways

Facilitators (in-person): Elina Brutschin (IIASA), Ioannis Dafnomilis (PBL)

Facilitators (online): Saritha Sudharmma Vishwanathan (Indian Institute of Management–IIMA), Sam Fankhauser (University of Oxford)

As climate policy moves from ambition to concrete implementation, **equity should be a central consideration in the design of mitigation pathways**. Holistic pathways must embed equity considerations, including differentiated responsibilities and equitable distribution of losses and mitigation burden, to ensure that **no one is left behind** in the transition towards net-zero.

Participants were able to exchange insights on the different ways that equity can be meaningfully integrated into mitigation pathways that can successfully inform international and national climate policy.

Guiding Questions:

- When thinking about fairness and justice in the climate transition, what equity-related issues come to your mind in your work or country context?
- How can climate transition pathways address differentiated responsibilities and equitable distribution of losses and mitigation burden to reflect fairness and justice? What other equity considerations should be reflected in scenarios?
- What information should mitigation pathway studies provide to allow interest holders to assess the implications of the presented mitigation pathways for equity and justice?

Key Takeaways from the Discussion:

- Currently, there are **definitional differences** between *equity, equality, fairness and justice*, terms that have distinct meanings and should not be used interchangeably. Clarity on the definition of equity, and the guiding **equity principles** used in scenarios is important for meaningfully implementing its dimensions and indicators into scenario design. In addition, increased **transparency** on the core assumptions of models, as well as better **communication of available indicators** could enhance their effectiveness in appropriately addressing equity.
- To effectively analyse and quantify equity dimensions, there is a need for **granular analyses** that consider spatial, income (impact by deciles), and demographic dimensions (gender, ethnicity), as well as different economic agents (workers, households, small firms, large firms), and drivers (climate impacts, climate policy).

- Scenarios should better reflect the **development ambitions** of low and middle income countries, **adaptation needs** and **barriers** created by policies of the Global North such as the European Union's (EU) Carbon Border Adjustment Mechanism (CBAM). More attention needs to be paid to international policies that can support sustainable development, including access to finance, knowledge and institutional capacity. Opportunities for **co-creation** with Global South researchers and thought-leaders is crucial to appropriately define and analyse equity concerns.
- National and local circumstances must be captured in **context-specific pathways**, including considerations over different economic structures, development stages, and governance capacity. One-size-fits-all global targets can often seem misaligned from a developing country's perspective (e.g. varying approaches to the fossil fuel phase-out).
- Robust analyses of equity should include **indicators** beyond GDP growth, such as Human Development Index (HDI), energy access, job losses, affordability, geography disparities (urban vs rural), demographics, socioeconomic status, intracountry inequality impacts, and more. The **epistemic dimension of justice** is also important, as non-clarity in scenario development can be a basis for delegitimization.
- Equity-aligned pathways should not only focus on outcomes but also **means of implementation**, including access to finance, knowledge and technology that can support both mitigation and adaptation in vulnerable regions. Participants highlighted the need for plurality of scenarios exploring fair-share, co-benefit-oriented and politically feasible pathways as options.

2.4. Aligning Climate Action with Development Objectives

Facilitators (in-person): Elmar Kriegler, Simon Ravelli (PIK)

Facilitator (online): Vaibhav Chaturvedi (Council on Energy, Environment and Water—CEEW)

This session explored how **climate action can better align with diverse development priorities**, particularly in the Global South. Development priorities and needs vary from country to country and region to region, a reality that needs to be better represented in global and national pathways to achieving the objectives of the Paris Agreement. This session therefore dealt with the identification of such priorities, exploring how they can be better reflected in climate scenarios while paying extra attention to development barriers, climate impacts, and associated mitigation and adaptation needs.

Guiding Questions:

- What development priorities (e.g., energy access, energy security, poverty alleviation, economic diversification) are particularly relevant for global collective climate action?
- How can mitigation scenarios better represent the diverse development perspectives and needs as well as the development barriers faced by countries, particularly in the Global South?
- What research is needed to better understand the adverse impact of climate change impacts on development prospects, particularly in countries of the global South, and associated adaptation and mitigation needs?

Key Takeaways from the Discussion:

- Climate pathways should account for **diverse regional development goals**, including poverty alleviation, food security, energy security, access to water, sanitation and health services, national security, economic diversification and growth, employment opportunities, affordable living costs, social stability and environmental protection.
- Regional narratives, socio-economic diversity and local realities need to be better reflected into global scenarios. **Comparative analyses** across regions could offer valuable insights, but incorporating more research from voices of the Global South and promoting **Global North-Global South collaboration** is key to generating more representative policy inputs. It would be valuable to identify country groups with similar profiles in terms of development needs and goals and use these groups for connecting regional diversity to global analysis. Connecting regional and global narratives can be another powerful tool.

- Participants emphasized that **development priorities should not be secondary to climate goals, but the starting point**, as structural inequalities and rising debt, make it difficult to apply one-size-fits-all solutions. For example, high capital costs and limited financing options in the Global South hinder processes such as the transfer and deployment of technologies developed in the Global North, which are often capital-intensive.
- The climate-development nexus spans **macro-economic** (economic diversification, inequality, unemployment, debt, distributional impacts), **household** (well-being, HDI, energy access, affordable living, just transitions, resilience to climate impacts), and **cross-cutting** (food systems, water security, and air quality) levels. A crucial but underrepresented driver of development and adaptive capacity is **education**, considering its influence on employment, innovation and resilience.
- **There is a need for greater granularity in mitigation scenarios** when it comes to modelling labour and capital costs, specifically in countries with distinct economic contexts. There is a wide spectrum of economic factors, including trade, infrastructure, agriculture, supply chains, that needs to be considered to better understand the implications of climate policies and their development impacts.
- **Adverse climate impacts**, including extreme weather events, biodiversity loss, and resource stress, **must be better integrated in global scenarios and more effectively communicated** (e.g. through impact mapping visuals) to convey their implications for development and the risks of delayed climate action and maladaptation.
- **Epistemic justice and data democratisation** are crucial for meaningful stakeholder engagement and democratic decision-making. Ensuring that information is accessible at all levels and easily understood can enable the participation of all voices, including those from marginalized groups, in order to shape more holistic, locally-driven, inclusive climate policymaking.

2.5. Challenges in the Policy Implementation of Scenarios

Facilitators (in-person): Janna Hoppe (NewClimate) and Elena Hooijschuur (PBL)

While scenario-based research offers valuable insights, **implementing these findings through actionable policies** can be a significant challenge. Addressing these barriers is crucial for designing effective, actionable and policy-relevant pathways. This discussion aimed to identify these implementation challenges and explore potential solutions, with particular attention to the impact of current geopolitical tensions on the uptake and application of scenario-informed policies.

Guiding Questions:

- What key challenges do countries face in translating global scenario insights into effective national policy structures?
- What mechanisms (or tools) could support scenario-informed policy design and implementation at the national level?
- How might trends like geopolitical fragmentation or deglobalization shape the feasibility of implementing mitigation pathways?

Key Takeaways from the Discussion:

- The implementation of scenario-based findings into concrete climate policies may be hindered by a lack of **political will and the prioritisation of other national interests**. For developing countries in particular, competing development objectives, and wide disparities in development levels make socioeconomic growth a priority.
- The **absence of technical capacity, limited data availability and insufficient technical expertise**, followed by **limited coordination** among ministries and government level, pose significant challenges to successful policy implementation.
- **Rising geopolitical tensions, protectionism, and decreasing climate finance** may lead to a shift toward national self-interest, which further limits the international cooperation necessary to operationalise ambitious mitigation pathways.
- Selected **case studies and cross-country collaboration** can facilitate knowledge exchange and mutual learning, while **sharing best practices** could help countries overcome implementation hurdles.
- **Diverse and inclusive stakeholder engagement** spanning sectors, disciplines, and governance levels, is critical for strengthening coordination and improving implementation results.

- **Decentralising climate action by translating national climate responsibilities into regional and local implementation strategies** is critical for ownership and impact at the community level, as well as for effective implementation.
- **Key enablers** for effective implementation include setting **sector-specific targets**, enhancing **civic education**, increasing **transparency on capital flows** and improving **visibility of the costs and benefits** of particular climate mitigation pathways and strategies.



Figure 2. Workshop Participants during the World Café Discussion.

What's Next

The insights gathered during the inaugural stakeholder workshop of the NEWPATHWAYS project, as presented in this report, will be **carefully analysed and will directly inform the next phases of research**. These findings will contribute to the development of both national and global transformation pathways throughout the project's lifecycle.

Looking ahead, the **NEWPATHWAYS Global Stakeholder Workshops** will continue in 2026 and 2027, strategically aligned with the UNFCCC June Climate Meetings in Bonn. In parallel, a series of **national and regional workshops** will be held in Brazil, India, Vietnam, Kenya (representing Africa), and Europe. These workshops will ensure the integration of national perspectives into country-specific low-transformation pathways, while also examining the intersections between global and national scenarios, the feasibility of sectoral transitions, and the application of just transition principles in diverse contexts.

To support broader engagement and application of project insights, NEWPATHWAYS will implement a series of **capacity-building activities**. These activities intend to enhance the understanding and usability of project-generated knowledge and tools among a diverse range of stakeholders, from non-specialist audience to decision-makers. The activities will aim to communicate the scientific outputs of the project, as well as foster their uptake in policy, industry and practice. The capacity-building activities are structured around two core components: a **tool training week**, and a **webinar conversation series**.

To stay updated on our events, publications and research outputs, we invite you to **subscribe to our [newsletter](#)**. You will receive timely updates and details regarding registration for upcoming activities. You can also visit the **NEWPATHWAYS [website](#)** and follow us on [LinkedIn](#), and [Bluesky](#) to learn more about the project.

About Us

NEWPATHWAYS aims to provide up-to-date scientific information to policymakers and key stakeholders at the international and national levels to strengthen national policies including Nationally Determined Contributions (NDCs) and Long-term Strategies (LTSs), ultimately informing the next Global Stocktake in 2028. The project will do so through combining the development of next-generation global and national low-emission transformation pathways with a thorough analysis of opportunities, risks, synergies and trade-offs associated with these pathways.



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