PLANETARY
Health Cluster

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# Policies to enhance citizen understanding of planetary health and its impacts on health and wellbeing

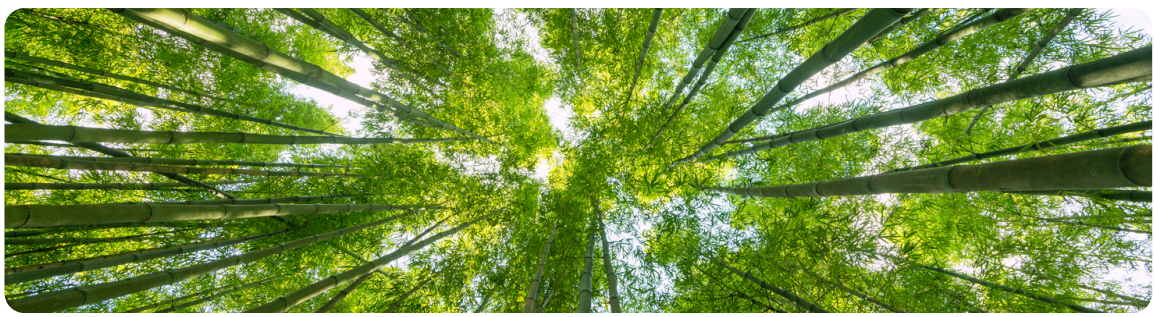
# Summary

Planetary health provides a framework for understanding how breaches of key planetary boundaries, such as climate change, pollution, and ecosystem degradation, are increasingly undermining human health and wellbeing globally. These pressures have disproportionate impacts on vulnerable populations, widening health inequalities and increasing long-term societal risks.

The EU has established an ambitious policy strategy to tackle planetary health concerns through initiatives such as the European Green Deal and the 8th Environmental Action Programme. However, progress towards 2030 climate and environmental targets remains uneven.

A key barrier to effective action is the limited public understanding of the links between environmental change and health, combined with the complexity of addressing interconnected environmental and social drivers through policy. Strengthening planetary health literacy and focusing on upstream environmental determinants of health can help bridge this gap by improving policy uptake, coherence, and resilience.

This policy brief calls for increased investment in public awareness and planetary health knowledge, and for applying a planetary health framework to support preventive, integrated policies that protect both human health and the environment across the EU.



# What's at stake?

**The planetary health framework highlights that human health and wellbeing depend on the integrity of Earth's natural systems.** It links health outcomes to broader environmental conditions, including climate stability, biodiversity, land use, freshwater availability, pollution, and food systems.

**Human health is increasingly harmed by climate change, environmental pollution, and the degradation of natural ecosystems** (Romanello et al., 2024). Although these pressures affect all populations, their impacts are uneven. Existing social, economic, and health vulnerabilities increase exposure to environmental risks and limit the capacity of some groups to adapt, widening health inequalities. Addressing these disparities is essential for policies that aim to protect health and strengthen resilience as environmental threats intensify.

Central to this approach is the recognition that human development depends on the effective management of the natural resources on which societies rely, and on remaining within key *planetary boundaries* that define a safe operating space for life on Earth. Unfortunately, evidence indicates that several of these boundaries have already been exceeded, increasing the risk of severe and potentially irreversible impacts on health and wellbeing.


*Planetary boundaries framework: in 2025, out of 9 boundaries, 7 were crossed.*
*Source: Stockholm Resilience Centre*

**To date, global climate and environmental action remains insufficient to prevent escalating health risks.** A planetary health lens helps to show how multiple environmental crises at a planetary scale converge to affect human health and wellbeing, alongside global security and economic prosperity.

By explicitly connecting health outcomes to environmental drivers, it supports integrated, cross-sectoral policies, helps avoid shifting harm between policy domains, and highlights co-benefits across health, climate, and environmental objectives. Strengthening this approach is therefore critical to accelerating policy uptake, enhancing preparedness, and establishing international collaboration to reduce future public health risks.

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# Key challenges

Despite increasing policy attention to climate, environment, and health, two key challenges continue to limit the design and uptake of climate and environmental-related policies.

1 **Citizen understanding and engagement**

Planetary health concepts can be difficult for citizens to understand, particularly when links between environmental change and health are complex. While climate change is often discussed in public debate, connections to other environmental factors, such as biodiversity loss, pollution, land-use change, and food systems are often less visible. This can make it hard for citizens to relate planetary health–based policies to everyday concerns, including cost of living, employment, and access to public services.

2 **Difficulty defining and addressing the complexity of planetary health**

Planetary health draws attention to the close links between environmental conditions, social factors, and human health and wellbeing, which are often indirect, cumulative, and shaped by multiple underlying drivers. As a result, understanding how different pressures interact and contribute to health outcomes can be challenging. This complexity can make it harder to identify shared root causes and to design responses that address multiple issues at the same time.

In this policy brief, we focus on **citizen understanding and engagement** with planetary health.

# The importance of public awareness and knowledge

**Public awareness and knowledge play an important role in shaping how environmental and health policies are understood, supported, and acted upon.** In the context of planetary health, this includes not only awareness of environmental risks, but also the ability to understand how these risks relate to health and wellbeing, to assess information critically, and to engage with collective responses.

**Across the European Union, evidence points to persistent gaps in awareness and competencies related to the links between environmental change and health,** particularly where pathways are complex or non-linear (EEA, 2024; IPCC, 2023). While climate change is increasingly recognised as a major societal risk, understanding of the wider set of planetary determinants of health, and of how they interact, remains more limited (Mago et al., 2024). This can limit support for integrated and preventive approaches and reduce engagement with policies addressing long-term or less visible risks.

Recent research has highlighted planetary health literacy as a useful concept for capturing the combination of knowledge, skills, values, and agency needed to engage with the health implications of human–environment interactions (Jochem et al., 2023a; Jochem et al., 2023b). This perspective extends beyond individual awareness to include systems thinking, ethical considerations, intergenerational responsibility, and capacities for collective action, which are not evenly distributed across populations (Jochem et al., 2024).

Limited wide-scale understanding of planetary health intersects with broader social and economic inequalities and patterns of misinformation exposure, shaping who is able to engage with and benefit from planetary health-related policies (EEA, 2023).

**Strengthening public awareness and knowledge is therefore increasingly recognised as a strategic lever for supporting policy uptake and long-term resilience.** Education, knowledge, and participatory learning approaches are important for fostering informed decision-making, agency, and behavioural change in the context of planetary and human wellbeing (White et al., 2024). Recent calls for coordinated approaches to planetary and One Health literacy further emphasise the need for cross-sectoral action spanning formal education, lifelong learning, science communication, and citizen engagement to support effective and equitable policy implementation (Jochem et al., 2025).

# Policy landscape: what is already in place

## EU policy framework

**The European Union has established a comprehensive climate and environmental policy architecture, centred on the European Green Deal.** Launched in 2019, the Green Deal is the EU's central growth strategy, legally committing the Union to climate neutrality by 2050 and aiming to transition to a resource-efficient, competitive economy operating within planetary boundaries. Protecting human health and wellbeing from environmental risks is a core objective across its initiatives.

This framework is reinforced by the 8th Environmental Action Programme, which sets the long-term vision of “living well, within planetary boundaries” by 2050 and defines priority objectives for 2030 for climate mitigation and adaptation, biodiversity, pollution prevention, circular economy, and sustainable production and consumption.

## Progress and implementation gaps

Progress has been made in selected areas by EU countries, notably improvements in air quality and enhancing the green economy. However, according to assessments by the European Environment Agency, progress towards the EU’s 2030 climate and environmental targets remains uneven. The EU is currently off track in key domains, including climate change adaptation, biodiversity and ecosystems, circular economy, and sustainable consumption and production. **Without accelerated and coordinated action, the EU risks missing both its 2030 targets and its 2050 vision.**

## Public awareness and capacity-building initiatives

At the international level, Action for Climate Empowerment under the UNFCCC provides a binding policy mandate for education, public awareness, participation, and access to information on climate change, supporting societal engagement with environmental health risks. The WHO has similarly advanced policy guidance integrating environmental and planetary health awareness into public health systems and governance.

Within the EU, expert and advisory bodies have called for coordinated communication strategies and education and training programmes across formal education, professional development, and public outreach. These efforts are supported by EU funding instruments such as Erasmus+, research and innovation programmes, and health initiatives. Policy-aligned capacity-building programmes, including climate and health literacy training for professionals, demonstrate the potential for scaling awareness and skills development (Mazumder, H. (2024); Chen, T. T., et al. (2025).

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**The EU has a strong policy framework and growing awareness initiatives in place**. However, the persistent gap between policy ambition and implementation highlights the **need for accelerated action, stronger cross-sectoral integration, and enhanced public awareness** and knowledge to support policy uptake, behavioural change, and long-term impact.

# Recommendations for action

**The Horizon Planetary Cluster is committed to generating the knowledge and tools needed to integrate human health considerations with the natural environment and ecosystem sustainability.**

The Cluster aims to generate evidence not only to inform high-level policy making within EU institutions and Member States, but also to strenghten societal understanding as a whole. In this context, two priority actions are recommended.

**Action 1**

## Strengthen citizens' understanding of the links between environmental change and health

Improve public understanding by identifying barriers to awareness and scaling successful examples of citizen engagement with planetary health. Clear, targeted communication is needed to translate complex concepts into tangible health benefits that resonate with citizens' everyday concerns. More concerted action is therefore required to identify and address knowledge constraints, strengthen public support for policy measures, reduce resistance to necessary transitions, and thereby foster shared ownership of environmental and health objectives.

**Action 2**

## Target upstream planetary determinants of health to design effective policies and protect both people's health and the environment

Use the planetary health framework to identify and address the root causes and dynamic patterns of risk shaping health outcomes. Policies should prioritise prevention by reducing environmental pressures at source, rather than focusing on downstream health impacts. Mitigating the impact of environmental degradation on health requires the protection of our planetary boundaries. The greatest health and environmental gains come from transforming systemic processes, starting at the design stage, towards cleaner, more sustainable, and circular economic models.

# Using science to support effective policy

The Planetary Health Cluster, launched on 2 July 2024, brings together the GoGreen Next, SPRINGS, TULIP, MOSAIC and PLANET4HEALTH projects, generating the evidence, tools and capacity needed to support policymaking and societal transformation towards living well within planetary boundaries.

Together, these projects are putting the planetary health approach into practice by advancing the policy recommendations in this brief through concrete actions that strengthen public awareness and planetary health literacy.

GoGreen Next supports cities and regions to achieve their climate ambitions. Through a combination of nature-based solutions and technological interventions, including virtual reality of future scenarios, the focus is on realising the co-benefits of climate mitigation strategies for planetary health.

In GoGreen Next, citizens can track their exposure to green space via an accessible app and engage in surveys and walking interviews. In this way, awareness is turned into evidence and shared learning.

MOSAIC explores how operationalising Open Science can support the implementation of holistic and transdisciplinary approaches, focusing on cross-border populations in East Africa and the Amazon and engaging them in the co-development of solutions to planetary health challenges.

A core feature of MOSAIC is the co-design of information ecosystems with local stakeholders who are actively involved in knowledge co-production, indicator building, and implementation.

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PLANET4HEALTH deepens understanding of how environmental degradation impacts human, animal, and ecosystem health. The project supports policymaking processes while raising citizen awareness on sustainable planetary health policies and adaptation and mitigation strategies.

PLANET4HEALTH is engaging in innovative communication strategies to connect project partners and end-users to support greater citizen understanding of the links between the environment and health.

SPRINGS

SPRINGS measures and projects how climate change affects water quality and quantity, and how these changes alter the risk of waterborne diarrheal disease. The project identifies policies and interventions to reduce disease burden now and in the future.

SPRINGS recognises that listening to people directly affected by climate and environmental change is essential to understand its real impacts, alongside formal quantitative modelling. The project uses several forms of citizen engagement, including visual storytelling, to give young people a voice on how they perceive climate risks and health challenges.

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TULIP

TULIP investigates how plastic pollution contributes to antimicrobial resistance (AMR), particularly as both are influenced by climate change in aquatic environments. The project explores human exposure pathways, examines socio-ecological and behavioural patterns, and co-designs community-tailored interventions alongside policy recommendations.

TULIP includes a citizen science campaign to build understanding that plastic pollution not only contaminates water, but also enters food chains and affects human health. This type of engagement validates a planetary health framing of interconnected stressors and supports upstream policies.

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# PLANETARY Health Cluster

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Go Green Next · MOSAIC · PLANET 4HEALTH · SPRINGS · TULIP

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