



EUROPEAN CLIMATE RESILIENCE FRAMEWORK OPEN PUBLIC CONSULTATION; EGU RESPONSE

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The EGU Climate Hazard and Risk Task Force
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European climate resilience framework, open public consultation response

Introduction

Climate change is increasing the frequency and intensity of extreme events now, impacting our social, economic and environmental systems whilst amplifying existing crises. These climate-related hazards interact in complex ways to compound and cascade risk across borders. Europe is the fastest-warming continent, however the EU's progress on adaptation is failing to keep up with the pace of climate change, with Member States often stymied by fragmented governance, strategy and co-ordination. Currently, Europe's climate policy and action is not enough to counter the threat posed by climate change. EGU's Climate Hazard and Risk Task Force welcomes the development of a new integrated framework for European climate resilience and risk management, which is expected to be adopted in late 2026. This document represents EGU's response to the open public consultation on this framework, with recommendations by the EGU Climate Hazard and Risk Task Force.

For the framework to be comprehensive, effective and just, it must include the interconnected, multi-risk nature of climate-related hazards, whilst prioritising disproportionately vulnerable communities. The EU must establish a common policy that supports national and local authorities to implement locally relevant solutions, incentivises investment and access to affordable insurance, whilst ensuring citizens are not only informed and prepared, but included in decision-making.

About the EGU and EGU Climate Hazard and Risk Task Force

The European Geosciences Union (EGU) is the leading organisation for Earth, planetary, and space science research in Europe. With our partner organisations worldwide, we foster fundamental geoscience research, alongside applied research that addresses key societal and environmental challenges. Our vision is to realise a sustainable and just future for humanity and for the planet. The expertise of our 18,000 members spans many key scientific disciplines relevant to the Climate Resilience Framework, including climate change, natural hazards, hydrology, biogeoscience, and atmospheric science.

As Europe's largest geoscience society, the EGU is uniquely positioned to facilitate the transfer of knowledge from research into practice and to connect policymakers to the most relevant geoscience experts. In early 2025, EGU's Science for Policy Working Group created the EGU Climate Hazard and Risk Task Force, a selection of ten scientists with expertise spanning a range of climate hazard-related fields as well as skills in science-communication, journalism, outreach, and policy. The Task Force aims to bridge the gap between science and policy, delivering scientific information and expertise to where it is most needed.

Executive summary

In order for the new European Climate Resilience Framework to be most effective it must:

- Establish a mandatory EU-wide baseline of climate scenarios and minimum risk standards to overcome fragmentation across Member States that connect to the climate science community (e.g., CMIP7's baseline variables for impact and adaptation assessment).
- Embed climate resilience by design across infrastructure, energy, water, health, agriculture and financial regulation.
- Integrate multi-hazard, cascading and high-impact low-probability risks into planning and investment decisions.
- Clarify institutional risk ownership, with defined responsibilities and accountability mechanisms.
- Prioritise vulnerable populations and high-risk regions, supported by harmonised vulnerability assessments.
- Develop interoperable, decision-relevant climate risk tools for public authorities and financial actors at member state and EU levels.
- Close the insurance protection gap through risk pooling, resilience-linked incentives and blended finance mechanisms.
- Employ a precautionary approach by design to prepare for low likelihood high impact (related to tipping behaviour in the climate system), relevant for financial and insurance planning
- Homogenize adaptation planning at EU level and ensure information systems that allow seamless integration at the MS and local levels (down-scaling of adaptation), as well as cross-border (climate impacts know no borders).
- To establish binding EU minimum protection standards with a vulnerability-based funding framework with priority resources for high-risk and outermost regions, with a “no maladaptation” rule on related EU spending and simplified access for low-capacity municipalities.
- To support scale place-based, health-integrated and community-centred adaptation, including climate-resilient health systems, EU-harmonised early warning and risk communication systems.
- Strengthen the EU civil protection and cross-state coordination; systematic co-design with local actors to address the “last mile” of preparedness.

Image credit: Anne Pluymakers (imaggeo.egu.eu)

Climate resilience by design

*The principle of ‘climate resilience by design’ means a **proactive effort to consider and prevent plausible high-impact risks and losses from the very beginning when conceiving policies, investments and other measures.** The 2024 Commission Communication on managing climate risks put it simply: ‘planning decisions of today need to build on a sound anticipatory assessment of risks’ likely to occur in the future. Climate resilience by design differs from measures taken to remedy the damage caused by climate impacts after they have already occurred.*

***The Commission intends to ensure that the future climatic conditions are duly integrated into all relevant EU policies and frameworks governing sectors and stakeholders vulnerable to climate change.** It also seeks to encourage Member States and all public-sector authorities and private-sector stakeholders to embed this principle in their decisions, ensuring coordinated action across society.*

-European Commission

Which sectors are most important for integrating the principle of “climate resilience by design”?

Integrating *climate resilience by design* is essential in sectors where climate impacts are intensifying and where today’s decisions lock Europe into long-term exposure. Planning, permitting, standards and investment appraisal must therefore systematically test policies, assets and services against forward-looking climate scenarios, including plausible high-impact extremes, and apply a clear “no maladaptation” rule for EU spending and regulatory simplification. This aligns with the Commission’s position that today’s planning decisions must be grounded in anticipatory risk assessment and that future climatic conditions should be embedded across EU policies governing climate-vulnerable sectors (European Commission, 2024; European Commission, 2026).

Priority sectors for embedding resilience by design include the built environment and critical infrastructure, given long asset lifetimes and escalating retrofit costs; health and social care systems, where heatwaves, floods and air pollution already generate severe and unequal health burdens; agriculture, food systems and water resources, which are highly sensitive to drought, heat and soil degradation; energy systems (generation, transmission, cooling demand and supply chains), where climate extremes increasingly threaten security of supply; and coastal zones, where sea-level rise, storm surge and saltwater intrusion endanger ports, transport nodes, tourism assets and densely populated areas, while degrading marine ecosystems that underpin fisheries and coastal livelihoods. Finance and insurance are critical enablers and should embed resilience by design through harmonised climate-risk assessment, disclosure and stress-testing, ensuring investment decisions internalise climate risks from the outset (European Commission, 2026; Bellona, 2025).

The need for resilience by design is underscored by cascading and compound risks, several of which are already evident in Europe. Examples include:

- Heat–energy–health cascades, where prolonged heatwaves increase cooling demand, strain electricity grids, trigger outages and amplify heat-related morbidity and mortality.
- Drought–water–energy–food cascades, where reduced water availability affects hydropower generation, cooling of thermal and nuclear plants, irrigation and food production, with knock-on economic and social impacts.
- Flood–infrastructure–supply chain cascades, where flooding damages transport, energy and digital infrastructure, disrupting logistics, healthcare access and emergency response.

Wildfire–ecosystem–air quality cascades, where forest loss undermines carbon sinks and biodiversity while smoke exposure drives acute and chronic health impacts.

- Coastal risk cascades, where storm surge and erosion damage ports and energy assets, disrupt trade and fisheries, and weaken regional economic resilience.

Despite the identification of multiple interacting climate risks at EU level, integrated policy responses to such cascades remain limited and fragmented (European Commission, 2026; CAN Europe, 2025).

Key gaps persist. Stakeholders caution against weakening biodiversity safeguards despite poor conservation status across Europe and emphasise nature-based solutions as first-line defences that deliver adaptation, mitigation and health co-benefits. Social equity and housing quality, including risks linked to poor indoor environments, remain insufficiently addressed in EU-level risk frameworks, even though vulnerability is strongly shaped by income, age and housing conditions. Greater attention is also required at the climate–security nexus, where climate change acts as a threat multiplier affecting defence systems, geopolitical stability and critical infrastructure. Finally, digital infrastructure and climate data systems—including satellite observations, AI-enabled modelling and open platforms—should be strengthened to support harmonised risk assessment and effective, low-burden reporting without eroding safeguards (European Commission, 2026; HEAL, 2026; Bellona, 2025).

Which policy areas or EU legislative frameworks should prioritise embedding this principle, and how should this be done?

Embedding climate resilience by design should be prioritised across EU policy areas where climate risks are intensifying rapidly and where long-term decisions lock in exposure for decades. The forthcoming European Integrated Framework for Climate Resilience and Risk Management provides a critical opportunity to operationalise *preparedness-by-design* across EU sectoral legislation and investment frameworks, particularly as several climate risks identified in the EU Climate Risk Assessment have already reached critical levels.

Climate, environment and adaptation policy should lead this mainstreaming effort. The EU Climate Law, the EU Adaptation Strategy and related instruments should require that all relevant EU legislation and funding frameworks apply common forward-looking climate scenarios, harmonised climate-risk assessments and shared resilience objectives. This would ensure consistency across policy areas and avoid fragmented or contradictory approaches to risk management.

Infrastructure, transport and the built environment require priority integration, given long asset lifetimes and escalating damage from heat, floods, droughts and coastal hazards. Climate resilience by design should be embedded through updated technical standards, mandatory multi-hazard risk assessments in planning and permitting, and systematic climate-proofing requirements for EU-funded infrastructure. This is particularly relevant for major investment frameworks such as the Trans-European Transport Network (TEN-T), where preparedness-by-design can significantly reduce long-term fiscal liabilities and service disruptions.

Energy legislation and market frameworks (including electricity and gas markets and the Trans-European Networks for Energy, TEN-E) should incorporate resilience more systematically. Current regulatory approaches insufficiently value resilience investments and lack consistent, mandatory climate-risk assessments across transmission and distribution system operators. EU-level stress-testing against future climate extremes, and the integration of resilience into cost-benefit analysis and network planning, are necessary to safeguard energy security, affordability and system stability.

Agriculture, food and water policy—including the Common Agricultural Policy (CAP), the Water Framework Directive and the forthcoming Soil Health Law—should embed resilience by design by conditioning support on climate-resilient land, water and soil management practices. Drought, heat and water scarcity risks are among the most severe across the EU, and proactive integration of resilience principles is essential to protect food security, rural livelihoods and ecosystem services. Financial regulation and sustainable finance frameworks (including the Corporate Sustainability Reporting Directive, the EU Taxonomy and related disclosure rules) should require forward-looking climate-risk assessment and disclosure. Embedding resilience criteria in financial decision-making would help redirect public and private capital towards climate-resilient development and reduce systemic financial risks linked to climate impacts.

Finally, public procurement and state aid frameworks should explicitly incorporate climate resilience criteria, including a clear “no maladaptation” rule. Given the scale of public investment across the Union, embedding resilience-by-design requirements in procurement and state aid decisions would send strong market signals, accelerate innovation, and ensure that EU spending does not inadvertently increase long-term climate vulnerability.

Are there any existing policies or legislation (at EU, Member State, regional, local level) that prevent you from taking effective action to be better prepared for the impacts of climate change? If so, which ones and please explain how they impair your efforts.

Several existing policies, regulatory practices and structural gaps at EU, Member State and sub-national levels continue to constrain effective preparedness for the impacts of climate change. First, energy system legislation and regulatory frameworks do not yet systematically embed climate-risk assessment or resilience objectives. Current rules governing electricity and gas networks prioritise short-term efficiency, affordability and market optimisation, while resilience to future climate extremes is insufficiently reflected in cost-benefit analysis, tariff setting and operator incentives. Climate-risk assessments for transmission and distribution networks remain fragmented across Member States and are not consistently mandated or harmonised at EU level. This limits the ability of system operators to justify, prioritise or recover the costs of proactive resilience investments, even where climate risks are well established.

Second, environmental and biodiversity protection frameworks risk being weakened by regulatory simplification and streamlining efforts. Stakeholder feedback highlights that reducing monitoring, oversight or conditionality can accelerate biodiversity loss and degrade ecosystems that act as Europe’s first line of defence against climate hazards such as floods, heat and erosion. Weakening safeguards may reduce administrative burden in the short term but increases long-term adaptation costs, undermines ecosystem services and heightens exposure to climate risks.

Third, preparedness, civil protection and crisis-response frameworks remain fragmented across sectors and governance levels. While emergency response mechanisms exist, they are often oriented towards reactive management rather than anticipatory, risk-based planning. Limited integration of forward-looking climate-risk analysis into preparedness frameworks constrains the capacity of authorities to address compound and cascading risks that span infrastructure, health, food, energy and security systems.

In addition, public finance, budgeting and accounting practices frequently discourage long-term resilience investments. Short budget cycles, narrow definitions of value for money and rigid appraisal criteria tend to disadvantage preventive measures whose benefits accrue over decades, despite strong evidence of their long-term cost-effectiveness. The misalignment between fiscal planning horizons and long-term climate-risk projections reduces incentives for proactive action and favours reactive expenditure after impacts have already occurred.

Finally, data, digital and reporting frameworks are not yet sufficiently aligned to support integrated climate-risk management. Inconsistent access to interoperable climate, environmental and infrastructure data, combined with uneven requirements for forward-looking risk disclosure, limits the ability of public authorities and private actors to identify, compare and manage climate risks in a coordinated manner.

Addressing these barriers requires not only new initiatives but systematic reform of existing legislative, regulatory and financial frameworks so that anticipatory climate-risk management and long-term resilience are enabled rather than constrained.

Legislative framework for climate resilience

The European Climate Law requires the EU and Member States to ensure continuous progress on climate adaptation. Yet, Member States have very different policy frameworks for the assessments, strategies, plans and instruments, which limits the development of a shared understanding of the challenges and coordinated climate resilience actions across the EU. Policies are often not specific enough to address major climate risks, and the roles and responsibilities of individual sectors in adaptation planning and implementation vary widely.

Overall, progress in strengthening climate resilience in the EU is slow and uneven and is not keeping pace with accelerating climate change. EU and national resilience policies and measures are currently not fit for purpose.

Therefore, the Commission intends to prepare a legislative proposal to ensure a more comprehensive, robust and ambitious approach, while fully respecting the principle of subsidiarity, proportionality, avoiding unnecessary administrative burdens and ensuring coherence with sectoral policies. This section invites your views on the scope and key elements of the planned proposal.

The Commission considers that including the below aspects and requirements in its legislative proposal is essential to better prepare our economies and societies for climate change, and to prevent major losses and damage. What is your view on each of them?

-European Commission

Common baseline climate trajectories/scenarios, and acceptable risk levels.

The Commission asked, to what extent do you agree with the following:

Determination of the levels of global warming or a similar common baseline for adaptation decisions that EU and national public policy and investments should consider, for example through common EU climate reference trajectories/scenario(s).



Duty to consider a common baseline (e.g. reference trajectories/scenarios) of global warming, as described in the preceding bullet point, in climate risk assessments.



Duty to apply a precautionary approach by integrating a common baseline into planning decisions by the EU and Member States.



Common approach for deciding what level of residual risks society / public authorities choose not to eliminate: a way to determine what are we willing to live with and why.



Establishing common European baseline climate trajectories and shared acceptable risk levels is essential to overcome the current fragmentation of assessment methods across Member States. The European Climate Risk Assessment shows that many climate risks are already approaching critical or even catastrophic levels, which makes consistent, precautionary planning indispensable for all sectors and regions. A shared set of climate scenarios and risk thresholds would ensure that public authorities base decisions on the same assumptions about future warming and hazards, improving coordination and reducing divergent protection standards. The Legislative Train Schedule also highlights that a more coherent and comprehensive EU-wide approach is needed to avoid escalating losses and ensure that adaptation measures keep pace with rapidly worsening climate

impacts. Common baselines would therefore provide the foundation for harmonised, forward-looking planning across the Union.

For tools to be useful they must be online, accessible and shareable, a spatial granularity down to the Member State level (or groups of Member States) that allows for the examination of examine key risks by region. Recent reports (e.g. Copernicus State of the European Climate, EUCRA, IPCC AR6) all show that different regions of Europe are exposed to different risks: southern Europe is most exposed to heatwaves, droughts and wildfires. Central Europe is very exposed to river floods; granularity is needed to allow public authorities to decide the level of acceptable risk nationally. In addition, compound climate extremes (extreme climate events occurring simultaneously or in close succession) will be more and more frequent as global temperatures increase (Steensen et al., 2025; Messori et al., 2025). A precautionary approach is therefore indispensable.

- Applying a precautionary approach is key as we know we have low likelihood high impact climate scenarios (e.g. sea-level rise)
- Planning frameworks must account for low-risk and high-impact scenarios, as central projections may underestimate exposure to low-probability but high-consequence events relevant for infrastructure planning and insurance risk assessments.
- Several Earth system processes are governed by non-linear, threshold-sensitive dynamics (“tipping points”) that reduce predictability. This calls for a precautionary approach and the need to stay prepare for these low likelihood high impact climate scenarios (Recent Carbon Brief on the difficulty in projecting sea-rise: <https://www.carbonbrief.org/guest-post-the-challenges-in-projecting-future-global-sea-levels>), particularly as some impacts of climate change are not yet taken into account in climate model projections (e.g. permafrost emissions undercounted, etc.)
- Conventional risk assessments address single (well-defined) risks. However, there is a need to address compound effects (e.g. interactions between climate and non-climate drivers), cascading and systemic risks across sectors and scales.
- Conventional quantitative risk assessments should be complemented by structured expert elicitation.

It is recommended to establish a mandatory EU-wide baseline of climate scenarios and minimum risk standards to overcome fragmentation across Member States. Scenarios should connect to the climate science research community where possible (e.g., connecting to CMIP7’s baseline variables for impact and adaptation assessment (Ruane et al., 2025)).

Climate risk assessments.

The Commission asked, to what extent do you agree with the following:

Development of climate risk assessments that would also cover the most affected policy sectors, at European level.



Development of climate risk assessments would also cover the most affected policy sectors, at national level.



Common parameters for the scope and content of both EU and national climate risk assessments (e.g. climate scenarios, regularity, sector coverage).



Strengthening climate risk assessments at both the European and national levels is essential because current frameworks are fragmented and inconsistent, limiting coordinated action. The European Climate Risk Assessment shows that many major risks are already approaching critical levels, while the Commission notes that Member States use very different methods and assumptions, which slows collective preparedness.

Common parameters - shared scenarios, regular updates, and consistent sector coverage - would create a coherent basis for decision-making across all Member States and help ensure that adaptation measures keep pace with rapidly accelerating climate risks. The European Civil Protection Mechanism would benefit from an efficient coordinated response, with risks evaluated in a coordinated manner for all Europe. A multi-tier approach for assessments could be imagined, inspired by, tiered greenhouse gas emission reporting, applied to risk assessments. For example: at Tier 1, everyone has to have the same reporting, whilst Tier 2 is added when a Member State has further quantification or evaluation of specific risks.

Adaption planning and determination of risk owners.

The Commission asked, to what extent do you agree with the following:

Definition of climate resilience and adaptation targets (possibly including sectoral/thematic targets) for EU institutions and Member States.



Robust obligation on the EU/Commission to prepare and implement an EU adaptation strategy and plan.



Climate resilience and adaptation plans should also cover the most affected policy sectors at EU level.



Robust obligation on Member States to develop national adaptation strategies and plans.



Climate resilience and adaptation plans should also cover the most affected policy sectors at national level.



Identification of risk owners responsible for and mandated to address the identified vulnerabilities.



Developing an adaptation strategy must become the norm; Reporting on climate change impacts and adaptation is already requested in UNFCCC Biennial Transparency Reports. The European Climate Risk Assessment shows that many major risks across ecosystems, health, infrastructure, food systems and finance are already approaching critical or catastrophic levels, while current adaptation policies remain slow, uneven and not fit for purpose. Indeed, the level of adaptation preparedness strongly differs across EU Member States (as shown in Figure 13.34 of the IPCC Working Group 2 report (IPCC, 2022), hence the need for a common framework across all EU MS to establish a level playing field.

To address this gap, both the European Union and Member States need legally anchored adaptation strategies and plans that cover the most affected sectors, ensuring coherence across borders and institutions. The Legislative Train Schedule also highlights the need for a more ambitious and coordinated EU-wide approach to resilience in order to prevent escalating damage and losses.

Effective adaptation planning requires clear targets, consistent obligations, and well-defined responsibilities. The definition of targets requires clear definitions of indicators, to measure whether targets are met. A first effort occurred at COP30 (list of 50 indicators on adaptation have for now been agreed on); the EU should build on this existing effort.

Clear risk ownership is equally essential. The Preparedness Union Strategy identifies fragmented responsibilities and limited anticipatory analysis as major barriers to effective preparedness across Member States. Defining which authorities are responsible for each vulnerability improves accountability, strengthens governance, and enables more coordinated responses to accelerating climate hazards.

Each identified systemic risk should have a clearly designated institutional risk owner with implementation authority, budgetary responsibility and reporting obligations. Clarifying risk ownership would reduce fragmentation, strengthen accountability and accelerate implementation. National adaptation plans should include an identification of the risk owners. This would strengthen preparedness, allow for risk planning with the relevant and correct risk owners, and allow for a transparent understanding of the level of fragmentation in risk ownership across MS, and therefore contribute to resolving this issue. This is extremely relevant national specificities in terms of adaptation needs (in terms of types of risks, in terms of exposure, of existing preparedness), as raised in previous points.

Risk assessments are comprehensive only if they are informed by socio-economic and eco-cultural information in addition to data on hazards. According to the IPCC, risk is defined as combining Hazard, Vulnerability and Exposure data (IPCC, 2020). Often, risk is misrepresented as only the hazard component of that definition leading to a partial Risk assessment. Vulnerability and exposure information (often socio-economic in nature) are not always open access / available. This contrasts strongly to Hazard / climate variable data which, through climate services such as the Copernicus Climate Change Service (C3S), has become more “open access” in recent years. Meanwhile, information on such as cultural heritage is rarely referenced, with little representation in national policy, and suffers from a lack of awareness. Where eco-cultural risk is mentioned, it is mostly regarding climate change impacts on tangible heritage.

It is recommended to have more open access socio-economic data covering exposure and vulnerability data to ensure more comprehensive risk assessments for climate change adaptation planning and monitoring. Meanwhile, managing eco-cultural risks are often framed under conservation efforts; a more collaborative and interdisciplinary approach where heritage strategies are reconceived as adaptive can better inform risk assessments that generate conditions for cultural survival. A 2022 resolution by the European Parliament highlights how traditional knowledge builds resilience in local adaptation efforts; engaging communities in risk assessments provides a more informed understanding of risk.

Complementing action at EU level by Member State action, in compliance with the subsidiarity principle.

The Commission asked, to what extent do you agree with the following:

Member States adopting national legal frameworks on climate resilience and adaptation (covering issues such as administrative set-up and coordination mechanisms, regular climate risk and vulnerability assessments, adaptation planning, early-warning mechanisms, governance at regional and local levels, alignment with subnational strategies and plans, inclusion of stakeholders and vulnerable groups, monitoring and evaluation framework).



Member States carrying out evaluations at appropriate levels to identify regions and groups of people that are particularly vulnerable to climate change and developing plans for targeted adaptation measures to help these regions and groups.



Member States involving all relevant stakeholders, including particularly vulnerable groups, in adaptation policy planning.



A strong European framework needs to be matched by equally strong action at Member State level. The European Commission notes that progress on adaptation is slow, uneven, and not keeping pace with accelerating climate risks, partly because Member States use very different systems for risk assessment, governance and planning, which limits coordinated resilience across the Union. Requiring national legal frameworks, regular climate-risk and vulnerability assessments, and clear

coordination mechanisms would address this fragmentation and help ensure that adaptation measures are implemented consistently on the ground.

At the same time, the European Climate Risk Assessment shows that climate impacts vary significantly across regions, with many risks already approaching critical or catastrophic levels for specific populations and territories. This makes it essential for Member States to identify vulnerable groups and regions and develop targeted adaptation measures that respond to local realities. In a warming world, extreme events increase in frequency and intensity. Regions that are already vulnerable to climate change will become increasingly due to recurring floods, droughts, heatwaves. In particular in the light of recent research (e.g. Messori et al., 2025) that shows that extreme events increasingly compound (overlap or occur in quick succession) as they become more frequent. Finally, the Preparedness Union Strategy highlights gaps in governance, anticipatory analysis and cooperation across society, emphasising that engaging all relevant stakeholders, especially vulnerable groups, is vital for building effective and inclusive resilience strategies.

Monitoring, reporting, evaluation and learning.

The Commission asked, to what extent do you agree with the following:

Development of a limited number of performance indicators for both the EU and Member States, for measuring the effectiveness of climate adaptation and resilience measures.



In line with the simplification agenda, improvement and streamlining of monitoring, reporting, evaluation and learning practices at EU and national levels, through more targeted reporting on climate impacts.



Incorporation of corresponding resilience progress indicators into existing sector legislation to avoid duplication and new reporting requirements.



Improved monitoring and evaluation are essential because the European Climate Risk Assessment shows that many climate risks are already approaching critical or catastrophic levels, while adaptation efforts remain slow and uneven across Member States. A limited set of common performance indicators would give the European Union and Member States a consistent way to track progress and identify gaps. The Legislative Train Schedule also highlights that current policies are not fit for purpose, underscoring the need for clearer, harmonised monitoring systems that avoid duplication and reduce administrative burden while improving transparency and learning. Strengthening monitoring, reporting and evaluation is therefore key to ensuring that climate-resilience measures scale at the pace required.

A set number of adaptation indicators need to be adopted across the EU to assess progress in adaptation and successful adaptation measures. Fifty-nine indicators have been selected for now at COP30.

Please specify other impactful measures with transformational impact that the Commission should include in its legislative proposal on climate resilience.

The Commission should include measures that drive system-wide resilience. First, require multi-hazard and cascading risk assessments, as the European Climate Risk Assessment shows many risks could reach critical or catastrophic levels without stronger action. Second, introduce climate-resilience stress-testing for critical infrastructure and essential services, reflecting the Commission’s finding that current approaches are not fit for purpose. Third, embed resilience into regulatory and financial decision-making, addressing gaps where climate risks are still not systematically integrated into energy and investment rules. Finally, strengthen ecosystem protection, as weakened safeguards undermine long-term adaptation capacity.

Resilience by design must be embedded in national legislation as well, such as for example the exposure of buildings in flood-prone areas. We can take Belgium as an interesting case example here. In Belgium, insurers' contributions in case of disasters resulting from natural hazards are capped by law and some regional solidarity is supposed to cover excess damages. However, funds were never created or funded in several regions. And so, when the devastating floods of 2021 occurred, insurers had to cover double the amount stipulated by law. This is one example as to why insurers need to rely on a regulatory framework. Although the EU Floods Directive guides policy in MS, in practice, for example for Belgium again, the primary responsibility lies with the Regions. Although many tools exist (digital flood maps and building codes), implementation is often delayed due to fragmented responsibilities, limited budgets, and a lack of enforcement at the municipal level.

Decision-support tools for climate resilience

Access to clear, reliable and practical information about how climate change affects us and what we can do about it, is essential to better manage the risks and develop effective solutions. Open-access web-based tools can help meet this need by **reaching large audiences with tailored, visually engaging and interactive information.**

However, most existing tools are designed for experts focusing on scientific rather than practical needs. Furthermore, tools targeting different geographies, climate hazards or sectors often use different methods and reference points to quantify future changes, making comparison difficult. Cross-border information is often missing. The Commission would like to get feedback on how it can best use Europe's wealth of climate data and digital capabilities **to improve access to clear, reliable, practical and coherent information on climate risk and adaptation solutions across regions and sectors.**

-European Commission

Where do you look for information about how climate change could affect you or your activities?

The Commission asked, to what extent do you agree with the following:

Sectoral organisations resources, including advisory and support networks.

Regional and/or local authorities' resources.

National government resources, including national meteorological services.

European climate adaptation platforms and/or climate services.

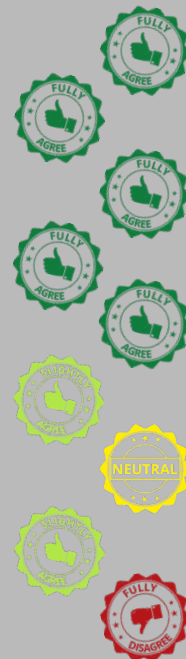
European scientific programmes and networks.

Reach out to a consultancy to find and analyse this information for me.

In the media, social media and online.

Using artificial intelligence.

I have never looked for such information.



We fully agree except for reach out to consultancy (slightly agree: Consultancies can help interpret fragmented data, especially given inconsistent methodologies across tools - an issue highlighted by the Commission - but should complement, not replace, accessible public tools.), in the media, social media and online (neutral: while media channels are accessible, the Commission emphasises the need for clear, reliable and coherent information, which media sources do not consistently provide. Tools using different methods already create confusion, and media can amplify this), using AI (slightly agree: Artificial intelligence can help users navigate fragmented datasets, but the Commission notes that even AI-enhanced tools may struggle when source data uses inconsistent scenarios, methods and hazard definitions. It is useful, but not yet reliable on its own) and I have never looked (fully disagree).

We draw on information from sectoral organisations, local authorities, national meteorological services, European and global climate platforms, and scientific programmes to understand how climate change may affect activities. Yet, as the Commission highlights, existing tools often rely on inconsistent methods, assumptions and baselines, making comparison difficult and reducing their practical value for decision-makers. Cross-border data and interoperable assessments are also frequently lacking. Enhancing coherence across datasets, developing clearer operational guidance, and providing harmonised, user-friendly tools would greatly improve the accessibility, comparability and real-world usefulness of climate-risk information across the EU.

High-quality, regional-scale climate-risk information remains limited across the EU. A single, accessible platform providing harmonised data on climate-change impacts at EU, Member State and regional levels would help (1) citizens understand the specific risks they face and (2) ensure policymakers at all administrative levels work from the same evidence base, enabling coherent and synergistic action.

The Belgian case illustrates this complexity: weather forecasting is a federal competence, river management is handled by regional or municipal authorities, flooding is a provincial responsibility, and emergency response and post-flood recovery depend on flood severity. Effective preparedness therefore requires seamless information flows among all authority levels before, during and after flooding events. A common, interoperable climate-risk information system is thus essential for early warning, coordinated emergency response and long-term adaptation planning.

What information would help you determine if and how to take action to better prepare for the effects of climate change?

The Commission asked, to what extent do you agree with the following:



Recent economic losses or damage caused by climate events in my area or in activities related to my job.



Current severity of extreme or unseasonal weather in the area where I live or work (e.g. expected number of days with temperatures exceeding 35 °C).



Estimates of future severity of extreme or unseasonal weather in the area where I live or work.



Current impacts of extreme or unseasonal weather on my community and me in terms of health (e.g. excess mortality due to dangerous heat waves), and economic activities (e.g. crop production losses from heat, damage to energy infrastructure due to floods, etc).



Estimates of future impacts of extreme or unseasonal weather on my community and me in terms of health and well-being, and economic activities.



Information on insurability of exposed assets.



Benefits of specific adaptation solutions in reducing impacts on health and wellbeing and specific economic activities.

To make informed and timely decisions on climate adaptation, users need clear, locally relevant and practical information—including recent economic losses, the current severity of extreme weather, forward-looking hazard projections, and observed impacts on health, infrastructure and communities. However, as noted by the European Commission and several high-level assessments, most existing climate-risk tools remain highly technical, inconsistent across regions and hazards, and offer limited cross-border comparability. This makes it difficult for citizens, local authorities and organisations to translate climate information into actionable decisions.

Developing a consolidated online platform that integrates these different types of information in a harmonised and user-friendly way would significantly improve public understanding, planning and operational preparedness. Existing Copernicus tools already provide strong building blocks, for example, Climate Pulse (<https://pulse.climate.copernicus.eu/>), which offers near-real-time updates of global climate variables, and Thermal Trace (<https://thermaltrace.climate.copernicus.eu/>), which maps past and present heat and cold stress across the EU down to sub-regional scales. Building a similar platform or expanding these existing services to include currently missing but critical dimensions (such as economic losses, insurability, infrastructure vulnerabilities or sector-specific impacts), would greatly enhance Europe's capacity to anticipate, prepare for and respond effectively to climate risks.

The Commission considers developing a user-friendly web-based tool for non-experts that provides authoritative and harmonised quantitative information on climate change across Europe. This tool could translate the common climate scenarios into national, regional and local climate and weather conditions, which can be expected under these scenarios, and help to find possible solutions for addressing the identified risks. The Commission considers this tool essential for informing EU policies, addressing cross-border risks, and supporting people and businesses lacking alternatives.

Would you benefit from such a tool?



A more effective approach would be to enhance the interoperability, comparability and practical usability of existing climate-information platforms rather than developing entirely new tools. This requires stronger knowledge sharing, validation processes and capacity-building so that national, regional and local authorities can adapt existing tools to their specific risk contexts.

Current platforms also need to move beyond purely scientific modelling and become fully embedded within governance systems, directly supporting adaptation planning and operational decision-making across all levels of administration.

To further improve usability, especially for policymakers, quantitative risk metrics should be complemented with qualitative, narrative-based approaches (for example, risk storylines). This would help communicate climate risks more clearly, provide contextual understanding and make scenario information more actionable for real-world decision-making.

What features would help you use that tool?

The Commission asked, to what extent do you agree with the following:

Simple language that does not require specialist knowledge.

Tutorials and onboarding information.

Visual presentation of information, e.g. on a map.

Ability to download data or summary reports.

Clear link between climate risks and adaptation solutions.

Navigation support through an AI-powered chat.



Links to other trusted sources for more specialised information.

Access to a help desk.



Fully agree: all listed features are essential for making such a tool genuinely usable. To be effective for non-experts, it must present information in simple, accessible language, offer robust onboarding and tutorials, and provide clear visualisations, especially map-based displays that help users understand spatial patterns of risk, while taking into account the wealth of knowledge on how people (inc. governance) perceive (and sometimes undermine) risk. The ability to download data and summary reports is also crucial for practical use by authorities, researchers and communities.

A key requirement is a direct link between identified climate risks and concrete adaptation solutions, since many existing platforms remain overly technical and disconnected from decision-making needs. Providing this connection would significantly enhance the tool's real-world relevance.

Features such as AI-powered navigation, links to trusted specialised sources, and access to a responsive help desk would further improve usability. However, any AI-based support must be strictly constrained to information contained within the platform to avoid misinformation or hallucinations; its role should be to help users navigate and interpret authoritative content, not generate new unverified information.

What other features would you find helpful?

A number of additional features would greatly enhance the usefulness of such a tool for policymakers, practitioners and the wider public. First, integrating estimates of the economic costs of climate impacts (both current and projected) would help users understand the scale of risks in tangible terms. Complementing this with cost estimates for feasible adaptation options would allow decision-makers to compare alternatives and build realistic budgets. Presenting a clear and transparent “action vs inaction” analysis, including avoided losses and co-benefits, would further support prioritisation and strategic planning.

Second, the tool could benefit from sector-specific modules (e.g. agriculture, health, infrastructure, water, energy) that tailor risk and adaptation information to user needs. Providing local case studies, best-practice examples and evidence from similar regions would make the information more relatable and easier to act upon.

Third, to improve long-term planning, the platform could include timelines for when certain risks are likely to become critical, helping authorities schedule interventions. Integrating social vulnerability indicators (such as exposure of vulnerable communities) would support more equitable adaptation strategies.

Finally, offering scenario comparison tables, downloadable templates, and simple guidance for integrating climate data into local plans would empower users to move from information to implementation. Together, these features would transform the tool from a data repository into an actionable decision-support system.

Protecting people and supporting regional and local action

*Climate change has a detrimental impact on human health, lives and livelihoods, disproportionately affecting the most vulnerable. The new framework should drive EU and Member States measures that help individuals and local communities to be better equipped to face climate risks. Because climate risks vary across Europe, action under the framework should be **place-based and co-designed with local and regional authorities** and communities. Launched in 2021 as a pilot initiative to support pioneer regional and local authorities, the [EU Mission on climate adaptation](#) is providing direct support and empowering European regions and local authorities to develop and implement place-based measures towards climate resilience. The new framework provides an opportunity to scale up this support to all regions and communities across Europe.*

-European Commission

The [EU Mission on Adaptation to Climate Change](#) is a vital initiative designed for all stakeholders committed to building climate resilience. It aims to support at least 150 European regions and communities towards climate resilience by 2030. The Mission focuses on three key stages:

1. Understanding climate risks: Helping regions and local authorities identify current and future climate-related challenges specific to their areas.
2. Developing adaptation pathways: Assisting regions in creating strategic plans to prepare for and manage the impacts of a changing climate.
3. Implementing innovative solutions: Supporting the deployment of practical measures, technologies, and strategies to enhance resilience on the ground.

In addition to these objectives, the new EU framework should emphasize the following dimensions to ensure that no one is left behind and that adaptation is truly inclusive and effective:

- Just transition framework: Ensuring that climate action incorporates social safety nets, social reskilling, and measures to support communities and workers affected by the transition.
- Community-level resilience: Promoting a bottom-up approach that empowers local actors and communities to co-design and implement adaptation measures tailored to their specific needs.
- Indigenous and local perspectives: Integrating traditional knowledge and local expertise into planning and decision-making processes.
- Gender, youth, and social dimensions: Recognizing the differentiated impacts of climate change and ensuring that adaptation measures are equitable and inclusive.
- Trust-building in information provision: Ensuring transparent, accessible, and reliable communication to empower communities to act on climate risks effectively.

Overall, the new framework should scale up support across all regions and communities in Europe, fostering collaborative, inclusive, and locally tailored climate adaptation strategies that strengthen resilience for all.

What policy measures should the EU and Member States take to ensure that the most vulnerable groups and geographical areas receive adequate support and are protected from the disproportionate impacts of climate change?

Minimum protection standards for critical services should be established for key climate risks across the Union and ensure a baseline level of protection. For example, flood hazards risk may change depending on the level of exposure and vulnerabilities of target service, such as hospitals, sanitation

facilities or power generation facilities. EU citizens should be engaged during the development of such standards, as local and place-based information ensures a granular framework which incorporates the geographic, socio-economic and ecocultural variations which inform exposure and vulnerability; Remote and vulnerable regions must be particularly engaged.

Funding frameworks should systemically support communities through protective measures based on vulnerability, and informed by risk indices that include exposure to hazards, including compound hazards, socioeconomic and cultural components, and adaptive capacities. Protective measures should be diverse in order to reduce the administrative burden of high-vulnerability and low-capacity municipalities (micro-grants, for example.)

Common standards should inform relocation policies, to ensure relocation is planned and not crisis-driven, and are informed by short-term and long-term assessments in climate risk. Such standards should actively avoid maladaptive measures, as highlighted by existing frameworks such as NAM ("Navigating the continuum between Adaptation and Maladaptation"; Reckien et al, 2023.) Transnational strategies such as be included to encourage co-operation through communication, monitoring, information-sharing for hazards that transgress state boundaries. EU-level assistance can be scaled-up to strengthen transnational civil protection mechanisms with common, accessible communication platforms that inform EU citizens and support education, whilst fighting misinformation.

Member States should support the EU vulnerability framework by designating high-priority groups and regions, with an obligation to integrate vulnerability mapping into planning and budgeting, and compliance with EU baseline protection standards (see above). Outcomes should be monitored to make sure that protection reaches the most at risk; Member States should co-ordinate risk assessments both internally and internationally to ensure risk assessments capture the systemic, complex and compound effects of natural hazards, alongside their transnational reach.

To ensure that the most vulnerable groups and geographical areas are adequately supported, Member States should adopt a people-centred, place-based approach to climate adaptation that delivers a 'Just Transition'.

First, funding mechanisms should be targeted and differentiated: instruments should prioritise regions with high exposure and limited adaptive capacity, including rural, coastal, outermost, Arctic, and socio-economically disadvantaged areas. Adaptation funding should be accessible to both local and regional authorities, with simplified procedures and long-term financial predictability.

Second, European climate adaptation must be embedded within a Just Transition framework, that includes the strengthening of social safety nets, investment in reskilling and upskilling programmes, and supporting workers and communities affected by climate-related economic and environmental change. Adaptation policies must address systemic, social inequalities and their consequent impact on vulnerability and capacity - such those related to age, women and gender minorities, sexuality, disability, socio-economic class, race and ethnicity-which are in turn supported by inclusive governance structures.

Finally, trust-building and transparent communication are crucial: Member States should ensure that climate risk information is accessible, reliable, and locally relevant, in order to strengthen public trust and enable informed decision-making at all levels. Community-level and bottom-up resilience-building should be reinforced to enable local communities to codesign adaptation measures. This requires the meaningful engagement of local stakeholders, including civil society, Indigenous and local communities, and vulnerable social groups, while integrating local and traditional knowledge into decision-making.

What measures should the EU and Member States take to protect people's health against the impacts of climate change?

Health and climate action are strongly linked to each other. The health-focused climate action, therefore, must address social inequalities and vulnerable groups. Therefore, protecting people's health against the impacts of climate change must be the number one priority both EU and national levels, in particularly climate-resilient health systems. Climate-related health impacts include not only physical illness but also mental health consequences, including trauma, anxiety and long-term psychological stress following extreme events; Adaptation frameworks should explicitly incorporate mental health preparedness and recovery mechanisms.

The EU should set minimal health-protection standards and systematically integrate climate risks into EU public health frameworks, including scientific assessments, particularly for heat-related flood-related health impacts, and the consequences of poor air quality. The EU should further require that all insurance coverages consider 'climate health' (e.g. the increased risk of certain diseases due to wildfire proximity), with dedicated funding.

The EU should strengthen preventive, adaptive, and inclusive health policies that address both immediate risks and long-term vulnerabilities. This should include integrating climate risk assessments into health planning, strengthening emergency preparedness for heatwaves, floods, wildfires, and disease outbreaks, and ensuring the continuity of healthcare services during climate-related crises.

Member States should support training programmes that help health professionals cope with the impacts of increased frequency and intensity of climate extremes, including the impact on mental health for citizens and health professionals. Transparent and evidence-based communication training for health professionals on climate-related health risks can enhance public awareness and contribute to community resilience. More broadly, populations should be informed and trained in responding to increasing climate extremes. For instance, countries at risk of earthquakes typically have programmes for citizens and schools that teach how to react in real settings in case of an earthquakes; similar programmes should train citizens to know how to prepare and act in the case of other hazards. These should be integrated into education curriculum, as well as public media and dedicated apps.

Support should recognise vulnerable groups, and We should keep in mind that target low-income households, outdoor workers, people with disabilities, migrants, and remote communities. Gender- and age-sensitive health strategies should be mainstreamed in climate adaptation policies. In order to raise the social awareness of these issues, community-based and bottom-up approaches should be encouraged by empowering local authorities and communities to design health-relevant adaptation measures that reflect local needs and realities, including the use of local and traditional, indigenous knowledge.

What measures should the EU and Member States take to provide greater support to regional and local stakeholders?

The EU should empower regional and local authorities through long-term, flexible, and accessible funding, coupled with technical assistance and capacity-development. This is particularly important in regions with limited administrative capacity, such as remote, rural, coastal regions, where climate impacts are already limited administrative capacity, such as remote, rural, coastal regions, where climate impacts are already accelerating.

Early warning systems and risk communication should be harmonised across Europe, and employ timely, accessible, and locally tailored information which reflect preventive public health measures,

such as clean-air policies. The EU should support urban development with resilient design in city planning, including improved access to green and blue spaces, and heat-resilient housing. These measures would deliver co-benefits for physical and mental health, while also reducing exposure to climate-related hazards.

Member States should reflect the diverse geographical realities in their adaptation planning, and strengthen place-based, knowledge-driven, and co-operative approaches to climate adaptation that includes local and regional stakeholders, especially those in remote regions. For climate adaptation strategies to be successful, local and Indigenous knowledge, including insights gained from remote communities with long-standing experience in adapting to environmental change, should be systematically integrated into all aspects of planning, including research, decision-making and implementation.

Co-designing policies with local stakeholders enhances the relevance, legitimacy, and effectiveness of adaptation measures and strengthens community ownership. Knowledge exchange and peer-learning platforms should be used to connect regions both within and between Member-States, allowing for the sharing and development of best practices and lessons learned. These platforms should link scientific expertise with practical, place-based experience, and should be supported by a strong investment in science diplomacy to further regional and local action. Similarly, cross-border scientific cooperation, joint monitoring systems, and shared climate data can improve early warning, risk assessment, and policy coherence while fostering trust and cooperation among stakeholders. This is essential for building trust whilst ensuring that adaptation strategies reflect local needs and social realities.

What are the most pressing barriers that should be removed to enable action at regional and local level?

- *Lack of sufficiently specific data and information about current and future risks to design science-based policies.*
- *Limited access to specialised support (specialist language, too technical, etc.) to help develop impactful measures, provided at national or EU level.*
- *Insufficient funding or financing for regional and local measures, including access to dedicated national and EU funds.*
- *Insufficient institutional capacity to absorb funding and develop a project pipeline.*
- ***Limited engagement of local communities in designing and implementing measures.***
- *Existing legislation that complicates efforts to deal with climate impacts.*
- *Lack of consistent monitoring and reporting schemes that would provide incentives to act.*
- *Other*

How could the EU Mission pilot be leveraged or replicated to support action by all European regional and local stakeholders?

- *Encourage Member States to develop Mission-type national initiatives with dedicated financial resources for their implementation.*
- ***Define the roles and responsibilities of National Missions within the Framework.***
- *Mandate Member States to set up national platforms or coordination tables where local and regional stakeholders have a legally recognised role and responsibility.*
- *Encourage Member States to dedicate financial resources to support regional and local action.*
- *Connect EU funding opportunities with the relevant stakeholders to scale up the regional and local climate adaptation solutions developed within the Mission.*
- *Other*

We would focus on “limited engagement of local communities” and argue that the last mile of hazard preparedness is key (e.g. people may often refuse to relocate). This should go hand in hand with civil protection at EU level having EU-wide mandate to reach citizens (inc. inform them). We suggest “Connect EU funding opportunities with the relevant stakeholders to scale up the regional and local climate adaptation solutions developed within the Mission”. This is a way to ensure that the expertise and knowledge base developed by local stakeholders and policymakers in the context of the EU Mission on Adaptation can be used to build and scale-up solutions at the local/regional levels. Good to maximize the use of trained experts and their knowledge.

Finance and insurance

*Climate change is already imposing significant measurable costs on consumers, businesses and economies. Extreme weather events and chronic risks such as sea level rise or soil subsidence - damage assets, disrupt supply chains, and reduce productivity, turning them into a mainstream financial concern. Therefore, it is **crucial to factor in climate resilience in investment and financial decisions**, to reduce climate-related economic losses and minimise disruptions to the business continuity and maintain revenues. To fully address the risks, the building of climate resilience would need to be complemented by private sector investments and insurance. Currently, only 25% of the losses are insured and the insurance premiums continue to rise. The scale and systemic nature of climate-related economic impacts make it impossible for governments to bear their cost and will require engagement, including private sector financial contributions, from all levels of governance, economic sectors and the public. The new Framework will put forward policy measures **to scale up resilience finance** needed to fund the expanding project pipeline. It will also include measures aiming to **improve access to affordable insurance and reduce the widening insurance-protection gap**.*

-European Commission

Public sector role in funding climate resilience:

Is it necessary to integrate climate resilience considerations in fiscal planning and financial decisions at all levels of the public sector as well as in the private sector?



Would incorporating climate resilience considerations in investments, including public spending and procurement limit economic losses from climate events?



Private-sector investments and climate resilience.

The Commission asked, to what extent do you agree with the following:

National adaptation plans should be designed to serve as resilience and adaptation investment plans, unlocking the full potential of private sector funding.



The private sector needs more guidance on how to incorporate climate resilience into investment and business decisions.



Effective public-private risk sharing mechanisms for climate adaptation investments (such as public-private partnerships, blended finance, disaster bonds, etc.) would increase resources invested in climate resilience and adaptation.



What are the key obstacles for scaling up investments strengthening climate resilience and adaptation?

Climate change is reshaping the European risk landscape while societal preparedness and implementation of adaptation policies lag behind increasing risk levels (EEA, 2024). At the same time, Europe faces a major adaptation investment gap, with around €70 billion per year needed to build resilience by 2050 (European Commission, 2026). Private investment remains limited due to the misalignment between short-term profit expectations and the long-term nature of adaptation returns.

Indeed, key obstacles to scale up investments for climate adaptation include:

- Moral hazard linked to public disaster compensation. In many European countries, governments are expected to provide post-disaster compensation and emergency support. As a result, firms and households may rationally delay or avoid investing in resilience, assuming that a significant share of losses will be absorbed by public funds.
- Misalignment between private incentives and long-term adaptation returns. Adaptation investments often generate benefits over long time horizons and mainly in the form of avoided losses rather than direct revenues. This makes them less attractive to private investors compared to mitigation or traditional infrastructure investments.
- Persistent insurance protection gap. European countries show major disparities in climate-risk insurance coverage, with the most exposed regions -particularly in the Mediterranean- often experiencing the lowest levels of protection. This increases fiscal pressure on governments and reduces incentives for proactive risk reduction (SUERF Policy Brief No 1181, June 2025).

What policy measures would help overcome these obstacles and boost climate resilience finance?

Climate change also influences public investment decisions. Public adaptation investments could become a necessity to reduce and avert economic losses. Insurance can support climate adaptation, but it has clear limits, and it is more related to mitigation and post recovery phases. Indeed, as climate change increases the frequency and severity of extreme weather events, insurance may become more expensive or unavailable, leaving households, firms and governments increasingly exposed. Relying mainly on insurance and post-disaster compensation therefore risks becoming costly and fiscally unsustainable.

A first essential policy step is to systematically estimate adaptation financing needs across EU Member States. Clear and comparable estimates would help make climate risks and investment gaps visible, support better public planning, and provide a solid basis for mobilising additional sources of finance. Adaptation financing should be determined per hazard and exposure/vulnerability, so funding is fair and just across MS. MS that are more vulnerable should therefore receive more funding. Furthermore, assessments should also consider co-benefits of implementation of adaptation measures for biodiversity, air quality, water management, greenhouse gas emission reductions, and health and well-being.

The second step should be to create a mix of tax incentives linked to the implementation of adaptation measures, with the promotion of innovative financial instruments such as resilience bonds. Adaptation investments often generate benefits in the form of avoided losses rather than direct revenues; private actors face weak financial incentives to invest. Resilience bonds could be instruments link investments in risk reduction to future savings in insurance premiums and disaster losses, helping transform adaptation from a cost into an investable opportunity. Indeed, subsidies linked to risk-reduction measures could help align private investment decisions with long-term resilience objectives. In this scenario, public authorities can play a key role in steering capital towards climate-resilient infrastructure and risk reduction through targeted fiscal and regulatory incentives (European Commission, 2021; OECD, 2023).

Adaptation investment should be screened carefully for possible maladapted solutions. Adaptation actions are cost-efficient when the benefit-cost ratio exceeds 1.5. Measures resulting in a lower ratio require careful consideration because of the uncertainty of their economic costs and benefits (source: EEA, Briefing, Assessing the costs and benefits of climate change adaptation, 2025).

In addition, EU policies should actively promote blended finance approaches to crowd in private investment. By combining public support with private capital, blended finance can help reduce risks, improve the bankability of climate resilience projects and complement insurance mechanisms.

Does the existing EU accounting framework duly reflect the climate physical risks in the valuation of assets? If not, what policy measures do you propose?

Under the current EU framework, Member States are expected to assess and manage the macro-fiscal risks posed by climate change and their implications for public finances, including potential environmental and distributional impacts. In addition, under the revised Stability and Growth Pact, Member States must prepare medium-term fiscal structural plans that explain how planned reforms and investments will contribute to achieving the objectives of the European Climate Law (European Commission; Press release, 10 February 2024).

The EU framework for corporate reporting now operates on two complementary pillars.

1. IFRS – Financial reporting
International Financial Reporting Standards (IFRS) are used to prepare companies' financial statements (balance sheet, profit and loss, cash flow). Climate risks must be considered only when they are financially material, for example in impairment tests, asset valuation, provisions, or cash-flow assumptions. IFRS therefore focus on how climate risks affect the financial performance and value of assets.
2. CSRD and ESRS – Sustainability reporting
The Corporate Sustainability Reporting Directive (CSRD) requires large companies to disclose how sustainability issues, including climate change, affect their business (Directive (EU) 2022/2464). To do this, companies must follow the European Sustainability Reporting Standards (ESRS) Delegated Regulation (EU) 2025/1416, amending Delegated Regulation (EU) 2023/2772). These standards require disclosure on physical and transition climate risks, resilience strategies, and expected financial effects. IFRS provide the financial numbers, while CSRD/ESRS provide structured climate-risk information. The intention is that sustainability disclosures will increasingly inform financial assumptions and asset valuation, even though the two frameworks are not yet fully integrated.

Indeed, currently corporate climate reporting presents two major shortcomings.

First, it primarily applies to large companies, leaving small and medium-sized enterprises (SMEs) outside the scope or subject to significantly lighter requirements. This creates an important gap, as a substantial share of assets and economic exposure to climate risks lies within smaller firms. Second, corporate reporting is, by definition, largely ex post. It focuses on disclosure of risks, impacts, and financial effects once they have materialised or become sufficiently evident, rather than systematically embedding forward-looking physical risk assessments into asset valuation and strategic decision-making.

For this reason, asset-level exposure assessments should extend to all firms, including SMEs, and should be forward-looking. Such assessments must be accompanied by concrete policies aimed at reducing both impact and exposure. This requires a coherent framework of incentives and disincentives, calibrated according to the environmental and climate impacts of specific activities. By linking risk assessment to behavioural and financial signals, policymakers can encourage risk reduction, resilience investments, and more sustainable asset allocation across the entire economy.

Climate risk insurance.

The Commission asked, to what extent do you agree with the following:

Location-specific comprehensive information on climate hazards could improve insurance uptake.



Climate risks insurance products need to be clearer on the hazards they cover.



What policy/regulatory measures -based on market-based mechanisms- do you propose to address the increasing insurance gap and improve access to affordable insurance?

There is a persistent insurance gap across European countries, particularly in Mediterranean regions that are more exposed to climate-related hazards. To address this gap and improve access to affordable insurance, policy and regulatory measures should focus on market-based mechanisms that incentivise both demand and supply.

At EU level, targeted incentives could be prioritised for Member States most affected by the insurance gap, in line with EU climate adaptation priorities. These incentives should aim to de-risk insurance markets rather than replace them, for instance by supporting blended finance mechanisms that combine public and private capital to maintain insurability in high-risk areas. In parallel, the use of market instruments such as catastrophe bonds should be incentivised to transfer residual climate risk to capital markets, increasing overall risk-bearing capacity and reducing pressure on insurers.

In addition, strengthening public-private reinsurance schemes or developing an EU-level risk pooling mechanism could further enhance diversification across Member States and stabilise insurance markets in the face of increasing systemic climate risks.

At Member State level, fiscal incentives such as tax deductions, reduced VAT rates, or tax credits for insurance premiums covering catastrophic risks can stimulate insurance uptake by households and companies, improving affordability while avoiding market distortions.

By aligning insurance incentives with climate adaptation investments, policymakers can reduce moral hazard, lower long-term losses and improve the sustainability of insurance markets.

What kind of risk pooling and transfer mechanisms would be most suitable to increase insurance cover for secondary perils in the European Union?

Insurance companies alone cannot absorb all climate-related risks, particularly in hazard-prone areas where secondary perils occur with high frequency. To increase insurance coverage for secondary perils in the European Union, a combination of risk pooling and risk transfer mechanisms is needed.

Existing national schemes already provide concrete examples of effective risk pooling mechanisms. For instance, the French CatNat system, supported by the Caisse Centrale de Réassurance, demonstrates how catastrophic risks can be mutualised across policyholders and insurers, with public reinsurance ensuring affordability and market stability.

However, such mechanisms remain fragmented at national level and are not sufficient to address the insurance gap for secondary perils across the European Union. Climate-related risks increasingly transcend national boundaries and affect regions unevenly, particularly in Southern and Mediterranean Europe.

At EU level, legislation could support the creation of a common risk pooling mechanism, such as a European reinsurance or trust fund, in which insurers operating in high-risk areas participate. This would allow insurers to mutualise part of their losses, with the fund covering extreme or residual risks, while primary losses remain insured by the market.

Such mechanisms should be complemented by risk transfer instruments, including reinsurance and catastrophe bonds, to further spread risk beyond the insurance sector.

Beyond reinsurance and risk transfer mechanisms, it is essential to combine insurance solutions with instruments that actively support climate adaptation. Climate change represents a structural condition rather than a temporary shock, and therefore requires a combination of short-term measures to manage immediate losses and long-term actions to reduce underlying risk.

In this context, blended finance mechanisms can play a critical role by mobilising public and private capital to support adaptation investments, reduce exposure and vulnerability, and ultimately improve the long-term insurability of climate-related risks. By linking risk pooling and reinsurance schemes with adaptation-oriented finance, insurance systems can move from a purely compensatory role towards a more preventive and resilient framework.

How can insurers in the Union access new capital to back climate-related policies?

Insurers in the Union can access new capital to back climate-related policies by combining risk-pooling mechanisms, public risk-sharing instruments and greater use of capital-market solutions. First, incentivising the uptake of climate insurance, by using schemes inspired by the French CatNat system and supported by public reinsurance or guarantee mechanisms, can enlarge the risk pool and mobilise additional capital. A broader and more diversified pool of insured risks improves predictability of losses and strengthens insurers' capacity to attract investors and reinsurers.

However, the increasing frequency and severity of climate-related extreme events risk undermining the long-term financial sustainability of insurers if traditional insurance and reinsurance remain the sole sources of capital. Insurers should therefore expand the use of capital-market instruments such as catastrophe bonds, which allow climate risks to be securitised and transferred to institutional investors. By accessing global capital markets, insurers can diversify funding sources beyond traditional reinsurance and significantly increase overall risk-bearing capacity.

Public-private partnerships can further facilitate access to capital by providing guarantees, first-loss tranches or co-investment structures that reduce risk for private investors. In this context, blended finance approaches that combine public funds, guarantees and private capital, can play a key role in de-risking investments in resilience, reducing expected losses and improving the risk profile of insured assets.

How to mobilise private investor interest in insurance-linked investment vehicles?

Private investor interest in insurance-linked investment vehicles can be mobilised by offering instruments tailored to different risk appetites.

Risk-seeking investors may be attracted by high-yield instruments such as catastrophe bonds, which provide returns largely uncorrelated with traditional financial markets, as demonstrated by the experience in the United States.

More risk-averse investors, instead, may be interested in insurance-linked products offering lower but more stable returns, provided that part of the risk is absorbed by the public sector. In this context, public trust funds, guarantee schemes or public reinsurance can play a de-risking role.

Blended finance structures, combining public capital with private investment, can further improve the risk-return profile of insurance-linked vehicles, thereby broadening the investor base and mobilising long-term private capital.

To scale up participation, policymakers should also ensure a stable regulatory framework, transparent climate-risk modelling and standardised disclosure practices, which are essential to reduce uncertainty and enhance investor confidence.

Is there a need for a European marketplace where climate-related risk can be pooled among insurance companies and non-insurance investors?

Yes, there is a clear need for a European marketplace where climate-related risk can be pooled among insurance companies and non-insurance investors. The increasing frequency and severity of climate-related disasters (as well as compound events or recurring events in close succession), combined with persistent insurance protection gaps across the Union, particularly in hazard-prone regions, highlight the limits of fragmented national approaches and the need for an EU-level risk-sharing mechanism.

Such a marketplace should be built on two complementary pillars.

First, shared responsibility among public authorities, insurers and private actors is essential to reduce climate risk at source. This includes incentivising adaptation and resilience investments, limiting moral hazard, and promoting preventive measures. In this context, instruments such as green bonds and mandatory insurance coverage in high-risk areas can help align risk reduction with financial responsibility.

Second, the marketplace should enhance the attractiveness of climate-risk investments for external investors. Insurance-linked securities, such as catastrophe bonds, together with blended finance structures, can offer diversification benefits and an improved risk-return profile, thereby mobilising private capital and spreading climate risk beyond the insurance sector.

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Appendix A: full answers to the European Commission call





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