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COMMISSION STAFF WORKING DOCUMENT

Report on the implementation of the EU strategy on adaptation to climate change

Accompanying the document

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

EU Climate Action Progress Report 2023

{COM(2023) 653 final} - {SWD(2023) 339 final}

REPORT ON THE IMPLEMENTATION OF THE EU STRATEGY ON ADAPTATION TO CLIMATE CHANGE

Introduction

In February 2021 the European Commission adopted a new EU Strategy on the Adaptation to Climate Change¹. The need to update the previous strategy, which dated to 2013, was apparent: the physical impacts of the climate crisis were intensifying and the need for transformative action to reduce vulnerabilities to those impacts was evident.

The strategy sets out an ambitious path across an exceptionally broad spectrum of policy areas. It is conceived as a decadal document, outlining clear principles for enhancing resilience to the impacts of climate change and for managing the associated risks. The path signposted by the strategy is relevant to the EU level and beyond; it notes that adaptation is an all-of-government, all-of-society effort. Realising the 2050 vision of a climate-resilient EU, fully adapted to the unavoidable impacts of climate change, requires bold, energetic and joined-up action on adaptation in tandem with reducing global emissions at a steep pace in compliance with the Paris agreement.

At the EU level, the strategy contains 49 actions to which the Commission has committed, spread across four high-level objectives: **smarter, more systemic, faster and international** adaptation to climate change. The actions were designed to cover large ground in terms of policies and often involve the sequencing of steps. Some actions were to be completed in the short term, while others require work over a longer horizon. A rich ecosystem of measures fills this evolving space, and the current report summarises the most important measures that have been undertaken or are in progress at the EU level.

Increasing resilience to the impacts of the climate crisis requires coordination beyond the ordinary within public administrations, and with/across stakeholders at other societal levels. This is reflected in the Commission's 2023 update of the guidelines on Member State adaptation strategies and plans, and it is a principle that the Commission has applied as a public administration itself to the preparation and implementation of the adaptation strategy to date. That process has also begun to improve adaptive capacity at the EU level, with progress in terms of awareness and skills relating to adaptation across departments and the capacity of the Commission to adjust to the changes and uncertainties in the climate.

The current report does not aim to provide an absolute measure of how resilient the EU is to climate impacts. Improving the ability to measure adaptation outcomes is work in progress. There is also a deeper layer to the question of what "having successfully adapted" would mean, which links to societal values that may themselves be shifting. In the case of adaptation to climate change, these are values that shape understandings of what is the best life that is possible to preserve, restore or create, against the canvas of dramatic changes that we are driving in the physical conditions of life in our societies.

This report targets a more straightforward task: providing a picture of progress that is underway on improving knowledge and data; supporting policy development and climate risk management at all levels; and accelerating action to anticipate and to adapt across the board to put Europe – and assist our international partners – in a much better position to face climate impacts already before 2030. It therefore also feeds into the first assessment of EU level progress on the Climate Law obligations on adaptation that is published concurrently.

In its recent sixth Assessment Report the Intergovernmental Panel on Climate Change (IPCC) has made it clear that the window to secure a liveable future for all is brief and rapidly closing. Seizing this

¹ COM(2021) 82 final

window is not an easy task and does not solely fall on Europe, but the EU is determined to live up to this uniquely historical and consequential, collective responsibility to current and future generations.

Executive summary

Most of the actions to which the Commission has committed in the 2021 adaptation strategy are off to a good start. Climate resilience considerations are far more present across EU policies than just a few years ago. Implementation will need to continue apace in the coming months and years.

The summary in this section provides an illustration of the efforts underway, with a more complete picture in the different chapters that follow.

To improve knowledge and manage uncertainty for smarter adaptation, the Commission has published new calls for projects under Horizon Europe to close knowledge gaps on climate impacts and resilience and has been developing the Risk Data Hub, a repository for Europe-wide disaster risk data. The Commission, together with the European Environment Agency (EEA), has launched and expanded the content and the partners of the **European Climate and Health Observatory**, a broad partnership to help Europe become more resilient to the impacts of climate change on human health. It has assigned substantial work and resources to expanding the capabilities, content, user and contributor base, outreach, and impact of the Climate-ADAPT knowledge exchange platform hosted by the EEA.

To support a systemic approach to policy development, the Commission has stepped up work to systematically integrate adaptation action in sectoral strategies and plans. It also now requires a consistency check with adaptation objectives in its impact assessments. The Commission has issued updated guidelines on Member State adaptation strategies and plans. It has launched the **European Climate Pact** and an adaptation **policy support facility** under the EU Covenant of Mayors in support of increasing societal preparedness.

Good progress has been made in implementing the **Mission on Adaptation to Climate Change**, which is designed to speed up innovative adaptation action at local and regional levels. Over 300 regions and communities, covering some 40% of the EU, have signed up to the Mission Charter and committed to working together to accelerate the transformation to climate resilience; the Adaptation Community of Practice is live and the Mission technical support facility is operational.

The first ever **European Climate Risk Assessment** is due to be published by the EEA in Spring 2024, in time to feed into the process of setting priorities for the next Commission. The Commission jointly steers this work with the EEA. The Commission has published technical guidance on the climate proofing of infrastructure projects in 2021 and on enhancing the climate resilience of buildings in 2023¹. The Climate Resilience Dialogues² have brought together policymakers, insurers, risk managers, consumers, city associations and other stakeholders to discuss and identify possible actions, both on insurance and investment in adaptation to help narrow the climate protection gap. The dialogues were launched in November 2022.

Also in the field of increasing water resilience, to be better prepared for impacts like prolonged droughts, intensive rainfall and rising sea levels, good progress has been made. The European Drought Observatory on Resilience and Adaptation to Climate Change and the 2023 Water Reuse Regulation³ promote the sustainable use of freshwater, by providing knowledge as well as a legal basis to increase opportunities to reuse water of waste water treatment plants.

² Climate Resilience Dialogue, see: https://climate.ec.europa.eu/eu-action/adaptation-climate-change/climate-resilience-dialogue_en

³ Regulation (EU) 2020/741

To step up international action for climate resilience, the EU has been active in scaling up international finance. The EU and its Member States are the largest donors of adaptation finance, contributing EUR 12 billion in 2021 to climate adaptation or actions combining climate adaptation and climate mitigation. The EU has also joined initiatives such as Adaptation Without Borders, the Africa Adaptation Initiative, the International Coral Reef Initiative, and the All-Atlantic Ocean Research Alliance. Abroad as well as domestically, the Commission has been underlining the special role nature-based solutions should play in developing climate resilience and has increased the pool of knowledge and tools on adaptation available to non-EU countries.

Progress on the Adaptation Strategy actions

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Objective 1: Smarter adaptation: Improving knowledge and managing uncertainty

Under the banner of ‘smarter adaptation’, the 2021 EU Adaptation Strategy champions the need for robust data and risk assessments to inform all sectors of society on the current and future impacts of climate change. The objective acknowledges and targets knowledge gaps and uncertainties that persist in our understanding the impacts of climate change on natural and human systems, and it aims to push these frontiers including through acquiring more and better climate-related data. It also recognises the increasing demand from society for user-friendly tools that condense complex climate information into actionable knowledge.

Pushing the frontiers of knowledge on adaptation

- *Action 1: Improve the state of the art on adaptation modelling, risk assessment and management tools – towards “asset-level modelling”*

The Commission commissioned a study on climate adaptation modelling, whose main reports were published at the time of the adoption of the EU Adaptation Strategy⁴.

The EU’s key funding programme for research and innovation is Horizon Europe. Under its Framework Programme two topics were published in first half of 2022 calling for projects to improve the state of the art on adaptation modelling and risk assessment, and one on supporting management tools:

- ‘Towards asset level modelling of climate risks and adaptation’;
- ‘Development of climate change risk assessments in European regions and communities based on a transparent and harmonised Climate Risk Assessment approach’ and
- ‘Better prepared regional and local authorities to adapt to climate change’

Other relevant topics have been published in the Horizon Europe Working Programme 2023-2024, including adaptation modelling with improved resolution.

The Commission supports the Territorial Risk Assessment of Climate in Europe (TRACE) project undertaken by the Joint Research Centre, which aims at delivering data, indicators, and information on regional impacts of climate change on a wide range of sectors. Results are foreseen in 2024.

Activities are also supported on adaptation modelling for Destination Earth (see under action 2), including by the EEA.

- *Action 2: Help to close knowledge gaps on climate impacts and resilience, including on oceans, through Horizon Europe, Digital Europe, Copernicus, and EMODnet.*

The Commission published in 2022 a call for projects on five topics under the Horizon Europe Framework Programme to help close knowledge gaps on climate impacts and resilience, including on oceans. In addition to the three mentioned in action 1, two calls also support Danube river basin lighthouse projects: ‘Restoration of fresh and transitional water ecosystems’ and ‘Protection and restoration of wetlands, flood plains, coastal wetlands and salt marshes and their biodiversity’.

⁴ European Commission, Directorate-General for Climate Action, Jeuken, A., Bosello, F., Morales Irato, D., et al., *Study on adaptation modelling : report on use cases and rapid analysis*, Publications Office, 2021, <https://data.europa.eu/doi/10.2834/152735>

In the Horizon Europe work programme 2023-2024, adopted in November 2022, many calls for projects on climate adaptation and resilience were published, mainly under Pillar II ‘Global Challenges and European Industrial Competitiveness’, with focus on cluster 5 ‘Climate, Energy and Mobility’ and cluster 6 ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’. In cluster 1 ‘Health’, several calls are defined in the area of environment and health, with a strong focus on climate change induced health impacts and how to prevent them. The Horizon Europe Missions (see Action 23), and Partnerships will catalyse action and mobilise research and innovation to address knowledge gaps and roll out innovative solutions for increased climate resilience.

As an example, to reduce the impacts of extreme droughts, research, and innovation on improving water efficiency and on alternative water resources, including supply technologies is of importance. A call on circular economy water related projects⁵ was published in December 2022.

In January 2023 the Commission published under the Mission on Adaptation to Climate Change Horizon Europe Work Programme 2023 three climate adaptation topics calling on testing and demonstrating transformative solutions on a) increasing climate resilience of the agriculture and/or forestry sector, b) to protect critical infrastructure from climate change, mainstreaming Nature-based Solutions (NbS), and c) to build resilience towards health risks caused by the effect of climate change⁶.

In addition, several joint calls with other Horizon EU Missions were presented, among others on ‘Integrated planning for urban greening and re-naturing for urban regeneration, resilience and climate neutrality’, ‘Demonstrate at regional scale an integrated approach to increasing landscape water retention capacity’, ‘Demonstration of climate mitigation and resilience solutions in cities’ and ‘Urban greening and re-naturing for urban regeneration, resilience and climate neutrality’.

Several ongoing Horizon 2020 projects contribute to closing knowledge gaps with regard to alternative water resources, wetland restoration, coastal resilience and new monitoring technologies and other nature-based solutions.

The Commission is advancing the use of digital tools for adaptation through the Digital Europe Programme and Destination Earth initiatives, including the creation of Artificial Intelligence (AI)-enabled local digital twins⁷.

The Commission is supporting the creation of a European smart communities’ dataspace, as part of the European Strategy for Data, with 10-12 validation pilots being selected.

Data and knowledge generation is supported through the Marie Skłodowska-Curie Actions. All grant agreements for projects selected under the 2021 calls have been signed.

More and better climate-related risk and losses data

○ **Action 3:** *Promote and support the use of [the] Risk Data Hub to harmonise the recording and collection of comprehensive and granular climate-related risk and losses data, and promote national level public-private partnerships to collect and share such data.*

The Commission has developed the Risk Data Hub⁸, a web-based platform providing at an EU-wide harmonised approach for multi-hazard risk assessment as well as for recording and managing disaster loss data. The Risk Data Hub has established partnerships with EU agencies

⁵ HORIZON-CL6-2023-CircBio-01-3

⁶ HORIZON-MISS-2023-CLIMA-01

⁷ Destination Earth, see <https://digital-strategy.ec.europa.eu/en/policies/destination-earth>

⁸ Risk Data Hub, see [https://drmkc.jrc.ec.europa.eu/risk-data-hub#/#/](https://drmkc.jrc.ec.europa.eu/risk-data-hub#/)

(EIOPA, EEA) and institutions (ECB), Member State authorities, and projects under the Mission of Adaptation to Climate Change, and publishes regular dashboards on hazards, vulnerability and risk at regional level. The Commission's Disaster Risk Management Knowledge Centre⁹ is a well-recognized platform for promoting further public and private participation, as well as internal coordinating within the Commission on risk data, including through its annual seminars.

A dashboard on economic losses and fatalities from weather- and climate-related events¹⁰ has been published on the Climate-ADAPT portal.

The Commission adopted the Data Act¹¹ in 2022 that, amongst other subjects, mandates for allowing public sector bodies access and use of data held by the private sector that is necessary for exceptional circumstances, particularly in the case of a public emergency, such as floods and wildfires, or to implement a legal mandate if data are not otherwise available.

The Data Governance Act¹², also published in 2022, is a cross-sectoral instrument that aims to make more data available by regulating the reuse of publicly/held, protected data. It promotes national level public-private partnerships to collect data and share such data and will apply as of 24 September 2023.

- **Action 4:** *extend the scope of public access to environmental information in the INSPIRE Directive to include climate-related risk and losses data.*

The Commission has implemented public access to climate data through the Implementing Regulation on High-Value Datasets¹³ in 2022 under the Open Data Directive. This IR lays down a list of specific high-value datasets and the arrangements for their publication and re-use. Climate data was brought into scope in the annex under the "Earth Observation and Environment" and "Meteorological" data categories. Furthermore, and more specifically on climate-related risk and losses data, the Commission will explore the possibility to extend the scope of the INSPIRE Directive in the upcoming impact assessment of the Directive as part of the Green Data for All initiative.

- **Action 5:** *explore with EIOPA and industry the best ways to improve the collection of uniform and comprehensive insured loss data and will empower EIOPA as needed.*

European Insurance and Occupational Pensions Authority (EIOPA) conducted a data collection on the prudential treatment of climate-related adaptation measures in non-life insurance. In 2023 the EIOPA is working on the development of ways to improve the collection of uniform and comprehensive insured loss data; finalisation is planned for 2024.

Making Climate-ADAPT the authoritative European platform for adaptation knowledge

- **Action 6:** *Establish a European climate and health observatory under Climate-ADAPT.*

The Commission launched, together with the EEA, the European Climate and Health Observatory¹⁴ in March 2021, and has been expanding it ever since on content and on partners, collating and developing knowledge on health threats caused by climate change. The main outputs of the observatory in 2022 included an EEA report on 'Climate change as a threat to health and well-being in Europe: focus on heat and infectious diseases'¹⁵, new map viewers, thematic evidence pages, indicators, and 11 case studies on response in practice. Furthermore,

⁹ Disaster Risk Management Knowledge Centre, see <https://drmkc.jrc.ec.europa.eu/>

¹⁰ <https://climate-adapt.eea.europa.eu/en/knowledge/economic-losses/economic-losses-on-weather/>

¹¹ COM(2022) 68 final

¹² Regulation (EU) 2022/868

¹³ Implementing Regulation (EU) 2023/138

¹⁴ European Climate and Health Observatory, see <https://climate-adapt.eea.europa.eu/observatory/>

¹⁵ EEA Report No 7/2022

the partnership agreed on the strategic 2030 objectives for the observatory. It is planned to develop further insights with regard to heat stress, climate-sensitive infectious diseases and the topic water, climate change and health.

- **Action 7:** *Update and expand Climate-ADAPT as source of knowledge on climate impacts and adaptation, including by federating various sources of information, and as monitoring and reporting mechanism*

The European Climate Adaptation Platform Climate-ADAPT¹⁶, a collaboration between the European Commission and the EEA to build and share the European knowledge base on adaptation, has been updated and expanded by – among others - regular integration of EU-funded projects, and regular updates of policy information. This includes new pages on business and industry, cultural heritage, Information and Communication Technology, mountain areas, land use planning, and tourism as well as on areas of key EU interest such as nature-based solutions, forestry, and just resilience. Information on national adaptation policies, based on the governmental reporting¹⁷, is regularly published in the Climate-ADAPT country profiles.

Access to Climate-ADAPT is facilitated by the installation of an electronic-translation function into five additional languages (French, German, Italian, Spanish and Polish) in a pilot. If testing is successful, further languages will be added. The EEA has presented Climate-ADAPT knowledge, tools, and guidance to a broad audience of stakeholders at 12 national and transnational level events as well as via two regular Climate-ADAPT webinars per year and a quarterly newsletter.

A European Climate Data Explorer has been developed and regularly updated by EEA and the Copernicus Climate Change Service¹⁸ with the main purpose of providing easy access to quality assured information on climate hazards and impacts. A clear link to the Disaster Risk Management Knowledge Centre has been established, including the Risk Data Hub. A webpage acting as an entry point to urban and local-level knowledge and a dashboard on economic losses from weather and climate related events in Europe have also been added. Moreover, the Mission on Adaptation to Climate Change Portal¹⁹ was launched in 2023, accessible via Climate-ADAPT, which hosts a regional adaptation support tool and the adaptation dashboard. It gives access to the Community of Practice managed by the Mission Implementation Platform team.

¹⁶ <https://climate-adapt.eea.europa.eu>

¹⁷ Regulation (EU) 2021/1119

¹⁸ implemented by the European Centre for Medium-Range Weather Forecasts (ECMWF)

¹⁹ EU Mission on Adaptation to Climate Change Portal, see <https://climate-adapt.eea.europa.eu/en/mission>

Objective 2: More systemic adaptation: Support policy development at all levels and sectors

The objective of ‘more systemic adaptation’ acknowledges that climate change impacts all societal levels and sectors and reflects the need for a correspondingly systemic response. This objective emphasises mainstreaming climate resilience considerations across all policy fields, going beyond the sectors traditionally receiving the most attention in adaptation such as agriculture and infrastructure. Encompassing 4 fields and 15 actions, it highlights three cross-cutting priorities: integrating climate adaptation into macro-fiscal policy, fostering nature-based solutions, and bolstering local adaptation action.

Improving adaptation strategies and plans

- *Action 8: Upgrade adaptation monitoring, reporting and evaluation by using a harmonised framework of standards and indicators.*

The EEA published a report on advancing towards climate resilience in Europe²⁰, providing an overview of how all EU Member States and Türkiye were adapting to climate change at that time and were reporting on their adaptation actions in 2021.

The EEA has, in addition to the existing Adaptation Support Tool and the Urban Adaptation Support Tool to assist the policy cycle on adaptation, also developed a Regional Adaptation Support Tool.

The Commission developed forward-looking resilience dashboards that assess the relative strengths and weaknesses of countries and includes adaptation. In the field of disaster risk reduction and Union Civil Protection Mechanism (UCPM), the Commission received disaster risk management reports from the MS. Under the UCPM, EU MS, participating states and third countries are offered a peer review opportunity to assess their preparedness for natural and human-made disasters. In 2023, a targeted Wildfire peer review framework was published, to respond to the increasing trend of wildfires as a climate related hazard. The five EU disaster resilience goals²¹ are in the process of implementation following their adoption at the beginning of 2023. The first three goals (anticipate, prepare and alert) are directly relevant for climate adaptation policy (see also action 29).

- *Action 9: Stimulate cooperation regionally and across borders and enhance the guidelines on national adaptation strategies in cooperation with the Member States.*

The Commission has published updated and enhanced Guidelines on Member State adaptation strategies and plans, developed in cooperation with Member States, in 2023.

To foster exchange of best practices and solutions on climate adaptation for the Outermost Regions and their neighbouring countries, the Commission organised nine workshops concerning the Caribbean-Amaçonia Basin, the Southwest Indian Ocean basin, and the Macaronesia basin, between September 2022 and June 2023. A compendium will be produced in 2023 presenting the results, best practices and solutions that can be reproduced in each basin where the Outermost Regions are located, and beyond.

²⁰ EEA Report No 11/2022

²¹ OJ C56, 15.2.2023, p.1. COM(2023) 61 final of 8.2.2023

The Commission has published in 2022 a toolbox monitoring, evaluation and revision of Maritime Spatial Planning (MSP)²² to provide guidance for Member States in the revision of their MSP-plans.

In marine regions, multiple initiatives aim to safeguard marine ecosystems and habitats against climate change threats. These include the EU Biodiversity Strategy²³, the Action Plan “Protecting and restoring marine ecosystems for sustainable and resilient fisheries”²⁴ and a proposal for a Nature Restoration Law. Moreover, under the Marine Strategy Framework Directive²⁵, measures are being implemented to minimise adverse climate impacts on coastal and offshore seabed habitats as part of EU MS’ marine strategies..

- **Action 10:** Update its ‘Better regulation’ guidelines and toolbox to better reflect the principles of climate-risk management policy coherence.

The Commission has revised its ‘Better Regulation’ guidelines²⁶ and toolbox²⁷ in compliance with the Climate Law, which obliges the consideration of adaptation progress in impact assessments. Climate impacts have so far been considered in consistency checks in policy areas of transport, energy, water management, state aid, plant and forest reproductive material, neighbourhood policy and employment since the adoption of the relevant tool in 2021. In agriculture, the only relevant initiative since the adoption of the 2021 update of the better regulation toolbox is the revision of EU marketing standards. The link to climate impacts is not strong but valorising fruits with visual defaults/small size/blemished adds to the resilience of the sector. The Better Regulation toolbox includes another element related to risk management, which also deals with climate risks.

- **Action 11:** Provide ex-ante project assessment tools to better identify co-benefits and positive impacts on the economy of adaptation and prevention projects.

Funded by the European Commission, a 2021 World Bank study on the Economics of Disaster Prevention and Preparedness in Europe²⁸, focuses on four key components: support to building physical resilience, supporting climate change adaptation, support to promoting financial resilience, and support to enabling institutional resilience. A second report will follow in 2024, addressing among other things the cost of adaptation.

- **Action 12:** Improve EU strategies and plans with regard to adaptation to climate change

The Commission’s proposal for an EU Nature Restoration Law²⁹, adopted in June 2022 and in trilogue at the time of the publication of this report, has dedicated provisions on climate adaptation requirements. The importance of healthy ecosystems and their services for climate

²² European Commission, European Climate, Infrastructure and Environment Executive Agency, *Toolbox for monitoring, evaluation and revision of MSP : final report*, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2926/974797>

²³ COM(2020) 380 final

²⁴ COM(2023) 102 final

²⁵ Directive 2008/56/EC

²⁶ SWD(2021) 305 final

²⁷ ‘Better regulation’ toolbox 2021, see https://commission.europa.eu/system/files/2023-02/br_toolbox-nov_2021_en.pdf

²⁸ International Bank for Reconstruction and Development/ The World Bank, *Economics for Disaster Prevention and Preparedness. Investment in Disaster Risk Management in Europe Makes Economic Sense Summary Report*, 2021, https://civil-protection-humanitarian-aid.ec.europa.eu/what/civil-protection/european-disaster-risk-management/economics-disaster-prevention-and-preparedness_en

²⁹ COM(2022) 304 final

adaptation – including water absorption and retention, soil retention, cooling, etc. – is highlighted in the impact assessment of this proposal. The Nature Restoration Law’s targets for urban, coastal wetlands and riverine habitats contribute to disaster risk reduction and climate change adaptation, with references to complementarity with Land Use, Land-Use Change, and Forestry (LULUCF).

The revised EU Pollinator Strategy³⁰ targets the impact of climate change on pollinator decline. By 2030, it aims to identify the most vulnerable zones for pollinators due to climate change and implement targeted mitigation measures. Member States are encouraged to consider the impact of climate change on pollinators and on their habitats in their national climate adaptation strategies.

The new EU Forest Strategy for 2030³¹ emphasises the need for adaptation with specific goals and measures. The roadmap for planting at least 3 billion additional trees in the EU by 2030 also stresses the importance of making forests more climate resilient and of using tree species and provenances which are suitable to future climatic conditions.

Climate change adaptation is also considered in the proposal for a list of surface water and groundwater pollutants, the Revision of the Urban Wastewater Treatment Directive (see action 39) and the Revision of the Industrial Emission Directive.

In June 2023, the Commission, and the European External Action Service (EEAS) adopted a Joint Communication on a new outlook on the climate change and security nexus, outlining how the EU plans to tackle the increasing impact of climate change and environmental degradation on peace, security, and defence. It establishes the EU framework to address these challenges, through evidence-based analysis and foresight climate informed planning, decision-making and implementation, to operationalising the nexus in EU external action from climate action and adaptation to and mitigation action to conflict prevention, crisis management and humanitarian action, reinforcing sustainable and climate-resilient security and defence capabilities and infrastructure and strengthening international cooperation. The Commission, in collaboration with the European Defence Agency (EDA), has analyzed the impact of climate change on EU defence capacities and defence-related critical energy infrastructure. In collaboration with EEAS and EDA, the Commission has also supported EU Member States in the development of national strategies to prepare the armed forces for climate change, as called for in the Strategic Compass for Security and Defence.

The Communication on Strategic Guidelines for a more sustainable and competitive EU Aquaculture for the period 2021-2030, adopted by the Commission in 2021, outlines the development of sectoral climate adaptation strategies and plans for aquaculture. Several studies on climate change impacts on fisheries and the post-harvest sector have informed the development of the Fisheries and Oceans package, adopted in February 2023.

Adaptation and resilience also play a role in the ‘Sustainable Carbon Cycles’ strategy³² and in the proposal for Regulation on Carbon Removals Certification, published in December 2022. Adoption by co-legislators is expected in the first quarter of 2024.

Most National Energy and Climate Plans (NECPs) adopted by the Member States in 2019 refer to national adaptation strategies and plans but provide little detail how they contribute specifically to the success of the Plans. In its 2022 guidance to Member States on the update of their NECPs, due in June 2023, the Commission encouraged a better consideration of adaptation needs in support of the achievement of the Energy Union objectives in the dimensions of decarbonisation, energy efficiency, energy security and internal energy market.

Result indicator R.12 of the Common Agricultural Policy (CAP) indicates that, taking together all CAP Strategic Plans of EU member states, 25% of the EU’s Utilised agricultural area is

³⁰ COM(2023) 35 final

³¹ COM(2021) 572 final

³² COM(2021) 800 final

targeted under supported commitments to improve climate adaptation, beyond the basic ‘conditionality’ requirements.

However, other requirements and interventions associated to other indicators could also be relevant for adaptation, like for protection of soil, carbon storage in soil and landscape features. Additionally, a resilience index for the EU farming sector will be published in the Agri-food Data Portal³³ in second half of 2024.

The Marine Strategy Framework Directive (see action 9) is currently under review. The Impact Assessment for a possible future revision of the Directive, will consider options for strengthening the links between ocean and climate policies.

Fostering local, individual, and just resilience

○ **Action 13:** *Step up support to planning and implementation of local adaptation and launch an adaptation support facility under the EU Covenant of Mayors.*

Within the EU Covenant of Mayors, as of June 2023, over 4500 of the 11.700 signatories – representing more than 230 million inhabitants – have made commitments to act on adaptation to climate change.

To support the actions of cities and local governments in the EU, the Commission launched the Policy Support Facility (PSF) during the EU Covenant of Mayors ceremony in October 2021. Over the past one and a half years of the programme more than 1000+ people have been engaged, including 200+ attendees taking part in interactive sessions, 350+ municipalities in national workshops, 8 cities developing peer-to-peer exchanges on climate action and 37 adaptation measures advancing toward implementation. A report on the lessons learned from the PSF will be published in the beginning of 2024.

In December 2020, the EU launched the European Climate Pact across all EU Member States. Its goal is to unite EU citizens and civil society around a common cause, helping the EU become climate-neutral and climate resilient by 2050, by raising awareness and encouraging action on climate change.

The Pact provides citizens with tools and information to take practical and meaningful steps for a more sustainable lifestyle and inspiring them to lead by example in their communities and offers a platform for sharing experiences and best practices. There are now also over 700 Climate Pact Ambassadors all over Europe active in educating, inspiring, connecting and multiplying action and efforts on the ground.

The Commission has also launched the Sustainable Consumption Pledge, which is inviting companies active in the EU to take a voluntary pledge to support sustainable consumption, beyond what is required by law, thereby complementing other regulatory actions.

The LIFE multi-annual work programme 2021-2027 has been revised to ensure that funding priorities are aligned with the EU Adaptation Strategy. Under the call for projects for 2021 and 2022 in total 24 climate adaptation projects have been selected, distributed over the following themes (in decreasing order): agriculture and forestry; water management; cities, regions, infrastructure and buildings; nature-based solution for land, coasts and marine areas and strategies, plans and state-of-the-art tools. Several of these projects are Strategic Integrated Projects set up to assist Member States or regional authorities to Implementation of adaptation strategies or action plans for the transition to a climate resilient society.

The Joint Research Centre of the Commission launched two studies on just resilience, one on heat impact on workers (see also action 15) and one analysing the current and emerging unequal exposure and impacts from flood risk vulnerability and underinsurance. The European

³³ <https://agridata.ec.europa.eu/extensions/DataPortal/home.html>

Environment Agency published briefings on just resilience and climate adaptation³⁴ and cooling buildings sustainably³⁵ in 2022. Moreover, The European Topic Centre on Climate Change impacts, vulnerability and adaptation published a technical paper on ‘Just transition in the context of adaptation to climate change’ (2021)³⁶ and on measuring progress on just resilience (2023)³⁷. The EU disaster resilience goals specifically mention the importance of addressing the needs of vulnerable groups in disaster risk management.

- **Action 14:** *Support the reskilling and requalification of workers for a just and fair resilience with education and training through ESF+, Erasmus+ and European Solidarity Corps.*

In 2021, The Commission launched the Education for Climate Coalition³⁸, a program aimed at increasing climate literacy and fostering action to address climate change.

The Commission is actively encouraging local adaptation actions through initiatives such as the online platform Smart City Marketplace³⁹.

The Erasmus+ and European Solidarity Corps programmes consider sustainability and the green dimension as one of their four transversal priorities. For Erasmus+, the Commission supports over 1000 projects prioritising the green transition annually, as the European Green Deal in one of the programme's 2019-2024 priorities. Climate adaptation is included, but there is no figure available at this point on the number of projects that target or consider climate resilience.

- **Action 15:** *Continue to ensure the enforcement of existing employment and social legislation, and, where relevant, consider proposing new initiatives that increase workers’ protection from climate impacts.*

The Commission aims to protect workers from the adverse effects of climate change. The research project “Climate change, adaptation and just resilience: Assessing socio-economic impacts, risks and vulnerabilities” (LABPROD-JR) will strengthen the evidence base and assess how climate change, in particular heat stress, will affect productivity performance of European workers, considering different occupational groups and regions. The report is scheduled for completion in 2024.

Integrating climate resilience in macro-fiscal policy

- **Action 16:** *Develop ways to measure the potential impact of climate-related risks on public finances, develop tools and models for climate stress testing, and engage in discussions with Member States to better take into account climate change in national reporting and fiscal frameworks.*

³⁴ EEA Briefing: Towards ‘just resilience’: leaving no one behind when adapting to climate change, see <https://www.eea.europa.eu/publications/just-resilience-leaving-no-one-behind>

³⁵ EEA Briefing: Cooling buildings sustainably in Europe: exploring the links between climate change mitigation and adaptation, and their social impacts, see <https://www.eea.europa.eu/publications/cooling-buildings-sustainably-in-europe>

³⁶ ETC/CCA Technical Paper 2/2021

³⁷ [ETC/CA Technical paper 1/23](#)

³⁸ Education for Climate Coalition, see <https://education-for-climate.ec.europa.eu/>

³⁹ Smart Cities Marketplace, see <https://smart-cities-marketplace.ec.europa.eu/>

Member States practices⁷ have been peer-reviewed in October 2022, with several publications done on national budgetary frameworks. A second discussion paper on disaster risk financing in EU Member States⁴⁰ was published in December 2022.

The Commission has been raising stakeholders' awareness on disaster risk management and disaster risk financing strategies through regular interactions with stakeholders. Furthermore, the Commission published the results of a pilot study to measure the potential impact on public debt sustainability of climate-related risks in the Fiscal Sustainability Report⁴¹ in 2021. The 2021 World Bank report on the Economics of prevention and preparedness, also addresses the macro-fiscal impacts of disasters.

- **Action 17:** *Explore with Member States whether and to what extent Stability and Convergence Programmes could factor in the climate adaptation dimension.*

The Commission is exploring how to standardise national reporting of climate-related fiscal cost/macro-economic impact assessments across National Regulatory Authorities, National Energy and Climate Plans and Stability and Convergence Programmes. The Commission's proposal⁴² for a reformed EU fiscal surveillance framework aims to introduce new reporting requirements concerning macro-fiscal risks from climate change, the socio-economic and environmental impact of climate-related policies, as well as climate-related contingent liabilities and related economic losses. Additionally, the proposed Preventive arm Regulation⁴³ plans to replace the Stability and Convergence Programmes with national medium-term fiscal structural plans, which would include information on disaster and climate contingent liabilities. The adoption of these legal proposals is targeted for the end of 2023 in cooperation with the Member States

- **Action 18:** *Explore and discuss with Member States actions to dampen the fiscal impact of climate-related events and reduce fiscal-sustainability risks.*

The Commission has launched the Climate Resilience Dialogue in November 2022 (see action 34). The objective of the Dialogue is to discuss and identify solutions to narrow the climate protection gap and lower the share of uninsured losses to the economy. A report is foreseen to be published in 2024.

- **Action 19:** *Promote better coordination and complementarity between the post-disaster emergency and recovery operations supported by the Solidarity Fund and other EU funds to encourage the "build back better" principle.*

The Commission has included a specific enabling condition 2.4 of promoting climate change adaptation and disaster risk prevention and resilience in the European Regional Development Fund (ERDF)⁴⁴, which requires Member States to establish national disaster risk management plans accounting for the impacts of climate change. In the current EU Solidarity Fund Regulation 'building-back-better' is excluded from the eligible operations under this fund.

⁴⁰ European Commission, Directorate-General for Economic and Financial Affairs, Radu, D., *Disaster risk financing : limiting the fiscal cost of climate-related disasters*, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2765/270746>

⁴¹ European Commission, Directorate-General for Economic and Financial Affairs, *Fiscal sustainability report 2021 . Volume 1*, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2765/682828>

⁴² COM(2023) 242 final

⁴³ COM(2023) 240 final and annexes 1 to 7

⁴⁴ European Regional Development Fund, see https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-regional-development-fund-erdf_en

Furthermore, the Technical Guidance on Climate Proofing (see action 28) is now associated with a provision in the Common Provision Regulation⁴⁵ which requires that Member States climate-proof all infrastructure investments projects with a minimum life span of 5 years. There are currently no immediate plans to launch a major revision of the EU Structural Fund-regulation to directly include the concept of ‘building back better’.

The regulation establishing the Recovery and Resilience Facility (RRF)⁴⁶ requires all measures in the national Recovery and Resilience Plans to comply with the Do No Significant Harm principle, including to adaptation. The Commission also published a technical guidance⁴⁷ on the application of this principle in the RRF. Similarly, the regulation establishing the Just Transition Fund⁴⁸ requires that no significant harm is done to environmental objectives, including climate adaptation.

Promoting nature-based solutions for adaptation

- **Action 20:** Continue to incentivise and assist Member States to rollout nature-based solutions through assessments, guidance, capacity building, and EU funding;

The Commission is reviewing the evaluation frameworks for nature-based solutions (NbS) at regional and European levels. The Commission continues to advocate for NbS in flood risk management. Currently, a review of costs and benefits of NbS for flood risk management is ongoing with involvement of the EIB. The European Topic Centre on Climate Change impacts, vulnerability and Adaptation (ETC/CA) published ‘Understanding the scaling potential of Nature-based Solutions’⁴⁹, an analysis on the scaling potential of nature-based solutions for climate change adaptation and disaster risk reduction relevant to achieving overarching ecosystem restoration targets. Additional work concentrating on socio-economic aspects is being anticipated for 2023. Also a large number of projects under Horizon Europe and Horizon 2020 address the development, testing and assessment of NbS.

The Commission adopted the EU Soil Strategy for 2030⁵⁰, which sets the stage for a proposed Soil Health Law, adopted in July 2023. The proposed law aims to enhance the climate resilience of soils and underscores their significant role in climate adaptation.

Investments in NbS are supported through EU funding such as the Cohesion Policy funds - which according to current allocation of the funds by Member States are expected to finance 229,000 hectares of new green infrastructure - the Recovery and Resilience Facility, the European Structural and Investment Funds and Life multiannual work programme.

The proposed recast of the Urban Waste-Water Treatment Directive, requires the prioritisation of green infrastructure in urban areas to control flows and reduce pollution from storm water overflows and runoff (see action 39).

Lastly, a proposal for an EU Nature Restoration Law⁵¹ was adopted by the Commission in June of 2022 that, amongst other goals, aims to restore degraded ecosystems that prevent and reduce the impact of natural disasters (see action 12).

⁴⁵ Regulation (EU) 2021/1060

⁴⁶ Regulation (EU) 2021/241

⁴⁷ Commission Notice Technical guidance on the application of ‘do no significant harm’ under the Recovery and Resilience Facility Regulation 2021/C 58/01 (OJ C, C/58, 18.02.2021, p. 1, CELEX: [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01)))

⁴⁸ Regulation (EU) 2021/1056

⁴⁹ ETC CA Report 2/22, <https://www.eionet.europa.eu/etcs/etc-ca/products/etc-ca-products/etc-ca-report-2-22-understanding-the-scaling-potential-of-nature-based-solutions>

⁵⁰ COM(2021) 699 final

⁵¹ COM(2022) 304 final

- **Action 21:** *Develop the financial aspects of nature-based solutions and foster the development of financial approaches and products that also cover nature-based adaptation.*

The Commission is exploring insurance products and services to nature-based adaptation efforts. In the Horizon 2020 programme, the financial and economic aspects of NbS were addressed by the NbS project portfolio through a dedicated task force, which produced a report on Public Procurement of Nature-based Solutions⁵² and the nature-based economy. Under Horizon Europe, a project⁵³ was started in 2022 which examines the feasibility and performance of solutions built on a combination of disaster risk financing and Nature-based solutions investments.

The European Investment Bank (EIB) published in June 2023 a study on the assessment of access to finance conditions for innovative NbS in the EU⁵⁴.

- **Action 22:** *Propose nature-based solutions for carbon removals, including accounting and certification in upcoming carbon farming initiatives.*

The Commission adopted the Communication on ‘Sustainable Carbon Cycles’⁵⁵ in December 2021, which sets out how to increase durable carbon removals and, to do so, emphasises the need for climate resilient solutions. The Commission published the Proposal for Regulation on Carbon Removals Certification⁵⁶ in December 2022, which proposes carbon farming as one removal option. Its adoption is expected at the beginning of 2024.

⁵² European Commission, Directorate-General for Research and Innovation, Mačiulytė, E., Durieux, E., *Public procurement of nature-based solutions : addressing barriers to the procurement of urban NBS : case studies and recommendations*, Publications Office of the European Union, 2020, <https://data.europa.eu/doi/10.2777/561021>

⁵³ Naturance project, see <https://www.naturanceproject.eu/project/>

⁵⁴ European Investment Bank, Hudson, G., Hart, S., Verbeek, A., *Investing in nature-based solutions : state-of-play and way forward for public and private financial measures in Europe*, European Investment Bank, 2023, <https://data.europa.eu/doi/10.2867/031133>

⁵⁵ COM(2021) 800 final

⁵⁶ COM(2022) 672 final

Objective 3: Faster adaptation: Speeding up adaptation across the board

Physical climate has been outpacing the progress in the implementation of climate adaptation measures. To accelerate the implementation of adaptation action, resources are required that are commensurate with the challenge. Under the objective of faster adaptation 17 actions are presented, divided over four challenges: to develop and roll out solutions, to help reduce climate risk, to increase climate protection, and to safeguard freshwater access.

Accelerating the rollout of adaptation solutions

○ **Action 23:** *Implement the planned Horizon Europe Mission on ‘Adaptation to Climate Change’ and other adaptation-relevant Missions, including on soil health, climate-neutral cities, and oceans once these are endorsed.*

The Mission on Adaptation to Climate Change has three objectives: prepare Europe to deal with climate disruptions, by facilitating uptake of innovative solutions and building adaptive capacity across stakeholders; accelerate the transformation to a climate resilient future, supporting at least 150 regions and local authorities to become climate resilience by 2030; and build deep resilience by scaling up actionable solutions triggering societal transformations, aiming at 75 systemic demonstrations by 2030.

The implementation of the Horizon Europe Mission on Adaptation to Climate Change is well underway, alongside other adaptation-relevant Missions on Soils, Oceans and Water, and Cities. The Mission Implementation Platform⁵⁷, disseminating knowledge on climate adaptation and providing a technical support facility, is operational since spring 2023. A Community of Practice has also been launched, offering inter alia opportunities for exchange through events, webinars, and discussions.

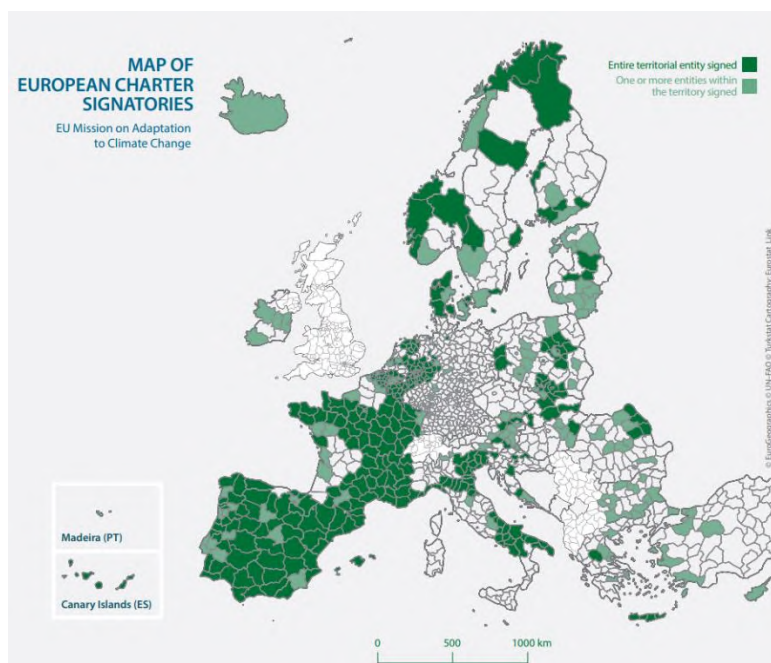


Figure 1. Map of European Charter Signatories to the Mission on Adaptation, as of July 2023

308 regions, cities, and local communities, covering some 40% of EU territory, have committed themselves to the Mission Charter and are engaged to work together in accelerating

⁵⁷ EU Mission on Adaptation to Climate Change Portal, see <https://climate-adapt.eea.europa.eu/en/mission>

their transformation towards climate resilience. Moreover, 63 private companies, service centres, research networks, and local action groups became Friends of the Mission.

The first 21 projects funded by the Mission have started their activities. They address issues such as citizen engagement, testing and demonstrating solution for climate resilience, supporting regions in developing climate risk assessment and pathways to climate resilience. Other activities supported under Horizon 2020 and Horizon Europe, including other EU Missions and partnerships, are also developing knowledge and solutions of direct relevance for building climate resilience. These projects directly involve regions, local authorities, business partners, insurers and private venture capital.

The most advanced projects already started in November 2021 under the Horizon 2020 Green Deal call⁵⁸; the following projects are part of the adaptation portfolio with a total budget of 45 million euros.

- TransformAr: accelerating and upscaling transformational adaptation in Europe⁵⁹;
- IMPETUS: dynamic information management approach for the implementation of climate resilient adaptation packages in European regions⁶⁰;
- ARSINOE: climate resilient regions through systemic solutions and innovations⁶¹;
- REGILIENCE: sharing promising cross-sectoral adaptation solutions⁶².

The Commission ensures that adaptation-relevant aspects are pursued for mutual benefits across the Horizon Europe Missions, as seen in joint demonstrations of solutions with joint co-funding of the Mission on Cities, Restore our Oceans and Water, and Soils. These are included in the Missions Horizon Europe Working Programme for 2022 and 2023 (see action 2).

- **Action 24:** *Support the development of further adaptation solutions, including rapid response decision support tools to enrich the toolbox for adaptation practitioners.*

The Commission is facilitating rapid decision-making and enriching toolboxes for practitioners through Horizon Europe, supporting the Mission on Adaptation to Climate Change (see Action 23). The following examples of Horizon Europe Mission topics that serve this objective include:

- Better prepared regional and local authorities to adapt to climate change⁶³;
- Support to regions in developing pathways towards climate resilience and corresponding innovation agendas⁶⁴;
- Local engagement of citizens in the co-creation of societal transformational change for climate resilience⁶⁵.

Horizon Europe Mission-funded projects began in January 2023, helping regions and local authorities develop climate risk and vulnerability assessments and demonstrate innovative solutions. Among these, the CLIMAAX project⁶⁶, with an EU budget of EUR 20 million, provides EUR 12 million of financial, analytical, and practical support to 50 regions and local

⁵⁸ H2020-LC-GD-2020

⁵⁹ TransformAr, see <https://doi.org/10.3030/101036683>

⁶⁰ IMPETUS, see <https://doi.org/10.3030/101037084>

⁶¹ ARSINOE, see <https://doi.org/10.3030/101037424>

⁶² REGILIENCE, see <https://doi.org/10.3030/101036560>

⁶³ HORIZON-MISS-2021-CLIMA-01-01

⁶⁴ HORIZON-MISS-2021-CLIMA-02-02

⁶⁵ HORIZON-MISS-2021-CLIMA-02-05

⁶⁶ CLIMAAX, see <https://www.climaax.eu/>

authorities to improve regional climate and emergency risk management plans, including the conduct of risk assessments. Another project, Pathways2Resilience⁶⁷, has an EU budget of EUR 30 million, with EUR 21 million set aside to assist 100 regions and local authorities to design their local adaptation plans. Climate-ADAPT provides and further develops a collection of generic adaptation options which aim to address adaptation needs for all climate impacts and sectors, and case studies which illustrate their implementation⁶⁸.

- **Action 25:** *Strengthen its support to protect the potential of genetic resources for adaptation, including by proposing legislation on the production and marketing of seeds.*

The Commission presented legislative proposals in 2023 for the revision of the EU legislation for the marketing of plant and forest reproductive material (PRM and FRM) and for a regulation on the deliberate release and placing on the market of plants produced by certain new genomic techniques⁶⁹ (NGTs). The PRM revision sets out a new regulatory framework that will support the use of climate resilient plants in agriculture. The FRM revision will help ensure that the right tree is planted in the right place for forests to thrive also under projected future climatic conditions. It includes provisions to assess and communicate to end users the resilience-relevant traits of parent trees; to facilitate the conservation of endangered forest genetic resources; and to draw up national contingency plans to help reforest areas affected by extreme weather events, fires, pest outbreaks and other disasters. The NGT proposal facilitates the application of innovative plant breeding to a wide variety of crops, supporting the development of plant varieties with improved tolerance or resistance to climate change effects. Furthermore, actions 22 and 23 in the Biodiversity Strategy for 2030⁷⁰, adopted in 2021 by the Commission, concern genetic resources in the sense of agricultural seed varieties.

- **Action 26:** *Further develop the EU taxonomy for sustainable activities for climate adaptation.*

The Delegated Act on sustainable activities for climate change adaptation and mitigation objectives was published in December 2021 and came into force on 1 January 2022.

- **Action 27:** *Integrate adaptation in the update of Natura 2000 and climate change guidance, and in guidelines on biodiversity-friendly afforestation and reforestation, and in the forthcoming Forest Strategy.*

Published in July 2021, the EU Forest Strategy calls for greater efforts to adapt forests to climate change, emphasising the use of adaptive forest restoration, ecosystem-based management approaches, and resilience-enhancing forest management practices. It also commits the Commission to provide guidance and promote knowledge exchanges on good practices on climate adaptation and resilience, using the Climate-ADAPT platform, and to supplement the revision of the legislation on forest reproductive material with measures to promote the production and marketing of forest reproductive material suitable for future climatic conditions.

The Commission's Guidelines on Biodiversity-Friendly Afforestation, Reforestation and Tree Planting, adopted in March 2023, also underline the need for adaptation and give relevant guidance.

The update of the Commission guidelines on Natura 2000 and climate change is still a work in progress. The guidelines can be expected to be finalised by the end of 2023.

⁶⁷ Pathways2Resilience, see <https://www.pathways2resilience.eu/>

⁶⁸ <https://climate-adapt.eea.europa.eu/en/knowledge/tools/case-study-explorer>

⁶⁹ COM (2023) 411 final

⁷⁰ COM(2020) 380 final

Reducing climate-related risk

- **Action 28:** *Enhance climate proofing guidance, and promote its use in Europe and abroad.*

The Commission has adopted the technical guidance on the climate proofing of infrastructure 2021-2027⁷¹ in September 2021 to help infrastructure promoters to make the infrastructure fit for a different climate and extremes. It is mainstreamed with other programmes to ensure consistency across all EU-funded projects, for example in the project selection criteria in the implementation phase of the European Regional Development Fund programmes. This guidance, with the climate proofing pillar of InvestEU Sustainability Proofing (adopted July 2021), is being promoted in various context in Europe and abroad.

To identify vulnerability hotspots in interconnected infrastructure, the Commission will publish a report on selected cross-border and emerging risks in Europe in 2023. Moreover, the European Climate Risk Assessment will identify key risks by systems and sectors, including biodiversity and ecosystems (see also action 29).

To address the resilience of entities that are critical for the proper functioning of the internal market, the implementation of the EU directives on the resilience of critical entities⁷² and on cybersecurity⁷³ and Council Recommendation⁷⁴ will enhance the preparedness and the resilience in respect of all hazards, whether natural or man-made, accidental or intentional.

The Commission published the first-ever pan-European wildfire risk assessment⁷⁵ in August 2022. In line with this, the Commission published EU-Trees4F⁷⁶, a dataset on the future distribution of European tree species. The Commission is promoting wildfire prevention under the remit of the Union Civil Protection Mechanism, with actions including peer reviews and good practice collections on risk awareness raising.

Relevant projects financed under the Connecting Europe Facility (CEF) covering the period 2021-2027, are subject to climate proofing, which includes climate adaptation measures. Climate adaptation measures are also eligible for funding under CEF. Moreover, the Commission proposal for a Revision of the EU's Trans-European Transport Network (TEN-T) Regulation from 14 December 2021 reinforced climate resilience of infrastructure. In December 2022, the Council General approach was adopted and in April 2023 the European Parliament's TRAN Committee approved the report by unanimity. Adoption of the revised TEN-T Regulation is envisaged by the end of 2023, and entry into force as of January or February 2024.

The Commission, in collaboration with the European Defence Agency (EDA), carried out a study on the climate impacts on defence-related critical energy infrastructure. It also includes recommendations.

⁷¹ Commission Notice — Technical guidance on the climate proofing of infrastructure in the period 2021-2027 (OJ C, C/373, 16.09.2021, p. 1, CELEX: [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0916\(03\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0916(03)))

⁷² Directive (EU) 2022/2557

⁷³ Directive (EU) 2022/2555

⁷⁴ OJ C 20, 20.1.2023, p. 1–11

⁷⁵ European Commission, Joint Research Centre, Oom, D., De Rigo, D., Pfeiffer, H., et al., *Pan-European wildfire risk assessment*, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2760/9429>

⁷⁶ Mauri, A., Girardello, M., Strona, G., Beck, P., Forzieri, G., Caudullo, G., Manca, F. and Cescatti, A., EU-Trees4F, a dataset on the future distribution of European tree species, *SCIENTIFIC DATA*, ISSN 2052-4463, 9, 2022, p. 37, JRC127314

- **Action 29:** *Develop an EU-wide climate risk assessment and strengthen climate considerations in EU disaster risk prevention and management.*

In May 2022, the Commission and the European Environment Agency initiated the preparation of the first European Climate Risk Assessment (EUCRA). This independent scientific report will assess current and future climate change impacts and risks relating to the environment, economy and wider society in Europe. The assessment will also address cross-border, cascading and compound risks. Publication of the report is foreseen for spring 2024.

The Commission launched in May 2023 a call for tender for a study aiming to identify climate risks on the TEN-T network, corresponding adaptation measures to address them and the costs/investment needs associated with these measures. The first results of the study are expected in April 2024.

The Commission is improving Member States' preparedness for climate change impacts on water management, including flood prevention, dealing with droughts and water quality. This is implemented among others through the Common Implementation Strategy for the Water Framework Directive and the Flood Directive, and the exchange of information and best practices. Furthermore, a revised Urban Wastewater Treatment Directive has been proposed by the Commission in October 2022 (see action 39).

To increase risk literacy throughout society, the Union disaster resilience goals were adopted at the beginning of 2023 with one goal specifically on increasing risk awareness (see also action 8).

- **Action 30:** *Increase cooperation with standardisation organisations to climate-proof standards and to develop new ones for climate change adaptation solutions.*

The Commission adopted the new EU Standardisation Strategy⁷⁷ and the Annual Union Work Programme on Standardisation⁷⁸ in February 2022. A contract has been launched to select standards for which adaptation mainstreaming could be requested from the European Standardisation Organisations (ESOs)⁷⁹. In parallel, advisory activities within the ESOs will be continued with financial support from the Commission. Promotion of EU Member States level standardisation as a means for national adaptation is part of the 2-year Work Plan of the Working Group on Adaptation of the Climate Change Committee.

- **Action 31:** *Support the integration of climate resilience considerations into the criteria applicable to construction and renovation of buildings and critical infrastructure.*

The Commission integrated climate resilience in its December 2021 proposal for the revision of the Energy Performance of Buildings Directive (EPBD), which will make it mandatory for Member States to address climate change adaptation for both new and existing buildings. The EPBD proposal is now being discussed for final adoption with the Parliament and Council under the Spanish Presidency. Moreover, the Commission put forward provisions to inform about the performance of construction products also under future climate in its March 2022 proposal for the revision of the Construction Products Regulation through a horizontal requirement applicable across Basic Work Requirements. The Commission is conducting a study on climate change induced corrosion, estimating the total repair costs of reinforced concrete buildings, which will be published in 2023. The guidance to enhance the climate

⁷⁷ COM (2022) 31 final

⁷⁸ Commission Notice The 2022 annual Union work programme for European standardisation 2022/C 66/01 (OJ C, C/66, 08.02.2022, p. 1, CELEX: [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022XC0208\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022XC0208(01)))

⁷⁹ See [Key players in European Standardisation \(europa.eu\)](https://europa.eu/key-players-in-european-standardisation)

resilience of buildings⁸⁰ was also developed and published in March 2023. Joint Research Centre pilot studies on the future climatic loading on structures support Member States in updating their provisions for design and renovation of built environment.

The New European Bauhaus (NEB) Lab Labelling Strategy⁸¹ is a Commission-led project that links climate resilience to NEB, with the NEB Compass guiding decision makers to apply NEB principles and criteria to their activities, and a series of assessment frameworks developed to create guidance around the three dimensions of the NEB. The Level(s) framework for sustainable buildings includes a macro-objective on adaptation with three indicators (thermal comfort, resistance to extreme weather and sustainable drainage). Also, the revision of the Green Public Procurements Criteria on public buildings (2023) has led to the inclusion of a theme on vulnerability and resilience to climate change, structured around a climate vulnerability risk assessment.

Figure 23: Overview of solutions to heavy precipitation for buildings

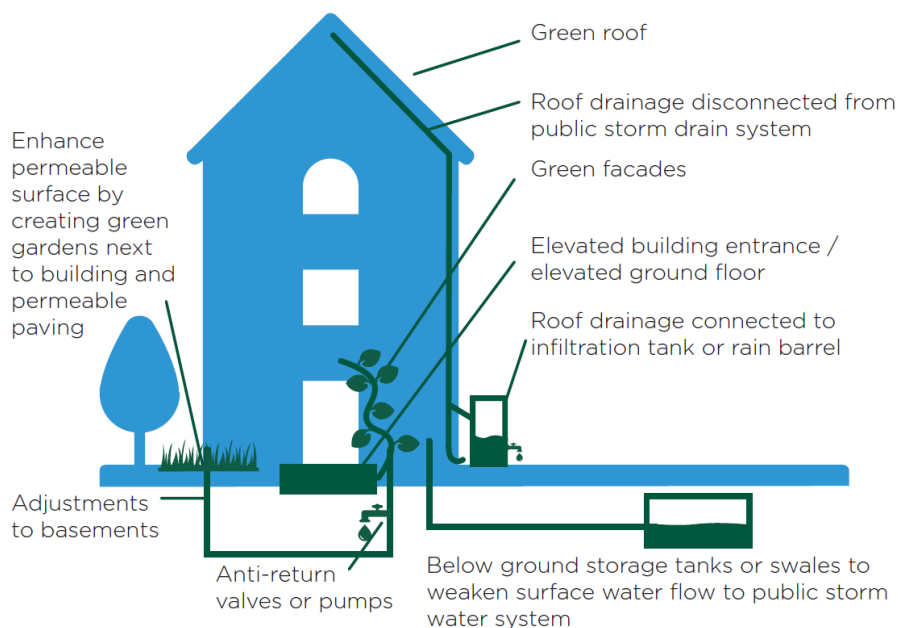


Figure 2 - Illustration in the Commission Guidance on climate resilient buildings

- **Action 32:** Address EU-level preparedness and response to climate-related health threats, including through the EU Framework on Health Threats and, as relevant, the planned Health Emergency Preparedness and Response Authority.

The Health Emergency Preparedness and Response Authority (HERA)⁸² has been launched in September 2021. It is established as a directorate-general of the Commission. It is operational since early 2022.

⁸⁰ European Commission, Directorate-General for Climate Action, *EU-level technical guidance on adapting buildings to climate change*, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2834/558395>

⁸¹ The EU New European Bauhaus Lab Labelling Strategy, see https://new-european-bauhaus.europa.eu/get-inspired/inspiring-projects-and-ideas/neb-lab-labelling-strategy_en

⁸² EU Health Emergency Preparedness and Response Authority (HERA), see https://commission.europa.eu/about-european-commission/departments-and-executive-agencies/health-emergency-preparedness-and-response-authority_en

Closing the climate protection gap

- **Action 33:** *Identify and promote best practices in financial instruments for risk management, in close cooperation with EIOPA.*

In February 2023, the European Insurance and Occupational Pensions Authority (EIOPA) published the results of a pilot exercise with insurance companies on ‘impact underwriting’, a concept which captures the ability of insurance undertakings, consistently with actuarial risk-based principles, to contribute to the adaptation to climate change by incentivising policyholders in implementing prevention measures to reduce their risk exposures. In this paper, EIOPA outlines examples of good underwriting practices observed in the market. The exercise also analyzed whether the current prudential framework for insurers introduces obstacles to the incorporation of adaptation measures in insurance products. In this regard, the report concludes that there are no obstacles in Solvency II that would prevent from reflecting climate change considerations or climate-related adaptation measures in insurance products. EIOPA is also preparing technical advice to the Commission on the prudential treatment of sustainability risks. In that context, EIOPA invited stakeholders to provide feedback on a discussion paper between December 2022 and March 2023. The discussion paper covered among others “Underwriting and climate change adaptation”. The timeline for EIOPA’s advice depends on the pending outcome of the negotiations on the Solvency II review. In July of 2023, EIOPA published a study on demand-side drivers of the insurance protection gap for natural catastrophes. In this staff paper, EIOPA proposes options that could be implemented by insurers to increase the uptake of natural catastrophe insurance coverage in the pre-purchase and purchase phases.

The recently published Implementing Technical Standards on reporting will require insurers to report to supervisors information on the share of investments exposed to climate change-related risks as well as information about exposure to climate risks via non-life insurance contracts and whether the design of the relevant product makes allowance for risk-prevention measures. These changes will apply as of year-end 2023, i.e., for the first time for the reporting year 2023 which is due at the beginning of 2024.

- **Action 34:** *Strengthen dialogue between insurers, policymakers and other stakeholders.*

The Commission launched the Climate Resilience Dialogue in November 2022. The dialogue brings together a wide range of stakeholders, like insurers, risk managers, international institutions, etc., to analyse the reasons for the widening of the climate protection gap, identify solutions to address them, and develop voluntary commitments on actions that would contribute to reducing the climate protection gap. The finalisation of the common practices, the voluntary commitments, and the publication of the final report is expected mid-2024.

- **Action 35:** *Explore the wider use of financial instruments and innovative solutions to deal with climate-induced risks.*

The Commission is revising Green Public Procurement (GPP) criteria for buildings to reflect LEVELS⁸³. Two webinars discussed this in March and November of 2022. Further research is done on alternative risk-sharing mechanisms through the Mission on Adaptation projects call for projects on ‘Best practices on and piloting insurance solutions for climate adaptation in EU regions and communities’⁸⁴. A draft of a checklist and guidance on investing in public procurement of sustainable infrastructure was delivered at the end of 2022. The documents will be tested through stakeholder engagement.

⁸³ LEVEL(s) European framework for sustainable buildings, see https://environment.ec.europa.eu/topics/circular-economy/levels_en

⁸⁴ HORIZON-MISS-2022-CLIMA-01-03

The Construction Products Regulation will include provisions allowing for the adoption of delegated acts to set mandatory minimum GPP-requirements or targets, which means that public buyers will be able to report on whether their public procurement is green and related to climate adaptation.

Under the Common Agriculture Policy Strategic Plans financial instruments can potentially be used also for investments which contribute to closing the climate protection gap such as for example investments into energy efficiency, water saving technology. Also InvestEU can potentially support such investments.

- **Action 36:** Help to examine natural disaster insurance penetration in Member States, and promote it, for example through guidelines and invite EIOPA to develop its natural catastrophe dashboard allowing country level assessments.

A natural catastrophe insurance dashboard⁸⁵ was published by the European Insurance and Occupational Pensions Authority (EIOPA) in December of 2022, which will be updated regularly.

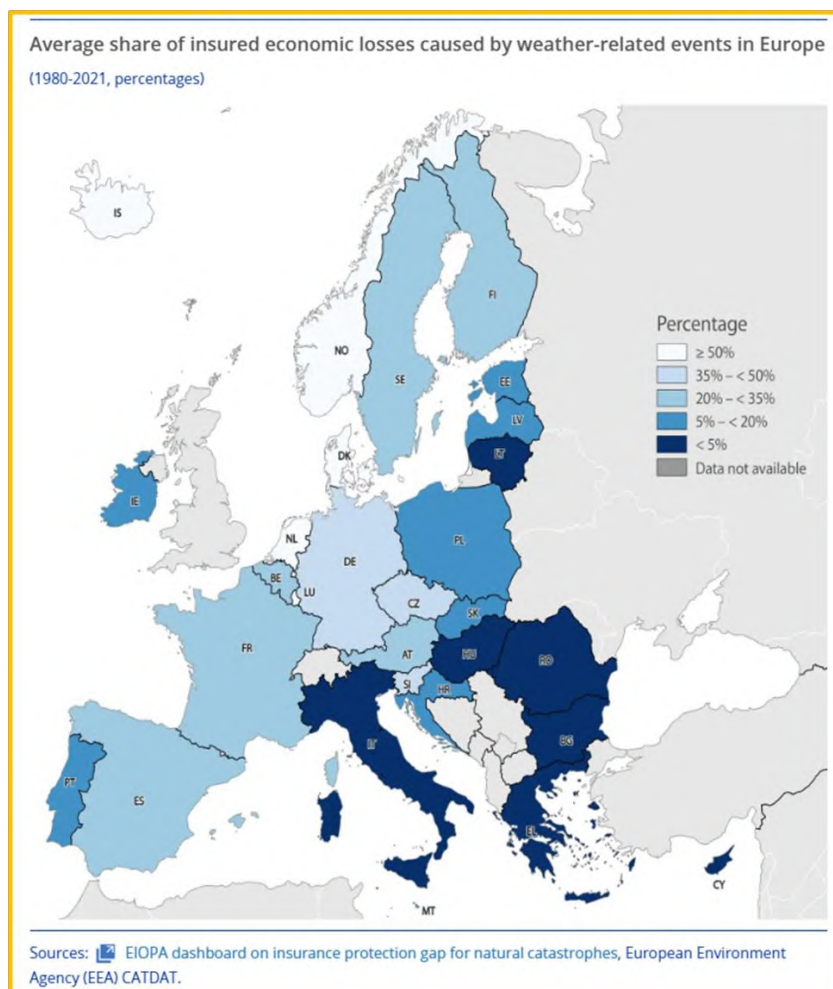


Figure 3 – Average share of insured economic losses caused by weather-related events

⁸⁵ EIOPA dashboard on insurance protection gap, see https://www.eiopa.europa.eu/tools-and-data/dashboard-insurance-protection-gap-natural-catastrophes_en

Ensuring the availability and sustainability of freshwater

- **Action 37:** *Help ensure climate-resilient, sustainable use and management of water across sectors and borders by improving coordination of thematic plans and other mechanisms, such as water resource allocation and water permits.*

The Commission works closely together with the Member States through the Common Implementation Strategy (CIS) of the Water Framework Directive and the Flood Directive. The topic of climate-resilient water management across sectors and borders is well incorporated in the CIS Workplan 2022-2024, which includes relevant activities to address issues on water resource allocation, water permitting systems, and cost recovery through water pricing. In addition, the Commission and the Member States are revising the CIS Guidance 24 on River Basin Management in a Changing Climate⁸⁶, with completion anticipated in 2024.

An Ad-hoc Task Group on Water Scarcity and Droughts is established, which will deliver several products, including an assessment of Member States' drought management policies and plans, adaptation measures to drought, a drought risk assessment methodology, a drought risk atlas and a report on water scarcity and drought management in terms of river basin planning.

The Commission adopted a Revision of the Industrial Emissions Directive in April 2022, which addresses efficient use of resources, including water efficiency and water reuse.

Under the Missions Horizon Europe work programme, a call for projects was published for a demonstration of integrated approaches to increasing the water retention capacity of a designated area (landscape) at regional scale in January 2023.

Within the context of the Horizon Europe Cluster 6 calls, actions to improve the understanding, observation and monitoring of water resources availability in the context of climate change (SOS-WATER, STARS4Water), to develop climate sensitive water allocation systems and economic instruments (WE-ACT, TRANSCEND) and demonstrate innovative cross-sectoral water governance systems, associated with economic and financial tools to support EU green deal transition while ensuring water systems sustainability, have been promoted (InnWater, RETOUCH Nexus, GOVAQUA)

Climate change adaptation is at the centre of the European Partnership Water Security for the Planet (Water4All) established under Horizon Europe. Water4All promotes a holistic approach, addressing all aspects of freshwater resource, uses and related hazards and connecting the actors from research to decision-making and field implementation, including citizens. The first Water4All Joint Transnational Call launched in 2022 addressed the management of water resources: resilience, adaptation and mitigation to hydroclimatic extreme events and management tools.

- **Action 38:** *Help to guarantee a stable and secure supply of drinking water, by encouraging the incorporation of the risks of climate change in risk analyses of water management.*

Further attention needs to be paid by Member States to how climate change affects their drinking water quality and sources. The recast Drinking Water Directive (DWD) entered into force in January 2021, with Member States had to transpose the Directive into national law and comply with its provisions by January 2023. The Directive includes a risk-based approach throughout the entire drinking water supply chain. This includes the requirement for the risk assessment and risk management of catchment areas for abstraction points of drinking water sources, reviewed at least every six years.

⁸⁶ European Commission, Directorate-General for Environment, *River basin management in a changing climate. Guidance document No 24*, Publications Office, 2010, <https://data.europa.eu/doi/10.2779/93909>

Member States' obligations that will need follow-up are in particular: water leakage assessment (by Jan 2026); Catchment area for abstraction points risk assessment and risk management (by July 2027); Supply system risk assessment and risk management (by Jan 2029) and Domestic distribution systems risk assessment (by Jan 2029)

To aid Member States, under Horizon Europe in 2022 a call⁸⁷ was published 'Securing drinking water quality by protecting water sources against pollution, providing innovative monitoring and treatment solutions and ensuring safe distribution'.

- **Action 39:** *Help reduce water use by raising the water-saving requirements for products, encouraging water efficiency and savings, and by promoting the wider use of drought management plans as well as sustainable soil management and land use.*

The Commission launched the EDORA⁸⁸ project in December 2021, with the aim to assess drought management policies in Member States, including an in-depth assessment of Drought Management Plans. Drought impacts database, drought risk atlas and adaptation measures to droughts can be expected in 4th quarter of 2023.

The Water Reuse Regulation will be applied as of 26 June 2023. A Working Group on Water Reuse has been established within the Common Implementation Strategy. To support the implementation of the Water Reuse Regulation, Water reuse guidelines were published in August 2022.

The Commission has adopted both the Sustainable Product Policy Framework⁸⁹ in March 2022, which includes the proposal for a Regulation on eco-design for sustainable products and revised the Industrial Emissions Directive (IED) in April 2022, which also addresses water efficiency and water reuse.

The recast Drinking Water Directive (DWD) entered into force in January 2021 (for more information see action 38).

The Commission adopted a proposal for a recast Urban Wastewater Treatment Directive (UWWTD) in October 2022. It contributes to climate resilience by promoting improved water quality and quantity management in urban areas. The use of freshwater is reduced by making the wastewater treatment sector more circular. The proposal requires that Member States systematically promote the reuse of treated wastewater from all urban wastewater treatment plants. And it requires the prioritisation of green infrastructure in urban areas to control flows and reduce pollution from storm water overflows and runoff.

The Court of Auditors published a special report⁹⁰ on sustainable water use in agriculture in September 2021, in which the Court of Auditors recommended that Member States better justify exemptions to Water Framework Directive implementation in agriculture and that Commission links Common Agriculture Policy payments to environmental standards on sustainable water use. In its reply to the Court of Auditors, the Commission has described the strong link between the Water Framework Directive (WFD) and the 2023-2027 Common Agricultural Policy (CAP), with special attention to the quantitative aspects of water management. It also committed to ensuring that the CAP Strategic plans consider the analysis, objectives and targets included in the WFD and the River Basin Management Plans and make an adequate contribution to them.

⁸⁷ HORIZON-CL6-2022-ZEROPOLLUTION-01-04

⁸⁸ EDORA - European Drought Observatory for Resilience and Adaptation, see <https://edo.jrc.ec.europa.eu/edora/php/index.php?id=201>

⁸⁹ Sustainable product policy & ecodesign, see https://single-market-economy.ec.europa.eu/industry/sustainability/sustainable-product-policy-ecodesign_en

⁹⁰ European Court of Auditors, *Sustainable water use in agriculture : CAP funds more likely to promote greater rather than more efficient water use. Special report No 20, 2021*, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2865/497724>

Objective 4: Stepping up international action for climate resilience

This objective expands the scope of EU Climate Adaptation Strategy and action to a global stage. Every part of the world will be affected by climate change. Risks will be borderless, might cascade and will interact with and amplify other risks and impacts, including the ecological crisis and pollution. Stronger international cooperation to achieve climate resilience is encouraged in the Adaptation Strategy through three fields and ten actions. Alignment with the adaptation-related requirements and objectives of the Paris Agreement is an important element. The Strategy further develops the EU's role in supporting international adaptation, alongside its global leadership in climate mitigation. It underscores the need for a collaborative, unified response, targeting particularly regions vulnerable to climate impacts. Encapsulating the spirit of global solidarity, the objective outlines the urgent need for additional international finance and innovation in financial mechanisms to support climate resilience worldwide.

Increasing support for international climate resilience and preparedness

- *Action 40: Strengthen the support for the development and implementation of Nationally Determined Contributions and National Adaptation Plans in EU partner countries and mainstream conflict-sensitive, anticipatory and preventive climate resilience and preparedness in relevant EU policies and instruments for external action.*

The Commission supports EU Partner Countries as part of its bilateral and regional dialogues and financial programming exercises, including in their efforts to set up and implement their Nationally Determined Contributions, National Adaptation Plans, Disaster Risk Reduction Strategies, and reporting on the Sendai Framework indicators, which sets out the overall objective to substantially reduce disaster risk and losses, including those related to climate.

The Commission contributes to the UN Development Program Climate Promise, the Climate Risk and Early Warning Systems (CREWS)⁹¹ initiative, the Africa Adaptation Initiative, and Adaptation without Borders. Several Team Europe Initiatives (TEIs) have been identified across Africa, Asia, the Pacific, Latin America, and the Caribbean to support adaptation actions. TEIs focus on identifying critical priorities that constrain development in a given country or region, where a coordinated and coherent effort by European Union, EU Member States - including their implementing agencies and public development banks - as well as the EIB and the European Bank for Reconstruction and Development (EBRD). would ensure results with a transformative impact. An example is the TEI on Climate Change Adaptation and Resilience in Africa which will consolidate over EUR 1 billion in existing and new climate change adaptation and DRR programmes. Launched at COP27, this TEI also aims to bolster multi-hazard early warning systems at both regional and national levels, in line with the UN Early warnings for All initiative. In this context, the Commission supports CREWS (with a contribution of EUR 10 million under the 11th European Development Fund Natural Disaster Risk Reduction programme) to strengthen multi-hazard early warning systems in Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

The EU4Climate program is instrumental in supporting Eastern Partnership countries in the development and implementation of climate policies. This assistance contributes to low-emissions and climate-resilient development and aids in their commitment to the 2015 Paris Agreement on Climate Change. Specifically, EU4Climate aims to: strengthen the capacity for domestic implementation of the Paris Agreement; enhance transparency of emissions and climate action; mainstream climate in other policy sectors, such as energy, transport,

⁹¹ Climate Risk and Early Warning Systems

agriculture; and achieve the objectives of climate-related provisions of bilateral agreements with the EU and of the Energy Community Treaty through advancing their implementation.

In collaboration with the European External Action Services and the Service for Foreign Policy Instruments, the Commission's Disaster Risk Management Knowledge Centre (DRMKC) organised the annual Global Conflict Risk Index (GCRI) workshop in September 2022 with a view of developing a new version of the Global Conflict Early Warning Index. The GCRI provides a measure of structural conditions correlated to the occurrence of violent conflict, contributing to vulnerability assessment.

The joint Communication by the Commission and High Representative of the Union for Foreign Affairs and Security Policy on the climate and security nexus⁹² was adopted in June 2023. It establishes an enhanced policy framework to strengthen climate and environment informed planning, decision-making and implementation, address the climate and security nexus across EU external action and enhance climate adaptation and mitigation measures in the development of Member States' civilian and military capabilities and infrastructure.

- **Action 41:** *Intensify and broaden adaptation support to local authorities in EU partner countries and develop regional programmes, including for countries in the EU Southern and Eastern neighbourhoods, and in candidate countries and potential candidates.*

The Commission continues to strengthen the local capacity for disaster preparedness and individual resilience of communities vulnerable to disasters in third countries. Currently, the EU currently holds chairmanship of the Platform on Disaster Displacement (PDD)⁹³ until December 2023, where it intensifies and broadens adaptation support to local authorities.

The Commission supports the 'TRATOLOW – Transition towards low emissions and climate resilient economy in the Western Balkans and Türkiye' project⁹⁴. This project is part of the Commission's efforts to pinpoint and develop measures for addressing climate change and security hotspots in the EU neighbourhood.

Local authorities in partner countries are supported through the Advancing Climate Adaptation in the Mediterranean (ACAMED) program. It aims to enhance climate governance, policies, and action plans at national level in the Mediterranean region and to simplify access to climate finance for adaptation. ACAMED is designed to promote the integration of climate change into the planning system at both horizontal and vertical levels.

The project 'Support to economic diversification of rural areas in Southeast Europe (SEDRA II)' provides technical assistance to support the transition of Southern Neighbourhood countries towards sustainable, low-carbon and climate-resilient development.

- **Action 42:** *Include climate change considerations in the future agreement on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction.*

The Commission is supporting the incorporation of climate change considerations in the activities of the relevant Regional Fisheries Management Organisations⁹⁵ and Agreements (RFMO/As). Notably, the Western and Central Pacific Fisheries Commission (WCPFC), North Pacific Fisheries Commission (NPFC), Indian Ocean Tuna Commission (IOTC), International Commission for the Conservation of Atlantic Tunas (ICCAT), and the Commission for the

⁹² JOIN(2023) 19 final

⁹³ Plattform on Disaster Displacement (DPP), see <https://disasterdisplacement.org/>

⁹⁴ TRATLOW project, see <https://www.tratolownetwork.eu/>

⁹⁵ [Regional fisheries management organisations \(RFMOs\) \(europa.eu\)](https://www.europa.eu/regional-fisheries-management-organisations/)

Conservation of Antarctic Marine Living Resources (CCAMLR) have all adopted Resolutions on climate change in their annual meetings, with the support from the EU.

Furthermore, the Commission has proposed establishing two new Marine Protected Areas (MPAs) in the Southern Ocean to CCAMLR: one in East Antarctica (since 2013) and another in the Weddell Sea (since 2016). Despite ongoing opposition from Russia and China, CCAMLR held a Special Meeting in Santiago, Chile, from 19-13 June 2023, to explore a way forward, including developing a roadmap for the creation of a representative system of MPAs around Antarctica.

In alignment with the International Ocean Governance (IOG) agenda, the EU supported the conclusion, in March 2023, of an ambitious legally binding agreement under the United Nations Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ). Meanwhile, the EU has signed the BBNJ-agreement in September 2023.

Scaling up international finance to build climate resilience

- **Action 43:** *Aim to increase international climate finance for adaptation through the EU instruments for external action and by leveraging private sector investments.*

From 2021, the EU's external financial assistance is implemented through the Neighborhood, Development and International Cooperation Instrument (NDICI) - Global Europe. The EU has raised the climate spending target under the NDICI-Global Europe to 30% for 2021-27, up from the 20% target set for 2014-2020. With an additional commitment of EUR 4 billion by the Commission President, this means approximately EUR 27.85 billion of the EU's EUR 79.5 billion external action budget for 2021-2027 (excluding Member States' contributions) will be dedicated to climate action.

In 2021, Team Europe Initiatives contributed EUR 23.04 billion in public international climate finance, of which 54% was allocated to climate change adaptation or actions that target both climate mitigation and adaptation⁹⁶.

The European Fund for Sustainable Development+ (EFSD+), as part of the NDICI-Global Europe, is the main financial tool to mobilise investments under the Global Gateway – the EU's strategy to bridge the global investment gap in infrastructure (see also action 46). EFSD+ aims to mobilise up to EUR 135 billion for infrastructure projects by 30% incentivizing private sector financing. EFSD+ blending facilities will use grants and loans to support non-bankable investment projects in EU partner countries while enhancing their sustainability, climate-proofing and development impact.

- **Action 44:** *Promote the design and implementation of disaster risk finance strategies to increase macroeconomic climate resilience in partner countries.*

The Commission has increased support to disaster risk transfer mechanisms, including insurance schemes, for example through initiatives such as the InsuResilience Global Partnership.

The TEI on Climate Change Adaptation and Resilience in Africa supports the Global Shield Against Climate Risks, with an initial contribution of EUR 30 million. This initiative aims to provide climate-vulnerable countries with rapid access to insurance and disaster protection funding after flooding or droughts.

Scaling up of risk-based and anticipatory humanitarian action is on-going, with further recommendations for key actors expected after the establishment of new funding arrangements

⁹⁶ The 2022 figures were not yet available at the time of the writing of this report.

at COP27/CMA4 in Egypt. Moreover, a dedicated budget line for disaster preparedness in the EU humanitarian aid budget (focusing on climate and environmental resilience) has been added to factor climate and environmental risk considerations consistently into humanitarian operations.

- **Action 45:** *Support partner countries in the design of policies and incentives to promote climate resilient investment, including in nature-based solutions.*

The Commission has been pivotal in the EU and Member States' multilateral outreach, including through the High Ambition Coalition and the Leaders' Pledge for Nature, to ensure that the internationally agreed definition of a nature-based solution is ambitious in terms of climate and biodiversity and is accompanied by robust sustainability safeguards. The Commission has contributed to achieving acknowledgements at the 5th session of the United Nations Environment Assembly (UNEA) under Rio conventions, including the UNFCCC (United Nations Framework Convention on Climate Change) through the Sharm-el-Sheikh Implementation Plan at COP27, and the Convention on Biological Diversity through the Kunming Montréal global biodiversity framework at COP15.

The Commission supports studies and reports on adaptation, across various sectors and countries, facilitating knowledge dissemination. Numerous side events organised by the EU on adaptation in Africa took place at COP27 in Egypt. EU international partnerships are mobilising more resources to protect ecosystems, particularly from sectors with significant impacts on biodiversity and potential benefits for nature. The new NaturAfrica initiative, for example, will provide a framework for interventions to protect wildlife and ecosystems in Africa while offering local employment opportunities in related sectors.

- **Action 46:** *Enhance the climate proofing of all EU external investments and actions*

In December 2021, the Commission published the Communication on the Global Gateway, an initiative aiming to mobilise investments of up to EUR 300 billion between 2021 and 2027 in partner countries. The communication underlines that the investments will help developing infrastructures that are clean, climate-resilient and aligned with pathways towards net zero emissions, with projects that will live up to the European Green Deal oath to 'do no harm'. In June 2022, the Commission published a Commission Staff working document on Climate Mainstreaming Architecture in the 2021-2027 Multiannual Financial Framework, including the Neighborhood, Development and International Cooperation Instrument (NDICI, see action 43).

The Economic and Investment Plan for the Western Balkans sets out that significant investment such as transport should be future-proof and sustainable (through climate-proofing and mainstreaming) in line with the Guidelines for the Implementation of the Green Agenda for the Western Balkans.

Strengthen global engagement and exchanges on adaptation

- **Action 47:** *Submit the EU's adaptation plans and actions under the Paris Agreement*

In October 2021 the first ever Adaptation Communication of the European Union⁹⁷ was adopted by the Council and submitted under the Paris Agreement.

The EU (Commission and EU Member States) is engaged in the UNFCCC negotiations on the Glasgow-Sharm el-Sheikh work programme on the Global Goal on Adaptation (GGA). The GGA framework was launched at COP27 with a view to adopt it at COP28. The framework is

⁹⁷ Adaptation Communication of the European Union, see https://unfccc.int/sites/default/files/resource/20211007_EU_adaptation_comms.pdf

considered as a central element to advance climate adaptation action and scale up support at global level, and as a tool to monitor and review progress, feeding into the periodic Global Stocktakes. The intersessional UNFCCC Conference organised in Bonn, June 2023, concluded with an agreement among Parties over the structure and main elements of the GGA framework. Work relates also to identifying high level targets and priority sectors. For the latter, there are several synergies to be developed with other international processes such as the Sendai Framework for DRR 2015-2030, the Agenda 2030 with the SDGs, and the Global Biodiversity Framework.

- **Action 48:** *Deepen political engagement on climate change adaptation with international and regional partners, and partner countries.*

The Commission is committed to include provisions for climate change adaptation in all EU trade agreements. All recently negotiated Free Trade Agreements include commitments related to the implementation of the Paris agreement and cooperative activities on climate change mitigation and adaptation policies. The review of the Generalised System of Preferences (GSP) Regulation, foreseen by end-2023, should add the Paris Agreement to the list of conventions to the GSP scheme.

At the UN Water Conference in March 2023, sustainable management of water resources was recognised as key to the achievement of all sustainable development goals, including climate resilience.

A Water Action Agenda was adopted, to accelerate the achievement of Sustainable Development Goal (SDG) 6 and other SDGs, and to drive transformation from a global water crisis to a water-secure world. It also called for the appointment of a UN Special Envoy on Water, supported by a reformed UN Water. The EU has submitted 33 commitments, including ones on climate adaptation, such as active diplomatic efforts promoting accession of new countries to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. The EU has committed also over €1 billion to water management, including working with countries in Africa and Central Asia.

The EU has joined the International Coral Reef Initiative (ICRI). Moreover, climate adaptation was an important theme at the 6th EU-South African Forum on environment, climate change, and sustainable development in October 2022

The EU is also broadening the All-Atlantic Ocean Research Alliance by including more Atlantic Small Island Developing States (SIDS), including the Caribbean. In July 2022, the EU, along with Argentina, Brazil, Canada, Cabo Verde, Morocco, South Africa and the United States of America signed a new All-Atlantic Ocean Research and Innovation Declaration. The Alliance will be supported by a Coordination and Support Action under Horizon Europe⁹⁸.

Under the EU Climate Dialogues, a multi-country activity on promoting the effective implementation of the Paris Agreement in the context of economic recovery and the 2030 Agenda for Sustainable Development, including climate adaptation practices, among partner countries will be set up in the 2nd half of 2023.

- **Action 49:** *Increase the pool of knowledge and tools on adaptation available to non-EU countries and promote adaptation in Green Alliances and Partnerships.*

The EU discusses climate adaptation in all high-level dialogues with third countries. The Commission is supporting exchanges on climate change adaptation knowledge and tools such as the development and implementation of National Adaptation Plans. As part of the project

⁹⁸ HORIZON-CL6-2024-GOVERNANCE-01-4

supporting the Africa Adaptation Initiative (AAI) a series of trainings on climate and disaster risk finance was organised for government officials and decision-makers.

In the EU's Green Alliances with Japan and Norway, a commitment was taken to support the adaptation capacity of developing countries. The EU also has a Green Partnership with Morocco and signed a Green Partnership with the Republic of Korea. A Green Alliance is currently being negotiated with Canada. These partnerships pave the way for enhanced cooperation and strategic dialogue in the field of climate adaptation. [With the United States of America, regular exchanges and coordination took place, including under the High-Level Climate Action Group set-up by the 2021 EU-US Summit.](#)

Under Horizon 2020, Horizon Europe, 11th European Development Fund and NDICI-Global Europe funding, several projects (FOCUS-Africa⁹⁹, DOWN2EARTH¹⁰⁰, CONFER¹⁰¹, HABITABLE¹⁰²) are supporting the development of better climate intelligence and services through earth observation and state of art climate science in Africa, Latin America and the Caribbean as well as Southeast Asia.

Supported by the European Environment Agency, the Commission has funded the Knowledge Exchange for Climate Adaptation Platforms (KE4CAP) initiative for sharing and experience and support global capacity building how to initiate and maintain online adaptation knowledge platforms. In 2023, Climate-ADAPT became a partner of the Asian-Pacific Climate Change Adaptation Information Platform.

⁹⁹ FOCUS-Africa, see <https://doi.org/10.3030/869575>

¹⁰⁰ DOWN2EARTH, see <https://doi.org/10.3030/869550>

¹⁰¹ CONFER, see <https://doi.org/10.3030/869730>

¹⁰² HABITABLE, see <https://doi.org/10.3030/869395>