EEB background paper on the EU climate resilience and risk management framework

Additional information for the call for evidence

1. Introduction

Climate change is part of a triple planetary crisis of pollution, biodiversity loss and climate change, which are interconnected and tend to exacerbate each other.

Climate change is no longer a distant threat — it is a present and intensifying reality that is affecting ecosystems, economies, and societies. 2024 was the first year to exceed 1.5 degree above pre-industrial level¹, for 11 months. With temperatures rising and weather patterns becoming more erratic, from floods and droughts, desertification, to storms, wildfires and sea-level rise, over 90% of extreme weather events are water-related². They are affecting lives (human and non-human) and livelihoods on an unprecedented scale. The Arctic and the European continent are warming faster than the rest of the world, at a rate of roughly twice the average³.

The data is clear: climate-related disasters are becoming more frequent, more intense, and more costly.

Meanwhile, the 1.5°C global warming threshold has already been breached. Projections that suggest we can still hold warming to "well below 2°C", the Paris Agreement's legally binding target ratified in 2015 by 195 countries, are increasingly unrealistic, given current trends. Beyond such levels, **the adaptation of humans and non-humans as well as ecosystems isn't possible.** Extreme heat impairs human health — disrupting sleep patterns, triggering hyperthermia, respiratory, cardiovascular and mental issues and increasing mortality rates. Vulnerable people such as elderly, infants, people living in poor housing conditions or are particularly affected. Between 1980 and 2020, 138,000 people lost their lives due to extreme weather and climate-related events. In 2025, the heatwave that lasted only between end of June and July 2, cost 2,300 deaths in Europe⁴. In Spain alone in July 2025, already 1,180 people have died of the heat⁵.

Simultaneously, biodiversity is in the freefall: rising temperatures and water stress are disrupting reproduction, migration, and the integrity of ecosystems, leading to irreversible losses. In the oceans, warming and acidification are causing widespread coral bleaching, collapsing vital marine habitats and weakening one of the planet's most effective carbon sinks.

Six out of nine planetary boundaries, namely climate change, biosphere integrity, biochemical flows, land-system change, freshwater use and novel entities (including pollution) are exceeded in 2025.

The EEA, in its European Climate Risk Assessment 2024⁶, identified 36 climate risks, of which several have already reached critical levels. Climate risks are a multiplier and will particularly affect health, food, water, ecosystems,

¹ https://climate.copernicus.eu/copernicus-2024-first-year-exceed-15degc-above-pre-industrial-level#:~:text=2024%20was%20the%20warmest%20year,and%20the%20western%20Pacific%20Ocean.

² www.unisdr.org/2015/docs/climatechange/COP21 WeatherDisastersReport 2015 FINAL.pdf

³ https://climate.copernicus.eu/why-are-europe-and-arctic-heating-faster-rest-world#:">https://climate.copernicus.eu/why-are-europe-and-arctic-heating-faster-rest-world#:">https://climate.copernicus.eu/why-are-europe-and-arctic-heating-faster-rest-world#:">https://climate.copernicus.eu/why-are-europe-and-arctic-heating-faster-rest-world#:
https://climate.copernicus.eu/why-are-europe-and-arctic-heating-faster-rest-world#:
https://climate.copernicus.eu/why-arctic-heating-faster-res

⁴ https://www.reuters.com/sustainability/cop/european-heatwave-caused-2300-deaths-scientists-estimate-2025-07-09/

⁵ https://www.miteco.gob.es/es/prensa/ultimas-noticias/2025/julio/1-180-muertes-atribuibles-a-altas-temperaturas-desde-la-activaci.html

⁶ www.eea.europa.eu/en/analysis/publications/european-climate-risk-assessment/european-climate-risk-assessment-report/

infrastructure, and economy and finance. The assessment especially highlighted that for ecosystems, urgent and increased action are needed.

Climate change transcends borders and affects all societies — but not equally. While its impacts are felt worldwide, the regions and communities most vulnerable to climate disruption are often those least responsible for causing it⁷. In this context, wealthier nations — including EU Member States — have a special responsibility to lead in mitigating emissions, restoring ecosystems, and helping others to adapt, especially in regions subject to historical colonisation and extractivism and less access to funds. Fulfilling this responsibility is not just a question of capacity, it is a matter of climate justice and historical accountability.

The financial strain of inaction is growing. The rising costs of disasters are driving up insurance premia, threatening the viability of coverage in high-risk regions. Some insurers are withdrawing altogether, leaving governments and individuals exposed. This effectively imposes a regressive financial burden on those least able to bear it. **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 floods⁸. In the first half of 2025 solely, climate-related events have already caused an estimated in economic losses globally⁹ — nearly double the average of the past decade. The European Investment Bank¹⁰¹¹ and other analyses confirm a wider investment gap in climate-resilient infrastructure, which risks leaving Member States unprepared for escalating climate shocks.

In this context, the EU must act with ambition, urgency, and integrity. Therefore, the EEB welcomes the initiative of the European Commission to develop an integrated framework for Climate Resilience and Risk Management including a new legislative proposal.

2. Key recommendations

2.1 Climate mitigation first - Reduction of emissions and waste

Climate mitigation is a prerequisite to climate adaptation. Mitigation limits the magnitude of future risks, creating the necessary conditions for adaptation strategies to be effective and sustainable in the long term. From reduction of emissions and waste to restoration and protection of biodiversity, ecosystems and the natural water cycle, actions to be taken in the different sectors of our economy are clear.

Methane is an extremely potent greenhouse gas with 80x the warming potential of CO2 over a 20-year period. ¹² It is also a precursor for ground level-ozone which damages human health, crops and biodiversity. ¹³ For these reasons, reducing methane emissions is critical for mitigating climate change and improving environmental and societal

⁷ https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30196-0/fulltext

⁸ European Climate Risk Assessment

⁹ https://www.france24.com/en/live-news/20250806-natural-disasters-caused-135-bn-in-economic-losses-in-first-half-of-2025-swiss-re

https://www.eib.org/en/publications/online/all/investment-report-2022-

 $[\]underline{2023\#:\text{``:text=The\%20Investment\%20Report\%2C\%20}}\\ OEuropean\%20Union.$

¹⁰ https://www.edf.org/climate/methane-crucial-opportunity-climate-fight

¹⁰ https://www.sciencedirect.com/science/article/pii/S1462901122001204

¹⁰ https://methanematters.eu/agriculture/

¹¹ https://www.eib.org/en/publications/online/all/investment-report-2022-

 $[\]underline{2023\#:^\sim:\text{text=The}\%20Investment}\%20Report\%2C\%20issued\%20annually\%20by\%20the, and \%20its\%20financing\%20in\%20the\%20European\%20Union.}$

¹² https://www.edf.org/climate/methane-crucial-opportunity-climate-fight

¹³ https://www.sciencedirect.com/science/article/pii/S1462901122001204

resilience to the risks of the climate crisis. Agriculture, for which methane is largely unaddressed, contributes more than 54% of methane emissions in the EU.¹⁴

If all mitigation options were adopted including reducing meat and dairy consumption and more sustainable, extensive livestock farming practices, the EU could reduce methane emissions by 68%. Further to this, sustainable livestock practices that achieve reduced methane emissions also have co-benefits for soil, water and biodiversity, further contributing to a healthier and more resilient environment and society. 6

The chemical industry, as it currently exists, is a structural driver of both climate change and chemical pollution. Any climate mitigation framework that excludes its radical transformation risks falling short of climate goals *and* missing the opportunity to address two interlinked crises in one stroke.

The sector is deeply fossil-fuel dependent, both for energy as the largest industrial energy consumer¹⁷ as well as for feedstock¹⁸ - 99% of all synthetic or man-made chemicals (and 99% of all plastics) are derived from oil and gas.¹⁹ As a result, the chemical industry is the third-largest source of CO_2 emissions²⁰ while simultaneously locking-in the demand for fossil fuels, impeding their necessary phase-out. In fact, petrochemicals alone account for 70% of the projected growth in oil demand to 2026^{21} . Moreover, when oil and gas profits dip, biggest oil and gas companies increasingly redirect production into petrochemicals²², turning the chemical industry into a loophole through which they can sustain fossil-fuel profits and maintain the unsustainable status quo.

Beyond its inputs and processes, some of industry's products also fuel climate breakdown and toxic pollution - F-gases and Plastics are core examples of outputs where concentrated efforts would tackle both interlinked crises. F-gases are among the most potent greenhouse gases known, with warming potentials up to 24,000 times greater than CO₂ and remain the fastest-growing class of GHGs worldwide²³. They also drive PFAS emissions, accounting for 63% of annual releases²⁴. Plastics are another emblematic case: produced almost entirely from fossil fuels, they generated 850 million metric tons of GHGs in 2019 (equivalent of 189 500-megawattt coal plants) and are on track to emit 1.34 gigatons (equivalent of 295 new 500-megawatt coal-fired power plants) annually by 2030 if production will be left unabated²⁵. In addition, with an anticipated doubling of plastic production by 2040, it is projected that by 2050, plastic in the oceans could outweigh all fish combined²⁶, with devastating health consequences.

Yet current EU policy responses remain fragmented and insufficient. For example, the recent Clean Industrial Deal frames "clean" almost exclusively in terms of decarbonisation, sidelining chemical pollution, while planning on mobilising \$100 billion in subsidies to energy-intensive industries without conditions²⁷.

¹⁴ https://methanematters.eu/agriculture/

¹⁵ https://changingmarkets.org/report/high-steaks-how-focusing-on-agriculture-can-ensure-the-eu-meets-its-methane-reduction-goals/

¹⁶ https://www.leap.ox.ac.uk/article/low-meat-diets-reduce-environmental-harm-from-food-production

¹⁷ https://www.iea.org/energy-system/industry/chemicals

¹⁸ Nearly half of its energy input is used as feedstock.

¹⁹ https://www.ciel.org/wp-content/uploads/2022/10/Fossils-Fertilizers-and-False-Solutions.pdf

²⁰ https://www.iea.org/energy-system/industry/chemicals

https://www.iea.org/reports/oil-2021

²² https://www.barrons.com/articles/shell-chevron-oil-chemicals-plastics-d75f8fee

²³ https://www.sciencedirect.com/science/article/abs/pii/S136403212100054X?via%3Dihub

²⁴ https://chemsec.org/f-gases-unveiled-as-primary-contributors-to-the-pfas-pollution-crisis/

²⁵ https://www.ciel.org/project-update/plastic-climate-the-hidden-costs-of-a-plastic-planet/

²⁶ https://eia-international.org/wp-content/uploads/EIA-Connecting-the-Dots Embargoed SPREADS.pdf

²⁷ https://eeb.org/clean-industrial-deal/;https://commission.europa.eu/topics/eu-competitiveness/clean-industrial-deal_en_

A successful EU climate mitigation strategic framework must include a plan for a radical transformation of chemical industry. This requires breaking down policy silos, aligning climate and chemicals regulation to include both decarbonisation and detoxification under the same banner of "clean", and using economic leverage to their fullest potential (e.g. subsidies with conditionalities). Without such systemic change to chemical industry, our efforts will fall short of effectively tackling either climate change or interlinked crises like chemical pollution.

Besides, the issue of waste is of crucial importance in addressing climate change. 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, biodiversity and pollution), while the current economic model keeps incentivising wasteful modes of production and consumption. At this critical moment, choosing deregulation in the pursuit of short-term productivity and competitiveness gains would be detrimental to the long-term resilience and fairness of our economy and society.

The Climate Resilience and Risk Management Integrated Framework also needs to be seen in the context of other ongoing initiatives, with notably the bioeconomy strategy set to intensify the need for bio-based material stock. The status quo bioeconomy has already gone too far — direct energy purposes compete with material purposes; ecosystem services are being completely neglected. There is indeed a need, as the bioeconomy initiative states, to "transform how we value and use biomass resources, prioritising extended high-value applications while encouraging industries and consumers to embrace circular practices that maximise economic returns from each unit of biomass". Resource efficiency, circularity, sustainable supply of biomass, and achievement of other priorities for land-use, such as nature restoration, are key baseline conditions that we are currently falling behind on. We cannot therefore grow the market and scale up while "avoiding further biodiversity loss" — we need to first operate within planetary boundaries, restore our ecosystems and then consider strategies to improve the value of available biomass.

Though having been overlooked for decades, water is the backbone of climate stability, biodiversity health, and human well-being. As a **climate regulator**, water shapes local and regional temperatures, drives precipitation patterns, and enables the functioning of ecosystems that store carbon and support life. Each degree Celsius increase in global temperature leads to an increase of 7% of atmospheric vapor, according to the relation of Clausius-Clapeyron. This increase in atmospheric moisture amplifies the water greenhouse effect, a phenomenon known as "temperature-vapor water feedback", and thus to global warming, which leads to more intense weather events, such as extreme rainfall or storms²⁸.

The hydrological cycle is deeply intertwined with soil health, biodiversity, and the organic matter that sustains productive landscapes.

When water systems are degraded, these climate-regulating functions collapse, amplifying the impacts of extreme events such as floods, droughts, and heatwaves. Declining biodiversity and reduced soil organic matter accelerate water loss from landscapes, while altered river flows and wetland drainage disrupt evapotranspiration and carbon sequestration processes. Protecting and restoring water is therefore inseparable from safeguarding soils, conserving biodiversity, and rebuilding ecosystem resilience. For the mentioned reasons, both green (soil, organic matter) and blue waters should be considered equally important in the restoration of the natural water cycle.

 $[\]frac{28}{\text{https://climate.copernicus.eu/global-climate-highlights-}}{2024\#:^:\text{text=Unlike}\%20\text{other}\%20\text{greenhouse}\%20\text{gases}\%2C\%20\text{such,atmosphere}\%20\text{to}\%20\text{hold}\%20\text{more}\%20\text{moisture.}}$

Yet according to the EEA²⁹, for the 2015-2021 period, Member States reported that only 37% of EU's water bodies achieved "good" or "high" ecological status and only 29% achieved "good" chemical status, under the WFD.

2.2 Strictly protect and restore nature including aquatic ecosystems by enforcing existing legislations and by firmly basing the promised legal proposal on ecosystem-based adaptation

Peatlands and wetlands are among the most valuable yet most threatened ecosystems in Europe. They are a crucial component of the water cycle, absorbing and slowly releasing water to reduce flood peaks, sustain base flows in rivers during drought, and maintain local humidity conditions. They are the second most important carbon sinks, after oceans, storing more carbon per unit area than any other terrestrial ecosystem (up to 0.7 t C/ha/yr in good condition), despite covering only around 3% of land globally. Their saturated soils provide habitat for rare species and improve water quality by filtering pollutants.

Yet, across the EU, over 50% of all wetlands have been lost or highly degraded since 1900³⁰ and many remaining peatlands are degraded by drainage for agriculture, forestry, and peat extraction. This degradation not only destroys biodiversity but also turns these carbon sinks into significant greenhouse gas sources.

Policy frameworks exist to protect and restore them, but enforcement and ambition remain uneven. At EU level, the Habitats Directive lists many wetland habitats for special protection, and the Water Framework Directive requires the maintenance of good ecological status for related water bodies. The EU Biodiversity Strategy for 2030 commits to restoring at least 30% of degraded ecosystems, with wetlands as a priority. Globally, the EU and its Member States are signatories to the Ramsar Convention on Wetlands, which obliges them to conserve and wisely use wetlands of international importance.

Rivers sustain biodiversity, regulate hydrology, and provide ecosystem services. They transport nutrients, maintain floodplain fertility, serve as migration corridors, recharge aquifers, moderate local climates, and support both blue and green water flows.

Widespread damming, channelisation, pollution, and water abstraction have disrupted natural flow regimes, fragmented habitats, and contributed to steep declines in freshwater species populations. EU rivers are fragmented by more than 1.2 million barriers³¹.

Policy frameworks to address this degradation are well established but inconsistently enforced and implemented. The Water Framework Directive (WFD) provides the legal backbone for achieving good ecological and chemical status of all water bodies, while the EU Biodiversity Strategy for 2030 calls for the restoration of at least 25,000 km of free-flowing rivers by removing barriers and restoring floodplains. The Nature Restoration Regulation (Article 9) reinforces these commitments by setting binding targets for the restoration of river connectivity and riparian habitats. At basin scale, the Floods Directive and Marine Strategy Framework Directive also play roles in reducing pollution and climate risks linked to river systems. To halt and reverse current degradation, the EU must couple strict enforcement of these frameworks with targeted restoration measures — including the removal of obsolete dams, re-meandering of straightened channels, and re-establishment of riparian vegetation — to ensure rivers can fulfil their role as climate regulators, biodiversity hubs, and natural buffers against floods and droughts.

Aquifers and groundwater-dependent ecosystems form the hidden foundation of Europe's freshwater resources, storing vast reserves of blue water that sustain rivers, wetlands, springs, and human communities throughout the

²⁹ https://www.eea.europa.eu/en/topics/in-depth/water?activeTab=fa515f0c-9ab0-493c-b4cd-58a32dfaae0a

³⁰ https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/urgent-action-needed-reverse-soil-degradation-europe-2024-10-22 en#:~:text=The%20degradation%20of%20peatlands%20is,in%20these%20areas%20remains%20unknown.

³¹ https://europe.wetlands.org/europe-records-over-500-barrier-removals-in-one-year/

year. They provide essential base flows to streams during dry periods, buffer drought impacts, and maintain the health of groundwater-fed wetlands and riparian zones. These ecosystems also support unique biodiversity, including endemic subterranean fauna and vegetation adapted to stable groundwater conditions. Groundwater acts as a critical climate regulator by ensuring the persistence of water in landscapes, stabilising soil moisture, and supporting agriculture during increasingly frequent heatwaves and prolonged dry spells.

However, over-abstraction for agriculture and industry combined with pollution from nitrates, pesticides, and industrial contaminants, is degrading aquifers across the EU. Climate change exacerbates these pressures by reducing recharge rates and increasing evaporation, threatening both ecological and human water security.

The Water Framework Directive (WFD) sets out binding requirements to achieve good quantitative and chemical status for all groundwater bodies, while the Groundwater Directive specifically targets pollution control. The EU Biodiversity Strategy for 2030 recognises groundwater-dependent ecosystems as key habitats to restore, and the Nature Restoration Regulation (Article 9) includes measures to enhance aquifer recharge through wetland restoration, river re-naturalisation, and sustainable land management. Cross-sectoral legislation such as the Nitrates Directive and the Sustainable Use of Pesticides Regulation also plays a role in reducing diffuse pollution pressures.

Ensuring the resilience of aquifers and groundwater-dependent ecosystems will require strict enforcement of these laws, better integration of land-use and water management, and the promotion of nature-based recharge solutions — such as floodplain reconnection, soil organic matter enhancement, and managed aquifer recharge — to safeguard Europe's invisible but indispensable freshwater reserves.

Beside extreme weather and climate-related events, as a consequence of the systematic loss and degradation of land and water ecosystems and global warming, desertification is expanding in the EU, and particularly in the Southern and Eastern part of the continent. This leads to a vicious circle exacerbating the impacts of those events and the resilience of territories to cope with them. Water and food security are particularly threatened in the long term.

Since human societies started to "domesticate" water by disrupting its natural flow, store it, treat it or distribute it, we can now consider that the water cycle is divided into the "great" or natural water cycle, and the "small" or local water cycle. The latter covers steps between the collection at source (rivers or aquifers) and the discharge/return in the environment. This cycle is of growing importance considering the amount of water it mobilises and the impact it can have on the environment, both at the beginning and at the end. Therefore, it is crucial that the small water cycle is also managed in the most adequate manner.

According to the EEA, 30% of the EU territory and 34% of the population are affected each year by water scarcity and at least 3 months of the year. In the Southern region, the figures are even more concerning with 30% of the population living in areas with permanent water stress and 70% in areas with seasonal summer stress³².

Human-driven climate change, combined with other destructive practices that exploit both nature and people, is obstructing these natural regulatory systems. As ecosystems are increasingly pushed beyond their limit, they can no longer function properly. In the EU, 81% of protected habitats, 39% of protected birds and 63% of other protected species are in a poor or bad state. While around 80% of EU agricultural and wildflower species rely on insect pollination, a decline of almost 50% in pollinator populations can be observed across EU regions. In addition, 60 to 70% of soil ecosystems are in a bad state and there is barely any knowledge about the condition of soil biodiversity which is central to the functioning of almost all terrestrial ecosystems.

³² https://www.eea.europa.eu/en/analysis/indicators/use-of-freshwater-resources-in-europe-1

Restoring biodiversity means strengthening Europe's resilience and decreasing its vulnerability to climate impacts. Restoring nature can help limit exposure to climate-driven hazards and increase the capacity to adapt to potential impacts. For example, intact coastal ecosystems can help protect communities from storm surges or sea level rise. Floodplain restoration increases water retention capacity during extreme rainfall events, which, in turn, lowers the risk of flooding, including in urban areas downstream. In addition, nature restoration reduces the vulnerability of specific landscapes. For example, sustainable forest management can stabilise slopes and reduce the risk of landslides. Healthy soil ecosystems with high humus content have an increased water holding capacity and can act as a buffer in both extreme heat and rainfall. According to an analysis of the European Investment Bank and the European Commission, worsening climate change threatens to increase EU agricultural average annual losses as much as 66% by 2050.

Natural vegetation can have important effects on urban microclimates. A 2023 study showed that increasing tree coverage to 30% would lower temperatures by an average of 0.4°C on average and up to 5.9°C, which could <u>avoid nearly 40%</u> of deaths attributable to the urban heat island effect in the analysed cities. In addition, it is to be noted that many cities showcase important inequalities regarding access to urban green spaces, with socio-economically disadvantaged populations whose neighborhoods are often less green and further away from green spaces.

The failure to implement EU environmental legislation cost the EU around 55 billion EUR annually in health costs and direct costs to the environment.³³ The 2019 Fitness Check of the WFD clearly concluded that the WFD is fit for purpose but needs to be implemented better. The lax approach to enforcement of the WFD, allowing Member States to miss almost all WFD deadlines so far without real consequences, has contributed to the slow pace of improvements. Poor enforcement of EU law further leads to a lack of level playing field where non-compliance is tolerated rather than sanctioned, incentivizing a race to the bottom and negative impacts on competitiveness.

But the EU Commission's rhetoric has shifted. Six years ago, the European Green Deal was hailed as a "man on the moon" moment by President Ursula von der Leyen. Today, the narrative seems tailored primarily to industries and big corporations. Commissioner Valdis Dombrovskis, when launching the two-part Omnibus Simplification Package openly framed protections for people and the environment as obstacles to corporate profits, making it clear that this package is designed to weaken corporate accountability and facilitate a profit-at-all-costs approach for business. **EU policy should prioritise public interest, not just industry demands.**

The false narrative of environmental protection as a hurdle to 'development' has also been pushed by the Council, who in its mandate on updated EU priority substances proposes new exemptions from the WFD objectives. **Pitting competitiveness against environmental protection is a false narrative. Protecting freshwater ecosystems means protecting Europe's economy:**

- 15% of industrial facilities in the EU are located in flood-risk areas (EEA Report 3/2024) making them vulnerable but also increases pollution risks.
- The first-ever annual estimate of the <u>economic value of water and freshwater ecosystems</u> is over €11 trillion in Europe – about 2.5 times the GDP of Germany

Recommendations

 $^{^{}m 33}$ 8th Environmental Action Programme, para. 3

- The EU institutions should **commit to the maintenance of the WFD as a robust legal framework fit for purpose and push back on the attempts to weaken it** e.g. proposals from the Council to introduce new exemptions to the WFD through the revision of the list of pollutants in surface and groundwater.
- The full and impactful implementation of the water and nature laws as well as upcoming laws on soil and forest monitoring should make a substantial contribution to restoring the water cycle across oceans, land and freshwater.
- The European Commission needs to take its role as Guardian of the Treaties seriously, demonstrate real political will for the full implementation and take infringement actions against the breaches identified in the review of the third River Basin Management Plans and second Flood Risk Management Plans. A strict approach should be taken towards Member States failing to achieve the WFD's last deadline of reaching good water status by 2027.
- The European Commission should be prepared to screen how foreseen exemptions in the WFD are used and justified, to make sure that they are not used on a systematic basis but only to account for exceptional circumstances, as foreseen by the legislation and the guidance and common understanding of the WFD requirements agreed under its Common Implementation Strategy
- The European Commission should significantly increase its enforcement staff capacity to adequately deal
 with continuous non-compliance and the legal backlog. This should also help to decrease complaint
 handling and infringement processing times that currently significantly exceed the Commission's own
 deadlines, as also criticised. by the European Court of Auditors.³⁴
- In light of the upcoming 2027 WFD deadline, the Commission should make full use of interim measures for cases in front of the CJEU to avoid irreversible environmental harm. It should further explore other avenues to halt serious harm at earlier stages of the infringement process.

As the first EU-law to set legally binding targets to restore biodiversity and degraded ecosystems, the **Nature Restoration Regulation (NRR)** is a powerful tool that can significantly increase the continent's climate resilience. The NRR aims to contribute to the EU's objective of climate change adaptation and to put in place restoration measures covering 20% of land areas and 20% of seas by 2030, and for all ecosystems in need of restoration by 2050. It includes ecosystem-specific targets for terrestrial, coastal and freshwater, marine, urban agricultural and forest ecosystems as well as for pollinator populations. However, the law's success and transformative impact depend on its effective implementation by Member States. Drafting coherent and ambitious National Restoration Plans is key to successfully implementing the NRR and therefore increasing climate resilience. In these plans, Member States must, for example, outline how they plan to re-establish the natural functions of floodplains and how they will consider the potential of restoration measures to minimise climate change impacts on nature, to prevent or mitigate the effects of natural disasters and to support adaptation.

Recommendation:

Recognising that an effective implementation of the Nature Restorations Regulation is a key element of any
efforts towards climate resilience. In parallel to new legislation on climate resilience, ensure effective
implementation of the NRR by not allowing any delays in the submission of National Restoration Plans,
rigorously assessing whether the proposed measures align with NRR obligations and allowing exemptions
only where compellingly justified.

³⁴ European Court of Auditors, 'Special report 28/2024: Enforcing EU law', https://www.eca.europa.eu/en/publications/SR-2024-28

The Commission's implementing regulation on establishing a uniform format for the NRP's includes concerning shortcomings that risk to directly affect the implementation of the NRR. For example, it only requires cross-cutting considerations on the potential of restoration measures for climate adaptation. However, climate change affects different habitats in different ways and the effectiveness of individual restoration measures will vary depending on numerous factors. Article-specific considerations should therefore not be optional. For this reason, the Commission should ensure a strict assessment of NRPs to ensure they meet the obligations included in the NRR.

The EU Soil Strategy for 2030 and the soon-to-be-adopted Soil Monitoring Law (SML) are key policy instruments in the context of climate resilience. As the first-ever EU law on soil health, the SML has the objective to achieve healthy soil ecosystems across the EU by 2050. It will provide a framework for EU-wide harmonised monitoring and assessment of soil ecosystems and will therefore provide comprehensive data about the condition of soil ecosystems across the EU. Member States will also have to support landowners and managers to improve soil health and resilience, for example by providing access to advice and training, and reduce the impact of soil sealing. Adopting and implementing the Soil Monitoring Law is a first step towards acknowledging the important role of soil ecosystems for broader ecosystem integrity, societal wellbeing and climate resilience. Unfortunately, during trilogue negotiations, the already weak proposal was further watered down, leading to the removal of the obligation to define and implement sustainable soil management practice. However, transforming the way soil is managed is vital to ensure land's ability to absorb water and deal with water stress, and therefore improve climate resilience.

Recommendation

• Embedding data and action stemming from the Soil Monitoring Law within new legislation on climate resilience to ensure that this information informs new processes. Recognise the importance for climate resilience to transform soil management practices and regenerate soil ecosystems, and drive this transformation. In parallel, ensure effective implementation of the Soil Monitoring Law, as healthy soil ecosystems are the foundation for climate resilience.

The proposed **Forest Monitoring Law** (FML) aims to set up a high-quality monitoring system to support EU biodiversity and climate targets, strengthen risk assessment, preparedness, and crisis response, and improve evidence-based decision-making. Currently, Member States' National Forest Inventories (NFIs) rely on ground-based measurements. The FML would integrate these with continuous satellite data, include biodiversity indicators and standardise monitoring across the EU. Unfortunately, the FML faces attacks, with attempts to strip it of key elements, including satellite data, indicators on biodiversity and resilience, forest disturbance, disaster risk preparedness and recovery, as well as integrated long-term planning. Forests are crucial allies in mitigating the impacts of climate change, and comprehensive and geographical data is essential to track pressures, identify vulnerable areas, and anticipate threats like pests, disease or fire. The fact that the FML encourages disaster preparedness planning would also help to link fire data to location and condition of forests and to, therefore, reduce risk, as well as to strengthen forests' protective role against floods, heat-stress, avalanche, and landslides.

Recommendation

• The Forest Monitoring proposal must keep its integrity by maintaining satellite monitoring, requiring the mapping of important forest indicators, monitoring threatened species, maintaining integrated long-term plans and include a review mechanism of the legislation. The implementation of a strong FML should then feed key data on forests into related policy processes and inform action within the framework on climate resilience.

2.3 Ensure adequate and timely public funding for nature and tackle harmful subsidies

Nature restoration and protection are not an optional add-on to climate adaptation — it is a core climate mitigation and adaptation measure. It should remain an EU political priority. Healthy ecosystems such as wetlands, floodplains, forests, and aquifers provide natural flood protection, buffer droughts, filter water, and store carbon. These nature-based solutions (NbS) and Blue-Green Infrastructure (BGI) are cost-effective, multi-benefit investments that reduce disaster risks while supporting biodiversity and livelihoods: each euro invested in nature restoration adds €4 to €38 in benefits³⁵. According to the JRC, 19% to 36% of EU gross added value is highly dependent on ecosystem services³⁶.

Despite their proven value, EU public spending on nature remains severely inadequate. The new Multiannual Financial Framework (MFF) proposal for 2028-2034 lacks earmarked funding for nature protection and restoration, and the removal of the dedicated LIFE programme envelope, yet one of the best performing funds, has weakened targeted financing. As examples, meeting the objectives of EU water legislation alone would require an additional investment of €255 billion by 2030, and those of the Nature Restoration Regulation requires €6 to €8 billion per year (without the costs incurred for marine, urban ecosystems and pollinators)³⁷. 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 overall³⁸.

The new MFF proposal provides more flexibility for Member States but dilutes predefined nature-related priorities—no ring-fenced budget line remains for critical environmental instruments like LIFE, biodiversity, or water and soil restoration. While promoting flexibility through National and Regional Partnerships Plans (NRPs) and stating an overall spending target of at least 35% of the total EU budget to climate and environment, no concrete earmarking is provided, leaving the choice of measures to the discretion of Member States. While mitigation and adaptation should take into account local contexts, they can only be achieved through concerted efforts at a bigger scale.

Although private finance can complement public investment, excessive reliance on market-based instruments such as nature credits carries substantial risks. Poorly regulated credit schemes can lead to the commodification and financialisation of ecosystems, treating forests or wetlands as tradable assets subject to market volatility and speculative trading. This not only undermines ecological stability but also risks diverting funds away from on-the-ground restoration toward abstract financial products with little real impact. Past experiences with carbon markets show how oversupply, lack of transparency, and weak monitoring can erode integrity and public trust.

For these reasons, nature credits, provided that the development of sound scientific methodologies are deemed possible by experts, must only be used within high-integrity, science-based frameworks that include robust governance, independent verification, transparent benefit-sharing, and active involvement of local communities. Crucially, they must complement—not replace—public funding, which remains the most reliable and equitable driver of large-scale nature restoration.

On the other hand, environmental damages should be sanctioned much more severely in accordance with the polluter pays principle (TFEU, Art. 191(2)). A 2021 report from the ECA on the implementation of the polluter-pays principle³⁹ shows that some particular sectors are not fully covered (such as water or waste) and that EU public money has been used to cover the remediation of pollution caused by private actors. The EU Commission must guarantee that polluters bear the costs of pollution.

³⁵ https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-regulation_en

³⁶ https://publications.jrc.ec.europa.eu/repository/handle/JRC140003

³⁷ https://op.europa.eu/en/publication-detail/-/publication/db3e5d55-310c-11ee-946a-01aa75ed71a1/language-en

³⁸ https://environment.ec.europa.eu/publications/2025-environmental-implementation-review en

³⁹ https://www.eca.europa.eu/lists/ecadocuments/sr21 12/sr polluter pays principle en.pdf

Recommendations

- Increase public funding for nature restoration and protection: earmarking for nature protection and restoration in the next MFF, the EU and its MS should have to commit to a certain level of funding dedicated to nature protection and restoration
- Strictly enforce the polluter-pays principle
- Carefully address nature credits: robust scientific methodologies, risks of commodification and greenwashing, governance and privatisation of nature. Safeguards such as high integrity principles and no undermining of the mitigation hierarchy and polluter-pays principle.

Fossil fuel subsidies, which include direct financial support and tax breaks for coal, oil, and gas production and consumption, continue to undermine global climate efforts. By artificially lowering the cost of fossil fuels, these subsidies encourage overconsumption, delay the transition to renewable energy, and lock in high-carbon infrastructure. This not only increases greenhouse gas emissions but also diverts public funds from clean energy and adaptation measures, exacerbating the climate crisis.

Reforming the capacity payment to favour renewables and storage would paramount to not only prevent the shift to gas of power generation currently running on other fossil fuels, but also to avoid over capacity. On the other hand, these funds are key to make the economic case for storage and can make the most of the energy production from renewable, thus strongly limiting curtailment.

Funding for cars and commercial vehicles with internal combustion engines should be phased out right away and moved to electric vehicles (EV), sharing mobility and public transport. Any lingering in a technology that has proved inefficient will increase the technological cleavage between the domestic and extra EU car production.

While subsidy for fossil domestic heating technologies is explicitly prohibited, there are still a lot of proposal of moving from coal or oil to gas in district heating and combined heat and power structures, often building on future, potential and very unlikely access to decarbonised gases. These investments are not compatible with the phase out of fossil gas in 2050 and risk becoming a stranded asset, locking entire communities into fossil dependence and leaving them at the mercy of the international gas prices.

Beyond energy, a wide range of environmentally harmful subsidies persist across sectors — from intensive agriculture and fisheries to transport and resource extraction. These measures often encourage overuse of natural resources, pollution, and biodiversity loss, while diverting public funds away from sustainable alternatives. Phasing them out and redirecting support towards climate- and nature-positive solutions is essential to align public spending with the EU's Green Deal and climate neutrality objectives.

<u>A WWF report</u> estimated that 60% of the Common Agricultural Policy (CAP) budget, or €32 billion annually, is spent on measures that encourage large-scale unsustainable farming, harming nature, human health, farmed animals and undermining the resilience of the agriculture sector itself. In a context of scarce public resources and rapidly worsening environmental crises, this situation is unacceptable and must be addressed as a matter of utmost urgency.

As already shown, water is crucial in mitigating the climate crisis and adapting to its effects. Some existing and emerging sectors, such as agriculture or AI, are particularly heavily relying on water, exacerbating further water scarcity. While allocations mechanisms have been set since the adoption of the WFD in 2000, they might not reflect the current situation and needs.

Irrigation for agriculture is the 2nd largest source of water abstraction in the EU atfer the energy cooling sector, with 30% (EEA, 2022⁴⁹). With such a contribution, adverse effects of irrigation on water and land include the

overexploitation of surface water and groundwater, leading to the depletion of aquifers and endangering the ecosystems that depend on them, a decrease in river flows, changes in land use linked to big scale agricultural exploitation in general (homogenisation of landscapes, artificialisation, impact on vegetal cover, etc.), changes in local humidity conditions (evapotranspiration, evaporation), pollution and often requires the construction of harmful heavy water storage infrastructure, such as mega-basins, which exacerbate the pollution and evaporation of water by being open air and vulnerable to atmospheric deposition of pollutants.

Irrigation is often subject to flat-rate tariffs that do not reflect actual consumption or Environmental and Resource Costs, as defined in the WFD (art. 9). Thus, it can be observed that most of the irrigated land (in absolute terms) in Europe is located in the areas most vulnerable to drought and desertification, such as Spain (3.6 million ha) and Italy (4.1 million ha)⁵⁰: agriculture in the Mediterranean region alone accounts for 75% of the water used for agriculture in Europe (EEA, 2016)⁵¹. That trend reflects an issue with the mechanisms of water rights allocations.

Besides, a report by the European Court of Auditors on the sustainable use of water in agriculture published in 2024⁵² highlighted the shortcomings of the Common Agricultural Policy (CAP) in promoting water-saving methods and the lower application of the cost recovery principle (WFD, art. 9) in agriculture compared to other sectors: in 8 of the 11 Member States studied in this audit, water was significantly cheaper when used for agriculture.

To do so, in addition to robust conditionalities on both Member States and beneficiaries within the next Multiannual Financial Framework (MFF), a common, science-based exclusion list defining environmentally harmful activities that cannot be funded under the EU budget should be established, including at least the following:

- Investments and any other subsidies to support intensive animal rearing, notably in nutrient pollution hotspots, unless the investment leads to a substantial reduction in animal numbers and translates into a substantial reduction in nitrogen and methane emissions.
- Investments in irrigation systems in areas where ground and surface water bodies are in a less than good status for either quantity or quality reasons, or which may jeopardise existing good conditions.
- Water allocations and tariffs under the WFD, art. 9, that doesn't reflect the real financial and Environmental
 and Resources costs of sectors (such as irrigation for agriculture, as reminded in the ECA 2024 report on the
 short coming of the CAP to promote less water intensive technologies⁴⁰)
- Drainage schemes, river canalisation, embankments or other infrastructure that degrade river morphology, disrupt natural flow or disconnect floodplains, as these undermine the WFD objectives and contribute to biodiversity loss and increased flood risk.
- Afforestation with invasive, non-native species or monoculture plantations.
- Coupled income support (which is known to have <u>negative environmental impacts</u> and <u>market-distorting effects</u>. While some valuable production models (e.g. extensive grazing) do need additional financial support to be economically viable and increased domestic production of some crops (e.g. fruit and vegetables, legumes for human consumption) is needed, this should be done through targeted instruments (cf. sections 5 and 6) rather than through production subsidies, which risk promoting harmful monocultures or intensive animal rearing
- Drainage of wetlands and peatlands and their conversion into agricultural areas, or conversion of grasslands into arable land, especially in nature protection areas.

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⁴⁰ https://www.eca.europa.eu/en/publications?did=59355

Fund allocation linked to the Green and Digital Transition to sectors such as AI or IT without any
conditionalities or transparency on their impacts on water and natural resources. While they are crucial,
their deployment can't come at the cost of water and nature.

Recommendations

- Adopt a **common exclusion list** to prevent EU funds from supporting environmentally harmful activities such as intensive animal rearing, drainage of wetlands, harmful infrastructure works, or monoculture plantations.
- Redirect subsidies from harmful practices towards climate- and nature-positive solutions that enhance biodiversity, water resilience, and sustainable production.
- Ensure that the cost recovery principle under the WFD (art. 9) is properly implemented and enforced for all sectors, especially agriculture
- Ensure that all sectors, and especially new emerging sectors, carefully monitor and display their water footprints to allow better water management at river basin level and set up sectoral targets on water and natural resources efficiency

Ensuring specific and adequate funding for civil protection and social justice is essential to build resilience and guarantee a fair transition. As climate impacts intensify, EU funding must support robust civil protection systems, particularly in vulnerable regions. This includes scaling up early warning systems and digital tools to improve preparedness and response. Such tools must be deployed with safeguards to prevent negative impacts on land use, biodiversity, and water resources, ensuring that technological solutions do not create new environmental risks.

Public funding should also prioritise social infrastructure to protect communities from climate shocks⁴¹. Investments in affordable, climate-resilient housing, strengthened public health systems, and secure access to clean energy are critical to shield people from heatwaves, floods, and energy poverty. These measures must be designed to reach low-income groups and marginalised communities first, addressing the disproportionate vulnerabilities they face.

Social justice and gender equality must be central pillars of climate policy. The historical and ongoing climate costs of colonisation, extraction, and exploitation must be acknowledged and addressed, both within Europe and through the EU's international engagement. Climate finance, loss and damage mechanisms, and international agreements like the Paris Agreement must prioritise support for countries and communities most affected by climate change, especially in the Global South.

The transition must empower those often left out of decision-making — including youth, women, and Indigenous communities. Dedicated funding streams and participatory governance structures should ensure their voices shape policies and projects. This not only strengthens social justice but also enhances the effectiveness and legitimacy of climate action, by drawing on the knowledge, needs, and aspirations of those on the frontlines of the crisis.

The Vision for Agriculture and Food rightly highlights the urgent need to strengthen the resilience of the agri-food sector—enabling it not only to withstand and recover from shocks but also to adapt and transform. It also emphasizes the importance of aligning the sector with planetary boundaries and the One Health approach. Diversification is central to enhancing resilience, climate adaptation, sustainability, and health.

Increasing genetic and crop diversity at both field and landscape levels can significantly reduce the impacts of extreme weather events. Long and diverse crop rotations, a proven method for improving soil health and preventing pests and diseases, also decrease farmers' dependence on external inputs, thereby reducing their vulnerability to

⁴¹ https://www.eiopa.europa.eu/publications/eiopa-and-ecb-joint-paper-towards-european-system-natural-catastrophe-risk-management_en#details

price volatility. <u>Scientific consensus</u> further underscores that European diets are on average defined by a lack sufficient fruit, vegetables, wholegrains, and pulses and an overconsumption of animal-sourced foods (ASFs), mostly produced through industrialised farming which harms the environment, rural communities, animals and small-scale farming. There is an urgent need to boost and diversify the production of plant protein crops for human consumption and address the unchecked increase in factory farms across the EU. Ultimately, both farmers and consumers would benefit from a much broader range of crops being cultivated across the EU.

However, farmers face clear obstacles in introducing fewer common crops (such as fava beans, buckwheat, or lentils) into their production systems—challenges that must be addressed through targeted public policies spanning production, processing, and consumption.

First, it is essential to de-risk the transition for farmers, for example by providing investment support and incentives for long and diverse crop rotations or intercropping. Coupled income support under the CAP, however, is not well-suited to promoting the production of specific crops while maximizing the benefits of diversification. Facilitating knowledge exchange among farmers and ensuring access to independent advice are also critical.

Second, processing bottlenecks must be tackled through public investment in facilities capable of handling variable quantities of these less common crops. This could enhance value addition at the farm or local level, revitalizing rural economies.

Third, efforts to boost supply must be paired with actions to stimulate demand by creating enabling food environments. Stakeholders in the Strategic Dialogue have unanimously called for an EU Action Plan for Plant-Based Foods, and the Vision has announced a new comprehensive plan on proteins. Both initiatives are necessary and should adopt a whole value chain approach. Additionally, public procurement and EU agri-food promotion policies should align with dietary guidelines, driving increased consumption of wholegrains, fruits, vegetables, and pulses while promoting a "less and better" approach to animal products.

Finally, diversification should be a cornerstone of risk management policy. Agroecology and organic farming, diversification and nature-friendly farming, have been proven to enhance both agronomic and economic resilience. As the costs of climate, health, and economic crises escalate, the current focus on ex-post crisis management has become unsustainable a. A stronger emphasis on preventive risk management is needed, prioritizing measures that increase farms' capacity to absorb shocks, adapt, and transform. The EU budget and agricultural and climate adaptation policies must support investments and land management practices that bolster farmers' resilience—both proactively and in response to shocks.

Recommendations

- Mainstream diversification as the foundation of resilience and risk management.
- Support farmers and processing with incentives, advice, and local infrastructure for diverse crops.
- **Drive demand** through an EU Plant-Based Action Plan, procurement, and dietary-aligned promotion.

2.4 Support systemic economic transition - Address unsustainable economic models and overconsumption, support alternative economic models and measures beyond growth

Transitioning to a climate-resilient, just, and prosperous European economy requires moving beyond dependence on continuous economic growth, short-term profit maximisation, and unchecked capital accumulation. An effective EU climate risk and management framework must recognise the limits of neoliberal economic approaches that prioritise market mechanisms at the expense of social and ecological resilience.

A credible framework must include binding targets for resource reduction in order to curb overconsumption and ensure that Europe operates within planetary boundaries. This is essential not only for reducing systemic climate risks but also for addressing globally unequal consumption patterns and Europe's disproportionate ecological footprint.

The transition further requires a fair redistribution of wealth, power, and resources across and within societies, as well as an explicit recognition of how climate risks exacerbate existing inequalities. The climate crisis does not affect all groups equally: women, particularly in vulnerable communities, are disproportionately impacted, facing heightened risks due to existing social and economic inequalities. Incorporating a gender-responsive approach is therefore critical to ensure that adaptation and resilience strategies do not reproduce or deepen injustices but instead actively promote gender equality.

Recommendations

For the EU, this means creating enabling conditions for alternative pathways to well-being that prioritise equity, resilience, and sustainability. Key measures could include:

- **Establishing resource reduction targets** as part of the climate risk and management framework to curb overconsumption and reduce dependency on extraction.
- **Embedding redistribution mechanisms** into climate and risk governance (e.g. progressive taxation on wealth and profits).
- Reorienting economic structures away from the exclusive primacy of markets towards models that prioritise resilience, sustainability, and equity.
- Strengthening public governance and democratic control over essential public goods (such as energy, water, land use, and digital infrastructures) to ensure they serve collective rather than narrow interests.
- Embedding gender-responsive risk assessment and management approaches across all policy levels, ensuring that women's voices and leadership are integral to decision-making.

By integrating these principles, the EU can build a climate risk and management framework that not only mitigates risks but actively transforms vulnerabilities into opportunities for a fairer, more sustainable, and gender-just future. It would also enable pathways to reorientate our economies away fro the primacy of markets, and the prioritisation of public governance structures and control over our public goods towards social wellbeing within planetary boundaries.

2.5 Actively promote peace as a climate action

Armed conflicts are not only humanitarian catastrophes, they are accelerants of climate breakdown and ecosystem collapse. The wars in Ukraine and Gaza demonstrate how militarisation destroys environmental resilience, weaponises essential resources, and undermines any prospect of a just transition.

Russia's invasion of Ukraine has triggered <u>large-scale environmental devastation</u>. The destruction of the Kakhovka Dam in June 2023 drained wetlands, disrupted irrigation for millions of hectares, and released industrial pollutants downstream. Shelling has contaminated soils, destroyed forests, and released toxic substances from industrial sites. These impacts will reverberate for decades, weakening biodiversity, destabilising water cycles, and increasing food insecurity in the wider region.

The ongoing bombardment in Gaza has systematically <u>dismantled the territory's environmental foundations</u>. Deliberate targeting of water systems, cropland, and energy infrastructure has turned food and water into weapons of war. Over 90% of Gaza's water is now unfit for human consumption. Bombings have released asbestos and other toxins, creating a public health and ecological crisis that will persist for generations. The destruction of farmland, olive groves, and fisheries has eradicated key livelihoods and obliterated local food sovereignty. Since October 2023 and as of April 2024, Israel had already dropped over 70,000 tons of bombs (more than Dresden, Hambrug and London combined during the WWII)⁴², equivalent to two nuclear bombs and emitting millions of tons of CO2 in the atmosphere (without considering emissions linked to re-building).

In both contexts, the deliberate destruction of infrastructure is used to starve populations, force displacement, and break community resilience. This violates international humanitarian law and accelerates the degradation of ecosystems essential to recovery and adaptation. Armed forces worldwide are responsible for an estimated 5.5% of global greenhouse gas emissions, yet military emissions are excluded from mandatory climate reporting. Conflicts compound climate risks as scorched landscapes, polluted waterways, and destroyed carbon sinks reduce the ability of people and nature to withstand extreme weather events. The EU was founded as a peace project. Its credibility depends on aligning foreign policy, trade, and climate objectives.

Without confronting the environmental destruction caused by war, the EU cannot credibly lead on climate action or resilience. Gaza and Ukraine are urgent reminders that peace, environmental protection, and climate stability are inseparable.

⁴² https://www.aljazeera.com/gallery/2024/4/23/photos-200-days-of-israels-war-on-gaza