



EEB Background paper on the upcoming Climate Resilience and Risk Management Integrated Framework

20 February 2026

Summary

Climate resilience cannot compensate for failure to mitigate. Climate mitigation must remain a pre-requisite for building resilience. A credible EU framework for climate resilience must prioritise risk prevention, ecosystem integrity and restoration, and social justice through governance reform, while aligning economic governance with a fossil-free future.

Thus, we urge the European Commission to propose a new legal instrument as part of its *Climate Resilience and Risk Management Integrated Framework*, requiring Member States to develop National Adaptation Plans in line with the following principles:

- Work with nature to help people adapt, in order to maximise all the co-benefits that nature-based solutions, including nature restoration provide – for water, food security, health and more. Nature is our most powerful allies in tackling the climate crisis, and healthy ecosystems are foundational to social climate resilience. Adaptation investments can also contribute toward urgently needed nature restoration.
- Prevent harming nature when planning and implementing mitigation and adaptation measures. Ensure enforcement and implementation of the existing environmental acquis and refrain from weakening them via rash unsound simplification that would hamper their smart implementation.
- Help ecosystems adapt to climate change by enhancing biodiversity, ecosystem connectivity, and natural dynamics for strengthened resilience.
- Support the most vulnerable groups first by providing support, from participation to financial and technical, to households and communities that are most exposed to climate risks and with the least resources to adapt.
- Work at system scale, based on science, to build resilience to climate change.
- Risk management must be systemic, inclusive and participative.
- The Framework must be binding and enforceable, not a coordination exercise, supported by funding and increased institutional capacity.

- I. Climate mitigation first – ensure non-regression, the full enforcement and implementation of EU environmental legislations and address harmful actions and activities
 - a. Fundamental EU environmental law principles and existing climate and environmental standards and legislations are the basis for any credible EU Climate Resilience and Risk Management Integrated Framework

Healthy ecosystems are the cornerstone of both climate mitigation and climate adaptation and should be recognised as the basis for climate adaptation and resilience. Wetlands, forests, soils, rivers and lakes, glaciers and marine ecosystems in good shape ensure healthy biogeochemical and natural cycles, storing carbon, regulating water cycles, reducing flood and drought risks, acting as buffer against heat extremes and protecting coastal zones. Their degradation not only weakens Europe’s capacity to mitigate climate change, but also significantly increases exposure to climate hazards, leading to higher economic, social, and environmental costs; thus, reducing resilience and capacity to adapt to climate change impacts. Climate resilience cannot be achieved without maintaining and restoring ecosystem integrity.

The EU already has a comprehensive legal framework to protect these ecosystems, notably through the Water Framework Directive (WFD), the Floods Directive (FD), the Marine Strategy Framework Directive (MSFD), the Birds and Habitats Directives (BHD), the Soil Monitoring Law (SML), the EU Deforestation Regulation (EUDR) and, more recently, the Nature Restoration Regulation (NRR). These instruments directly contribute to climate mitigation and adaptation objectives by safeguarding carbon sinks, ensuring functional hydroecological systems and enabling Nature-based Solutions (NbS) at landscape or river basin level but actions need to step up and happen at scale. **The EU Climate Law**, which aims at reducing emissions by at least 55% by 2030 (compared to 1990 levels) and climate neutrality by 2050, is a crucial tool to ensure policy coherence and tackle climate and environmentally harmful activities and subsidies. **It is also essential to achieve climate targets and develop adaptation measures as further sector-specific policies**, such as the Energy Performance of Buildings Directive (EPBD) and the Energy Efficiency Directive (EED).

The *EU Climate Resilience and Risk Management Integrated Framework* should therefore build on and reinforce the implementation and enforcement of existing climate and environmental legislations. On-going simplification/deregulation efforts of environmental and social legislation through the Environmental Omnibus and other Omnibuses (CSRD, CSDDD for instance) are undermining the EU preparedness to climate change by creating loopholes and weakening



environmental rules under the guise of competitiveness. On the one hand, deregulation destabilises public and corporate actors that have started their sustainable transition and nullifies their positive actions; on the other hand, it disincentivises the others to undertake meaningful actions.

Persistent lack of implementation of those legislations increases the cost of climate inaction¹, as degraded ecosystems not only drive climate change but also amplify climate impacts and require expensive emergency responses and bigger grey infrastructure (urban, water and waste networks, energy grids, etc.) investments. Non-implementation of environmental legislation (the cost is estimated at 180 billion euros/year or 1% of EU GDP)² also has long-term impacts on the costs caused by climate damage and maladaptation. **Environmental legislation is crucial to reduce the current need for 70 billion euros per year of investment by 2050³ in climate action.**

Fundamental EU environmental law principles, such as the polluters pay (art. 191(2), TFEU), the precautionary (art. 191(2), TFEU), rectification at source (art. 191(2), TFEU) and non-regression⁴ principles, constitute the paramount to address the cost of inaction and persistent implementation delays and gaps. **Applying these principles consistently would ensure that the economic burden of ecosystem degradation and climate risk is borne by those responsible, rather than shifted to public budgets and future generations.** Non-regression, in particular, means that EU institutions may not weaken the current level of environmental and climate protection through abolishing or changing any legislative or policy measures, such as the weakening or postponement of environmental standards, which often leads to higher long-term costs and increased climate vulnerability.

The EU also has an historic responsibility towards other regions and countries, especially climate vulnerable and historically exploited countries faced with instrumentalised structural inequities, due to its colonial past, the amount of waste and emissions it has generated, still generates and exports, and the importance of abroad value and production chains on which the EU depends. The EU has therefore a moral obligation to comply with both EU climate and environmental laws, and international conventions, treaties and agreements to which it is party such as the Paris Agreement or the UNFCCC. The ETS, while not being a perfect mechanism, has contributed to a

¹ 5.6 trillion euros by 2050 and countless human and non-human deaths. <https://euobserver.com/39856/climate-inaction-could-cost-europe-e5-6-trillion-by-2050-study-finds/>

² https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1747

³ https://climate.ec.europa.eu/news-other-reads/news/eu-needs-invest-eu70-billion-year-climate-adaptation-2050-2026-01-23_en

⁴ The environmental non-regression principle is not explicitly enshrined in the EU Treaties, but the Court of Justice of the European Union has a tradition of recognising unwritten principles. According to our legal analysis, the non-regression principle can be derived from a combined reading of the environmental provisions in Articles 11, 191 of the Treaty on the Functioning of the European Union, Article 3 of the Treaty on European Union, and Article 37 of the Charter of Fundamental Rights. It can also be derived from the EU values listed in Article 2 of the Treaty on European Union.

reduction of emissions from covered sectors by roughly 40% compared to 2005 levels, while generating significant revenues for Member States to reinvest in climate and energy transition measures. The ETS must be pursued and improved to support climate targets' objectives, not dismantled.

An *EU Climate Resilience and Risk Management Integrated Framework* will only be credible if it's anchored in the full and timely implementation of climate and environmental law. Preventing ecosystem degradation and restoring nature is not an optional add-on, but a prerequisite for effective and cost-efficient climate resilience in the EU, protecting both current and future generations and especially the most vulnerable and therefore marginalised ones. **Further, it also needs to include a legal requirement to develop National Adaptation Plans (NAPs) with additional measures based on ecosystem-based adaptation.**

b. Address inadequate funding: shift public environmentally harmful subsidies towards nature restoration and climate adaptation and strengthen environment and climate in the next MFF

Environmentally harmful subsidies in Europe and worldwide remain a significant barrier to enhancing climate resilience, locking in maladaptive practices and undermining the very policies designed to reduce risk. Current environmentally harmful subsidies in the EU amount to 60% of the current Common Agricultural Policy (CAP) or 32.1 billion euros/year⁵, and to 98% of fossil fuel subsidies (FFS) or 120 billion/year (2022)⁶. According to the Environmental Implementation Review 2025, €37 billion are needed annually only to restore and protect biodiversity in Europe, and there is a €122 billion investment gap to meet environmental legislation objectives overall⁷. While each euro invested in nature restoration adds €4 to €38 in benefits⁸, environmentally harmful subsidies continue to deepen the nature financing gap and undermine any conservation and restoration efforts that are undertaken.

Despite the obligations under the Paris Agreement and the EU Climate Law, and the current estimated delays for achieving 2030, 2040 and 2050 targets, the proposal for the next Multiannual Financial Framework (MFF) 2028-2034 includes a 35% spending target for both environment and climate and no longer includes a dedicated earmarking for biodiversity. We believe that **co-legislators need to ensure that 50% of the overall next EU budget is dedicated to genuine**

⁵ <https://www.wwf.eu/?13738416/Member-States-use-billions-of-EU-subsidies-to-fund-nature-harming-activities---new-WWF-study>

⁶ https://economy-finance.ec.europa.eu/document/download/0ae8556a-14a3-4ac9-840f-7f86a5c58521_en?filename=dp214_en.pdf

⁷ https://environment.ec.europa.eu/publications/2025-environmental-implementation-review_en

⁸ https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-regulation_en

climate and environmental and just transition investments accompanied by at least 10% earmarking for biodiversity. The LIFE programme, one of the most performant funding instruments for more than 30 years, is being disrupted and fragmented in a way that will most likely hinder proper nature conservation and restoration and the research and capacity development that are needed.

The MFF should also include a **binding exclusion list under the “Do No Significant Harm” principle for activities benefiting from EU funds**, preventing investment in activities that worsen biodiversity loss, water stress, and climate vulnerability. Such a list, complemented by strict conditionalities requirements, should guide the allocation of cohesion funds, CAP payments, recovery funding and sectoral transition support, ensuring that financial flows are aligned with resilience outcomes rather than short-term productivity or competitiveness. Regarding CAP payments in particular, a strong DNSH criteria would be key for all activities as conditionality rules on CAP payments have been severely weakened by two successive so-called ‘simplification’ rounds, which have been further continued in the post-2027 CAP proposal, through weak and vague ‘Protective Practices’. Redirecting existing subsidies towards climate- and nature-positive solutions will reduce the pressure on public finances by decreasing the need for costly emergency responses.

Although private finance can complement public investment, **excessive reliance on market-based instruments such as nature credits carries substantial risks.** Poorly regulated carbon or nature credit schemes lead to the commodification and financialisation of ecosystems, treating forests or wetlands as tradable assets subject to market volatility and speculative trading. Law enforcement and implementation, such as the NRR, can’t rely on private funding mechanisms only and substantial, long-term and timely public investment must be mobilised..

Resilience finance must prioritise measures that deliver both risk reduction and social benefits — early warning systems, robust civil protection, nature-based solutions, and climate-resilient infrastructure such as housing, water systems and public health capacity. These investments are not only essential for reducing vulnerability to floods, droughts, heatwaves and other climate hazards, but also for safeguarding communities, particularly low-income and marginalised groups that face disproportionate exposure and limited adaptive capacity. Public funding instruments should therefore be designed with social justice and inclusiveness at their core, ensuring that the transition to resilience leaves no one behind.

Bank and insurance sectors play a crucial role in shifting the EU and the world from a fossil-fuel economy to a fair, sustainable, and climate-resilient one. Insurance so far covers on average only 25%⁹ of economic losses caused by climate disasters but with great disparity among countries¹⁰,

⁹ <https://www.insuranceeurope.eu/news/3191/climate-change-eu-report-proposes-ways-to-tackle-insurance-protection-gap>

¹⁰ <https://www.ecb.europa.eu/ecb/climate/climate/html/index.en.html>

leaving people, SMEs and governments exposed, especially in regions with higher risks. With climate impacts costs equivalent to several hundreds of billion euros each year¹¹, a number that continues to multiply, it is of tremendous importance that bank and insurance sectors not only address the impacts their financial flows have on the climate and the environment, but also become key actors in supporting governments and populations to face the financial burden of climate change.

II. National Adaptation Plans: Nature conservation, landscape restoration, social, financial and technical guarantees

National Adaptation Plans (NAPs) are strategic frameworks developed by countries to assess climate risks, identify and deploy measures to strengthen resilience across sectors and communities. They outline short- and long-term actions to reduce vulnerability to climate impacts, integrating adaptation into national policies, development planning, and decision-making processes. NAPs are designed to **guide investment, coordination, and capacity-building efforts, ensuring that adaptation strategies are systematic, evidence-based, and sustainable.** By providing a roadmap for climate resilience, they help countries prepare for current and future climate challenges while supporting international commitments. NAPs already exist under the UNFCCC in several countries.¹²

Environmental and agricultural measures under the NAPs

Because ecosystems and natural elements at large are crucial for climate change mitigation and adaptation, **nature conservation and landscape restoration must be recognised as core pillars for climate resilience in the up-coming *EU Climate Resilience and Risk Management Integrated Framework*.** This includes aligning climate risk management and adaptation planning with river basin management plans under the WFD, Natura 2000 protected areas management plans under the BHD and National Restoration Plans (NRPs) under the NRR, ensuring adequate and dedicated funding and capacities, strengthening monitoring, enforcement and accountability mechanisms.

Nature-based solutions such as the establishment of blue-green corridors for restoring ecosystems' connectivity are already entailed in national legislations (e.g. in France, under the Environmental Code¹³ and introducing obligations under the Urban Planning Code) and, under the NRR, connectivity consists in one of the most crucial overarching principles. To ensure policy coherence and synergies in investments, the *EU Climate Resilience and Risk Management*

¹¹ Over the last 40 years, extreme weather and climate-related events have caused financial losses of, with 9 billion from droughts and 170 billion for floods (EUCRA, 2024). In the first half of 2025 solely, climate-related events have already caused an estimated USD135 billion in economic losses globally — nearly double the average of the past decade (Swiss Re, 2025).

¹² <https://unfccc.int/national-adaptation-plans>

¹³ <https://www.legifrance.gouv.fr/codes/id/LEGISCTA000022494663/2010-07-14>



Integrated Framework should require MS to develop National Adaptation Plans with additional nature-based measures and setting specific targets such as on sponge landscapes.

The sponge landscape concept is a nature-based approach to land and water management that aims to restore or enhance the landscape's ability to absorb, store, and slowly release water.

Sponge landscapes reduce floods' peaks and risks, increase resilience to drought and support biodiversity and soil health, while helping to fix the broken water cycle on both local and regional levels. This nature-based solution brings other benefits such as climate adaptation, increased soil productivity, and landscape connectivity. Sponge landscapes cover entire river basins, and their targets can be adapted and tailored to local conditions, in order to ensure optimal multi-beneficial impacts. They are cost-efficient measures providing all three environmental, economic, and social benefits. In that sense, sponge landscapes constitute climate buffer zones.

In the EU, there are already initiatives around this concept: in Flanders, Belgium¹⁴, where measures and targets are being set up since 2024 and in the HORIZON Project 2023-2027 SpongeScapes¹⁵ that aim at developing decision-support tools for planning, scaling implementation and integration in regional planning and providing guidance across EU catchments.

Measures range from vegetal cover restoration and general vegetation management, restoration of peatlands and wetlands, reconnection of floodplains to rivers, to de-artificialisation of soils and water courses. Targets match measures implemented such as enhanced biodiversity through habitat connectivity (*indicators: habitat area, species' richness*), enhanced water recharge in aquifers and residence time (*indicators: infiltration rate, groundwater level*), enhanced water quality in both surface and groundwater (*indicators: turbidity, residual contaminants*), reduction of floods and droughts frequency and periods (*indicators: peak flow reduction, soil moisture, vegetation stress*), improved soil organic matter and soil structure (*indicators: organic matter %, soil compaction, mycelium network*).

Measures and targets are flexible and can be tailored to regional climatic and environmental conditions, and risks' profiles allowing meaningful and effective actions.

Agri-food systems

Strengthening the resilience of the agri-food sector is essential for climate adaptation and risk management, as recognised in the Vision for Agriculture and Food. Climate resilience in agriculture and food systems must go beyond the capacity to absorb shocks and instead support structural transformation, aligning food production and consumption with planetary boundaries and the One Health approach. **Diversification at field, farm and landscape level is a cornerstone** of this transformation, as it enhances resilience to climate extremes, improves soil health, reduces

¹⁴ <https://www.spongeworks.eu/how-sponge-measures-are-transforming-water-land-and-communities-in-flanders-belgium/>

¹⁵ <https://www.spongescapes.eu/>



dependence on external inputs, and lowers exposure to price volatility. Increasing genetic, crop and landscape diversity is therefore a preventive risk-management measure that directly supports climate resilience. Improving the contribution of farming to mitigation and adaptation efforts urgently requires a rebalancing of our protein system, which is currently skewed towards the overproduction and overconsumption of industrially produced animal-sourced food. Around 65% of the EU's agricultural emissions are directly linked to animal farming¹⁶. Organic and other agroecological farming practices adapted to territorial diversity clearly show how animal farming in balance with the carrying capacity of the land can provide key ecosystem services and support improved resilience.

The *EU Climate Resilience and Risk Management Integrated Framework* should therefore integrate diversification, agroecological practices and organic farming as a core pillar of agricultural risk management, shifting the focus from ex-post crisis response to preventive action. This includes aligning EU budgetary instruments, agricultural and food policy and climate adaptation funding to support resilient land management practices, agroecological approaches, and the shift to more climate-friendly diets. Indeed, demand-side action is crucial, and should include an EU Action Plan for Plant-Based Foods, climate- and health-aligned public procurement, and agri-food promotion policies consistent with dietary guidelines. By embedding diversification into resilience planning, the framework can strengthen farmers' capacity to absorb shocks, adapt to the climate crisis, and contribute to a more sustainable and resilient food system.

Social and governance pillar of the NAPs

On the social pillar of the National Adaptation Plans, policy coherence with urban planning and housing, decarbonation strategies, energy, public health, water management and access to water, public transport, social services, education, early warning systems, civil protection and preparedness must remain at the core and give a special focus to vulnerable and marginalised communities including people living in informal settlements, youth and children, women, people with disabilities, the elderly and the poorest.

Urban planning should incorporate green and sponge cities (in line with the sponge landscape concept), well-insulated housing, sustainable infrastructure and prevent urban sprawling, land artificialisation and construction in flood prone areas to reduce heat stress and Urban Heat Island (UHI) effect, energy demand, and exposure to flooding.

Climate resilience depends on fair redistribution and inclusive governance, as climate risks exacerbate existing social inequalities. Women, youth and the other vulnerable and marginalised groups are systematically disproportionately affected due to structural economic and social disadvantages. Resilience measures must be gender-responsive, embedding social equity and risk assessment into decision-making, while early-warning systems and community-based risk

¹⁶ <https://ieep.eu/wp-content/uploads/2025/09/Leveraging-the-common-agricultural-policy-to-accelerate-livestock-emission-reductions-IEEP-Ecologic-EDF-2025.pdf>



management tools ensure that all groups can prepare for and respond to climate hazards. Following the recently published ESABCC report, climate risk assessments should be made mandatory and harmonised¹⁷.

Adaptation planning and implementation should be grounded in meaningful, inclusive, and continuous public participation, ensuring that affected communities, civil society, local authorities, and vulnerable groups are systematically involved throughout the policy cycle (design, implementation, monitoring, and revision). Transparent consultation processes, timely access to information, and clear accountability mechanisms should be guaranteed. In addition, effective access to justice must be ensured, allowing individuals and communities to challenge inadequate adaptation measures, procedural shortcomings, or maladaptation risks, in line with principles of environmental democracy and the rule of law.

It is important to institutionalize meaningful youth participation in the social and governance pillar of the NAPs. Young people and future generations will have to live with the consequences of climate change. Yet they are rarely involved in adaptation planning and decision-making and when they are involved this often times remains symbolic. Institutionalised participation could take shape as follows:

- Establish permanent youth councils and advisory bodies linked to planning and line ministries;
- Create structures that operate across the local, regional, national and EU level;
- Participation through focus groups and co-design formats, avoiding largely symbolic measures such as surveys.

This participation should be embedded within broader public and community co-design, especially where policies affect local environments and livelihoods. A relevant example that demonstrates the added value of structured public participation is the Dutch “[Room for the River Plan](#)”.

Additionally, education should also form an important part of the social and governance pillar. Schools are the main access point for young people and education systems must equip the next generation with the knowledge and capacity to act in crisis situations. In this regard, one can think of issues such as public education on climatic and environmental risks training students how to act during disasters and extreme events. Furthermore, education is critical for creating a new generation of young people who are well-informed and feel involved in climate and climate policy.

¹⁷ <https://climate-advisory-board.europa.eu/reports-and-publications/strengthening-resilience-to-climate-change-recommendations-for-an-effective-eu-adaptation-policy-framework>

Transparent, inclusive and public governance over essential public goods is crucial to ensure that both measures for mitigation and adaptation are anchored into territories and populations' needs.

The built environment is essential for both mitigation and adaptation measures. It remains the most environmentally impactful sector within the EU, responsible for almost one-third of Europe's environmental footprint, 42% of the EU's annual energy demand, and around 33% of Europe's waste. To mitigate impacts from energy and material consumption of buildings, supporting member states in an ambitious and fast implementation of the EPBD and EED through financial and technical assistance is crucial.

Beyond mitigation, the built environment, including residential and non-residential buildings, as well as infrastructure, is strongly affected by climate risks. Adaptation measures are necessary to reduce risks directly to human lives and wellbeing, as well as to avoid economic damage (health costs, repair of buildings, insurance costs, energy costs, etc.):

- Exacerbated energy poverty: 75% of Europe's building stock is energy-inefficient and therefore poorly insulated against more extreme temperatures. While up-to-date data is missing, already in 2021, 19% of EU households¹⁸ could not adequately cool their homes in the summer – rising temperatures will exacerbate this.
- Increased health cost: Already today, inadequate housing creates around €194 billion per year in public health costs and 100,000 premature deaths a year in the EU.
- Damage to buildings and infrastructure: According to a 2024 JRC study¹⁹, corrosion in buildings caused by climate change is expected to cause repair costs between EUR 76 to 888 billion by 2100. Damage from extreme weather events is estimated to increase by up to ten times by 2100 due to climate change.

In light of these challenges, the following key measures are essential for mitigation and adaption of the built environment:

- **Renovating and upgrading buildings** to reduce vulnerability to cold, heat, extreme weather and other climate-change related damage: Including adaptation considerations in an ambitious implementation of the EPBD with strong social safeguards and a focus on worst performing buildings (e.g., integrating adaptation advice in OSS, financial support for adaptation adjustments alongside energy efficiency renovations at building/district level).

¹⁸ <https://caneurope.org/summer-energy-poverty-set-to-rise/>

¹⁹ <https://publications.jrc.ec.europa.eu/repository/handle/JRC137288>



Here, a focus on worst performing buildings and social safeguards is necessary to reach most vulnerable groups.

- **Leveraging the European Affordable Housing Plan (EAHP)** to promote sustainable land use and urban planning. Notably, introduce measures through the EAHP which enable a better use of the existing building stock and strategic densification to provide high-quality, affordable housing, while delivering on climate targets and reducing the need for land take and new construction in high-risk zones.
- **Earmarking funding in the MFF** for renovation and provision of high-quality housing.

Financial and technical pillar of the NAPs

A robust financial and technical pillar is essential to ensure that National Adaptation Plans move beyond strategic intent and deliver effective, timely action on the ground. Dedicated and predictable funding must be a core requirement of NAPs, reflecting the scale and urgency of climate risks faced by Member States. **EU funding instruments and national budgets should be aligned to ensure long-term financial certainty and equitable access to resources across regions and communities.**

Effective adaptation also depends on sufficient institutional capacity of public administrations at all levels of governance. Many Member States face chronic shortages of skilled staff, expertise and administrative resources within public authorities responsible for adaptation planning and implementation of measures both under the framework and beyond, across sectors. The framework should therefore introduce required dedicated budget allocations for capacity development, including recruitment, training and retention of staff, monitoring and evaluation at local, regional, national and EU levels.

Capacity building should be accompanied by technical assistance. Existing relevant platforms or the creation of a new hub to support Member States with climate risk assessment, adaptation planning, development and implementation of Nature-based Solutions and integration of social vulnerability considerations could be set up in the framework of that initiative. This platform should facilitate knowledge exchange, peer learning and access to independent expertise, enabling authorities to translate scientific knowledge into practical, context-specific actions and to support smaller or administrations with fewer resources, as well as ensuring that NAPs feed into a transboundary EU strategy for climate adaptation.

Monitoring and evaluation as well as coherence requirements are needed to ensure transparency, accountability, and effectiveness of the framework. Clear and measurable targets tied to compliance deadlines and tailored to national and regional risks profiles should be additional and act in synergy with existing climate and environmental objectives under EU and international



laws. It is crucial that climate plans and measures in Europe do not exacerbate or create issues elsewhere by externalising climate risks or environmental degradation elsewhere (such as in critical raw material mining projects or hydrogen production projects).

III. Adapt the economy to a fairer, cleaner and fossil fuel free future for long-term competitiveness and strategic autonomy

a. Economic models and governance (fairness, participation, gender, etc.)

A credible *EU Climate Resilience and Risk Management Integrated Framework* must move beyond market-driven and growth-centred economic models that prioritise short-term profits over social, intergenerational and ecological resilience. Effective climate governance requires addressing systemic drivers of vulnerability, including overconsumption, resource depletion, spatial inequality, and social inequities. Ex-post responses that merely redistribute losses or costs to communities and future generations are insufficient. The framework should incorporate **binding resource reduction targets, participatory decision-making, and explicit equity and gender considerations**, ensuring that adaptation and resilience measures strengthen the capacity of all communities while keeping Europe within planetary boundaries.

Public climate budgets must be linked explicitly to measurable social and ecological outcomes, rather than focusing only on short-term economic returns. Climate finance mechanisms should establish public resilience funds to cover risks that are uninsurable or disproportionately affect vulnerable populations. Insurance eligibility should be conditioned on implementing risk-reduction measures, and solidarity-based, cross-border insurance pools should be supported to fairly distribute climate risks.

Public infrastructure, including healthcare, water, transport, and energy systems, should be designed to withstand climate impacts, with redundancy and decentralization ensuring essential services remain functional under systemic stress. Community-based adaptation programs led by municipalities, cooperatives, and civil society organizations should be supported to enhance local resilience.

Finally, the framework should integrate **climate-related stress tests and physical risk valuation into public and private finance, track resilience outcomes in terms of wellbeing, ecosystem functionality, and social protection coverage**, and maintain iterative and adaptive policy design to incorporate lessons as climate impacts evolve. Embedding these measures will ensure that the EU framework aligns with long-term ecological sustainability, social justice, and precautionary risk management, making climate resilience actionable, equitable, and effective.

b. Other industry and sectoral business models' shifts and accountability

According to the EU Climate Risk Assessment 2024²⁰, several additional sectors such as infrastructure (transport, building, urban systems), health, chemicals or circular economy are crucial both for their impacts but also for their ability to drive meaningful changes.

Chemicals sector

Chemical pollution fundamentally compromises climate resilience and therefore must be addressed together in any robust framework for economic adaptation. From the perspective of the chemicals pollution, the chemical industry overshoots²¹ the planetary boundary for “novel entities” such as PFAS, plastics and pesticides, with persistent substances now ubiquitous in air, water, soils and organisms. This pollution burden is linked to increasing rates of cancers, infertility, as well as metabolic and immune disorders. At the same time, it is also interacting with six other planetary boundaries, including climate change, biodiversity loss and biogeochemical flows. As climate impacts intensify, it serves as amplifier of chemical risks²²: droughts, floods, sea-level rise and temperature shifts mobilise pollutants from soils, sediments and contaminated sites, widening exposure pathways and magnifying risks to ecosystems and human health.

From a climate change perspective, the current business model of the chemical industry undermines climate resilience by driving both climate breakdown and ecosystem degradation. The sector is the largest²³ industrial energy consumer and heavily dependent on fossil fuels, with around 99%²⁴ of synthetic chemicals and plastics derived from oil and gas. In 2020, nearly 15%²⁵ of EU final gas consumption and 14% of EU final oil consumption were used to manufacture petrochemicals²⁶. Achieving climate resilience necessitates to address emissions and impacts associated both with energy use and with feedstock use, and requires drastic reduction in petrochemicals production in the EU and globally.

²⁰ <https://www.eea.europa.eu/en/analysis/publications/european-climate-risk-assessment>

²¹ <https://pubs.acs.org/doi/10.1021/acs.est.1c04158>

²² <https://www.sciencedirect.com/science/article/pii/S004896972307016X>

²³ <https://www.iea.org/energy-system/industry/chemicals>

²⁴ <https://www.ciel.org/wp-content/uploads/2022/10/Fossils-Fertilizers-and-False-Solutions.pdf>

²⁵ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Final_energy_consumption_in_industry_-_detailed_statistics

²⁶ Plastics are emitting **850 million tons of GHGs** in 2019 (equivalent of 189 500-megawatt coal plants), a figure expected to rise to **1.34 gigatons annually by 2030** (equivalent of 295 new 500- megawatt coal-fired power plants) if current production trends continue



Plastics and fluorinated gases are particularly problematic: plastics are carbon-intensive across their lifecycle²⁷, while F-gases are among the most potent greenhouse gases known²⁸ and account for 63% of total PFAS emissions²⁹ each year (making them the main source of “forever chemicals”). At the same time, chemical pollution weakens natural climate buffers. For example, plastic breakdown impairs the ocean’s capacity to absorb CO₂³⁰ while chemicals pollution more generally degrades soils and vegetation that store carbon. These feedback loops mean that pollution not only increases vulnerability to climate impacts but also erodes the very ecosystems that underpin long-term resilience.

For climate resilience to be achieved, “false solutions” that entrench toxic and fossil-based production models must be rejected. Technologies such as carbon capture and storage and so-called “chemical recycling” reinforce fossil fuel lock-in³¹ while diverting resources from systemic change, all the while creating additional environmental and health risks³². By contrast, phasing out the most hazardous substances while reducing production and material intensity as well as aligning decarbonisation with detoxification and circularity directly strengthen climate resilience. From that perspective, a binding EU framework that conditions public support on environmental and social criteria while integrating pollution prevention into industrial transformation is essential³³ to move towards climate resilience.

Circular economy

A decisive shift towards a genuine circular economy would reconcile resource consumption with planetary boundaries, reduce material dependencies, decarbonise our economy, and provide opportunities for quality jobs and innovation. This shift starts from a commitment to a hierarchy of actions, prioritising those that provide the highest value for people and the environment.

Presently, the linear economy is fueling the triple planetary crisis (climate change, biodiversity loss, and widespread pollution), while the current economic model keeps incentivising wasteful modes of production and consumption. At this critical moment, choosing deregulation in the pursuit of

²⁷ Plastics are emitting 850 million tonnes of GHGs in 2019 (equivalent of 189 500-megawatt coal plants), a figure expected to rise to 1.34 gigatonnes annually by 2030 (equivalent of 295 new 500- megawatt coal-fired power plants) if current production trends continue

²⁸ F-gases’ global warming potentials up to 24,000 times higher than CO₂, and they represent the fastest growing class of greenhouse gas emissions worldwide.

²⁹ <https://chemsec.org/f-gases-unveiled-as-primary-contributors-to-the-pfas-pollution-crisis/>

³⁰ <https://www.ciel.org/wp-content/uploads/2019/05/Plastic-and-Climate-FINAL-2019.pdf>

³¹ <https://friendsoftheearth.eu/wp-content/uploads/uploads/2021/05/The-EUs-Industrial-Alliances.pdf>

³² <https://docs.un.org/en/A/HRC/54/25>

³³ <https://eeb.org/wp-content/uploads/2025/10/FAQ-decarbonisation-and-detoxification-of-the-chemicals-industry-1.pdf>

short-term productivity and competitiveness gains would be detrimental to the long-term resilience and fairness of our economy and society.

We need to be serious about the way we extract, consume, and dispose of natural resources.

This is the only pathway to meet the EU's climate, pollution reduction, and biodiversity and water goals, while ensuring fairer distribution of economic prosperity. Climate neutrality cannot be achieved without tackling overproduction and consumption³⁴. Resource extraction and processing account for over half of global greenhouse gas emissions, a significant portion of health-related impacts, and the majority of biodiversity loss when considering land-use change³⁵.

The Circular Material Use Rate in the EU has stagnated over the last decade at around 12%³⁶, with less than a 1% increase since 2010. The EU is thus not on track to double its circularity rate by 2030 as it had committed to in the 2020 Circular Economy Action Plan. The European Environment Agency also stressed that increasing recycling alone will not allow the EU to achieve this target, as the EU material demand is projected to keep growing³⁷.

The environmental burden associated with Europe's resource consumption uses between 70% and 97% of the Earth's 'safe operating space' for several planetary boundaries, despite only making up 6% of its population³⁸

In 2022 (most recent available dataset), five tons of waste were generated for each EU inhabitant. Only 40,8% of the waste generated in the EU is reported as recycled while more than 30% of EU waste is still landfilled. Compared with 2010, 31.1% more hazardous waste was generated in 2022 in the EU³⁹.

Sectors such as mining, AI, and the broader digital transition must be fully integrated into the forthcoming climate adaptation package. These sectors are often framed primarily through a competitiveness, innovation or security lens, yet they carry substantial growing climate risks. The rapid push for expansion of mining and CRM activities both within and outside the EU, increases the exposure to water stress, pollution, extreme weather events, tailings dam failures and biodiversity collapse.⁴⁰ Climate change itself heightens these risks even further, as seen in recent floods,

³⁴ UNEP International Resource Panel: Global Resources Outlook (2024)

³⁵ EEA, 2024, Accelerating the circular economy in Europe: state and outlook 2024, Publications Office of the European Union, Luxembourg (<https://data.europa.eu/doi/10.2800/055236>) accessed 21 March 2024.

³⁶ 8EEA indicator: Circular material use rate in Europe (2025)

³⁷ OECD (2019), Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences, OECD Publishing, Paris, <https://doi.org/10.1787/9789264307452-en>.

³⁸ Sala, S., Benini, L., Beylot, A., Castellani, V., Cerutti, A., Corrado, S., Crenna, E., Diaconu, E., Sanyé Mengual, E., Secchi, M., Sinkko, T. and Pant, R., Consumption and Consumer Footprint: methodology and results, EUR 29441 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-79-97255-3, doi:10.2760/15899, JRC113607.

³⁹ Eurostat: EU waste statistics (2024)

⁴⁰ <https://www.eesi.org/articles/view/data-centers-and-water-consumption>



droughts and heatwaves across the continent, that directly affect mining infrastructure and surrounding communities.

Mining, AI and digital infrastructure expansion also interact directly with nature restoration objectives. Increased land use change, deforestation, water constraints and pollution linked to extraction and processing, refining can erode the very ecosystems that provide natural buffers against climate impacts. As already emphasised, restoring ecosystems is one of the most cost-effective adaptation strategies available.

Conclusion

Member States are already required by the European Climate Law to adopt and implement national adaptation strategies and plans (article 5 of Regulation (EU) 2021/1119). According to the EU Climate Governance Regulation (Regulation (EU) 2018/1999), Member States should also integrate adaptation goals in their updated national energy and climate plans and in their national long-term strategies.

Today, all member states have national adaptation strategies and/or plans, but only eight have embedded elements of their adaptation policy systems in domestic legal frameworks. As a result, very often the strategies have not yet translated into substantial progress in adaptive capacity, as Member States have omitted to effectively include adaptation in sectoral policies and plans (such as the maritime spatial plans) or take account of the effects of climate change in strategic decisions. Even though climate risks are better understood, policies are not implemented at the pace needed to address the rapidly increasing risk levels.