



GLOBAL
OBSERVATORY
OF CLIMATE ACTION



ADAPTATION

PLANNING AND IMPLEMENTING ADAPTATION IN THE EU: STATE OF MULTILEVEL INTEGRATION OF ADAPTATION POLICIES

MARCH 2024

TANIA MARTHA THOMAS

Research Officer at the Global Observatory of Climate Action

Drawing from existing legal and policy documents as well as scientific literature, this study explores the current multilevel framework that exists across the European Union, national and subnational levels for climate change adaptation. It analyses the roles and obligations of different levels of government in planning and implementing adaptation actions, and how the relationship between these levels is articulated and coordinated.

1) Definitions of key concepts and the global state of play

a. Defining “adaptation”: The place-based nature of risks and vulnerabilities

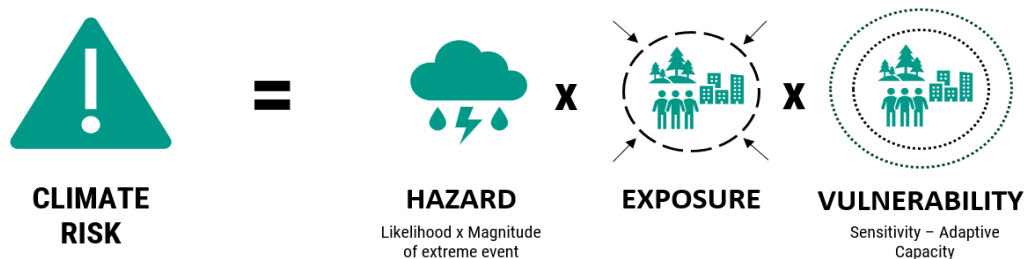
The Intergovernmental Panel on Climate Change (IPCC) defines adaptation in human systems as “[...] the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.”¹ The United Nations Framework Convention on Climate Change (UNFCCC) on its website defines adaptation as “changes in processes, practices and structures [in ecological, social or economic systems] to moderate potential damages or to benefit from opportunities associated with climate change.”²

Climate change impacts on any system are the realisation of risks faced by the system. A risk can be defined as “the potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems.”³ A risk, in turn, results from the combination of *hazards* (natural factors like the chances of extreme weather), *exposure* (the presence of people and resources in areas that could be negatively affected) and *vulnerability* (the susceptibility to being negatively affected) (**figure 1**). Hazards include weather events like extreme temperatures, extreme precipitation, storms, floods, sea-level rise, and so on, and can be construed as the likelihood of such an event multiplied by its magnitude.⁴ Vulnerability can also be of different kinds (physical, economic, social...) and includes the sensitivity of the vulnerable group or asset, minus its adaptive capacity or ability to adjust to damage.

FIGURE 1

CLIMATE RISKS ARE A COMBINATION OF HAZARDS, EXPOSURE AND VULNERABILITY

Source: Climate Chance, based on [Jones, R. et al \(2004\)](#)



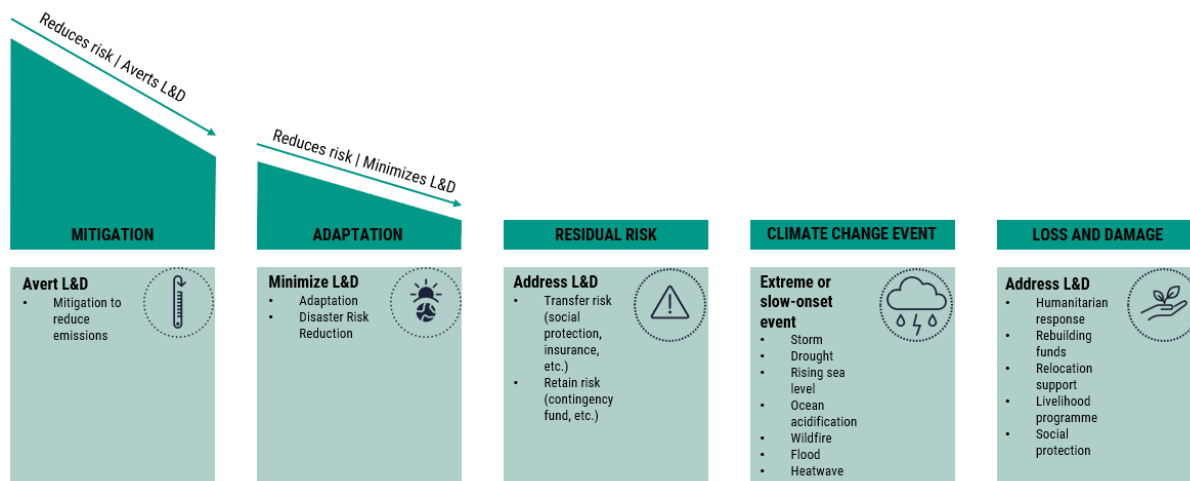
Adaptation also changes in dimension depending on timescales (long-, medium- or short-term) and types of responses (technological, institutional, behavioural and cultural, nature-based). It could range from building flood defences or solutions to heat stress, to early warning systems for extreme weather, to drought-resistant crops, to redesigning economic or governmental operations. There is no one solution that works for everyone. Lacking a universal, easily quantifiable metric, adaptation is also much more complex to measure and enact than mitigation, which is anchored in the universal indicator of tonnes of carbon dioxide – hence the paramount importance of coordinating national adaptation policies with subnational and local levels of governance.

In the scheme of action against climate change, mitigation through the reduction of carbon emissions can be considered as reducing the potential hazards from climate change and increasing the range of what can be adapted to; adaptation itself implies taking actions to moderate eventual

damage and increase resilience. What remains after can be termed “residual risk”, which after a climate change event turns into loss and damage (**figure 2**). Thus, the importance of adaptation lies in minimizing residual risk, and eventual irretrievable losses, as much as possible.

FIGURE 2
ADAPTATION REDUCES RESIDUAL RISK AND MINIMISES LOSS AND DAMAGE

Source: [Richards, J.-A. \(2022\)](#)



b. The current state of global adaptation: A multiplicity of actors and the financing gap

The IPCC in its 6th cycle of reports⁵ identified 3.6 billion people, nearly half the world’s population, as highly vulnerable to the impacts of climate change. These impacts, due to increasingly frequent and severe weather events and slow-onset processes, include human mortality, infrastructure loss, ecosystem damages and other losses. While the world is already at 1.1 °C of warming above the pre-industrial average, Europe is warming faster: the European Environment Agency estimates that land temperatures have increased by over 2 °C.⁶ The IPCC notes that the impacts of compound hazards of warming and precipitation have become more frequent, and identifies four key risks for the continent: mortality, morbidity and ecosystem changes due to heat; heat and drought stress on crops; water scarcity; and flooding and sea level rise. With increasing temperature trajectories above the pre-industrial average, different scenarios entail increasingly severe impacts – each degree of warming leading to increasingly catastrophic impacts.

Reviews of scientific literature published between 2013 and 2019^{7,8} show that the majority of adaptation actions from around the world were undertaken at the local level, with individuals and households being the main actors (accounting for up to 64% of literature). When it comes to coordinated and institutionalised actions, governments at all levels nearly monopolise the planning stage, and play an important role in implementation. The largest share of civil society participation appears to be at the implementation level. Local governments play a particularly important role in large urban areas, while the national level concentrates the most political responsibility – from setting legislation, to coordinating between lower levels of governance and between economic sectors, and managing relations with other countries, international organisations and financiers.⁹ There is less evidence of institutional, multi-actor adaptation, as well as transformational adaptation in existing literature – pointing to the importance of vertical integration of adaptation planning and actions, and the participation of various stakeholders.

However, studies have recently shed light on the growing deficit in adaptation financing and implementation. The 2023 Adaptation Gap Report¹⁰ showed that the implementation of adaptation plans is stagnating in developing countries. Adaptation actions supported by the four main international climate funds have decreased in number, while increasing in value due to the presence of larger projects. At the same time, the financial needs for adaptation are 10 to 18 times greater than current international public financial flows for adaptation, at least 50% greater than previous estimates. The OECD report on climate finance,¹¹ which aims to track progress towards the \$100 bn climate finance goal set in COP15 in Copenhagen, showed that in 2021, finance mobilised by developed countries for developing countries reached \$89.6 billion, an increase of 7.6% on the previous year. However, financing for adaptation fell by 14%, resulting in a 27% share of adaptation in climate financing flows in 2021. According to Climate Policy Initiative,¹² public and private flows of climate finance touched \$1.3 trillion in 2021-22, doubling from their 2019-20 levels, though driven mostly by an acceleration in mitigation finance. Adaptation finance in 2021-22 as per CPI figures reached a record high \$63 bn, up by 28% from 2019-20, though now accounting for less than 5% of total climate finance (7% in 2019-20).

Though much more marked in developing countries, the adaptation finance gap is pertinent to Europe as well. Potential barriers identified by the IPCC at the European level include limited resources and insufficient mobilization of finance, low private-sector and citizen engagement, a lack of political leadership and a low sense of urgency. Residual risks, especially in scenarios beyond 1.5 °C, are insufficiently addressed.¹³

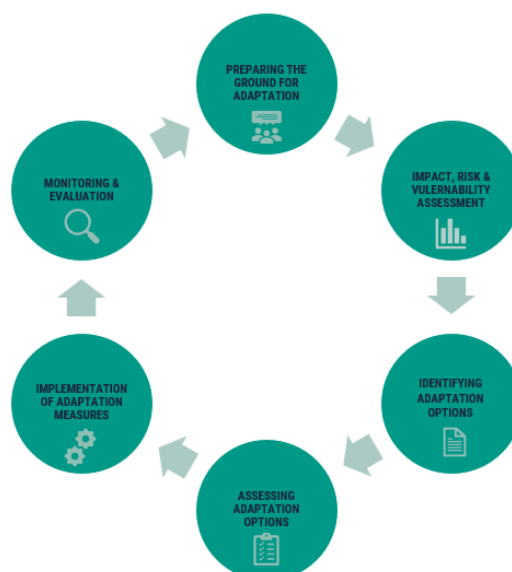
2) The adaptation policy framework in Europe

a. The structure of the adaptation policy cycle and its global governance

The process of adaptation when carried out in a coordinated manner between multiple actors, led by a government, translates concretely into an adaptation *policy cycle*. While this cycle can take various iterations, its operational steps can be understood through **figure 3**, recommended by the European Environmental Agency in its Adaptation Support Tool.

FIGURE 3

THE STEPS IN THE POLICY CYCLE IDENTIFIED IN THE EEA'S ADAPTATION SUPPORT TOOL Source: [Climate ADAPT, n.d](#)



Once the framework is set and resources identified in the first step (“preparing the ground”), the cycle begins with an assessment of the risks and vulnerabilities facing the territory, mapped out spatially and across sectors of activity, based on past trends and accompanied by future projections. The next step is to lay out the various adaptation options based on the assessment, establishing the costs and benefits of each option, choosing the most appropriate ones and planning for them. This step results in the creation of a policy document that fixes the objectives and potential actions of the adaptation, such as an *adaptation strategy*. It is followed by the implementation of these actions, the translation of the strategy into measures taken on the ground, usually articulated in an *adaptation plan*. The selected adaptation options are integrated into various sectoral policies, with the participation of various stakeholders. The *implementation* stage is followed by *monitoring and evaluation* of the adaptation, which means tracking the effects of the implemented actions in reducing the identified risks over time. What is learned from monitoring and evaluating adaptation actions then feeds into the risk and vulnerability assessment of the next policy cycle.

At the global level, the mainstreaming of adaptation in the UN Climate spheres could be traced back to 2010^a, which marked the creation of the Cancun Adaptation Framework establishing the National Adaptation Plan (NAP) process, aimed specifically at developing countries, and the creation of the Adaptation Committee. The Paris Agreement in 2015 established the Global Goal on Adaptation (GGA)^b, and Adaptation Communications that each country is required to submit. Article 7 of the Agreement states “*each party shall, as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions*”, thus requiring all countries to undertake adaptation planning. The same article also rendered obligatory the submissions of periodic Adaptation Communications on plans, priorities, implementation and needs, with the aim of strengthening support for developing countries, feeding into stocktakes of the Paris Agreement, and advancing learning and understanding of adaptation. The GGA framework adopted at COP28 requires the preparation of “country-driven, gender-responsive, participatory and transparent” NAPs by 2030, as well as impact, vulnerability and risk assessments that need to be developed in the same time frame.

Though the NAPs and Nationally Determined Contributions (NDCs) under the Paris Agreement are intrinsically linked, there is no official articulation of this link. NDCs are the pledges of countries containing targets, policies and actions that the country promises to undertake to meet the objectives of the Paris Agreement. The relationship between NDCs and NAPs depends a lot on the sequencing of these documents¹⁴ – a country that has a NAP underway can draw from the NAP to define adaptation targets and actions to include in its NDC; the adaptation commitments included in an NDC can also be translated into actions and implemented through a NAP. Additionally, as NDCs are supposed to be renewed every five years (unlike NAPs, which are not subject to fixed cyclical timeline), the NDC cycle could serve to revisit and reevaluate adaption priorities as well.

^a As early as 2001, Least Developed Countries were “invited” to develop National Adaptation Programmes of Action (NAPAs), which aimed to identify urgent and immediate adaptation needs. NAPs on the other hand, aim to identify medium and longer-term needs and strategies.

^b The GGA aims to place adaptation to climate change on par with mitigation – by developing a goal for adaptation, parallel to the mitigation goal of limiting global temperature rise to 1.5 °C above pre-industrial levels. The framework for the GGA was adopted at COP28, see the Observatory’s [analysis note](#) for more information.

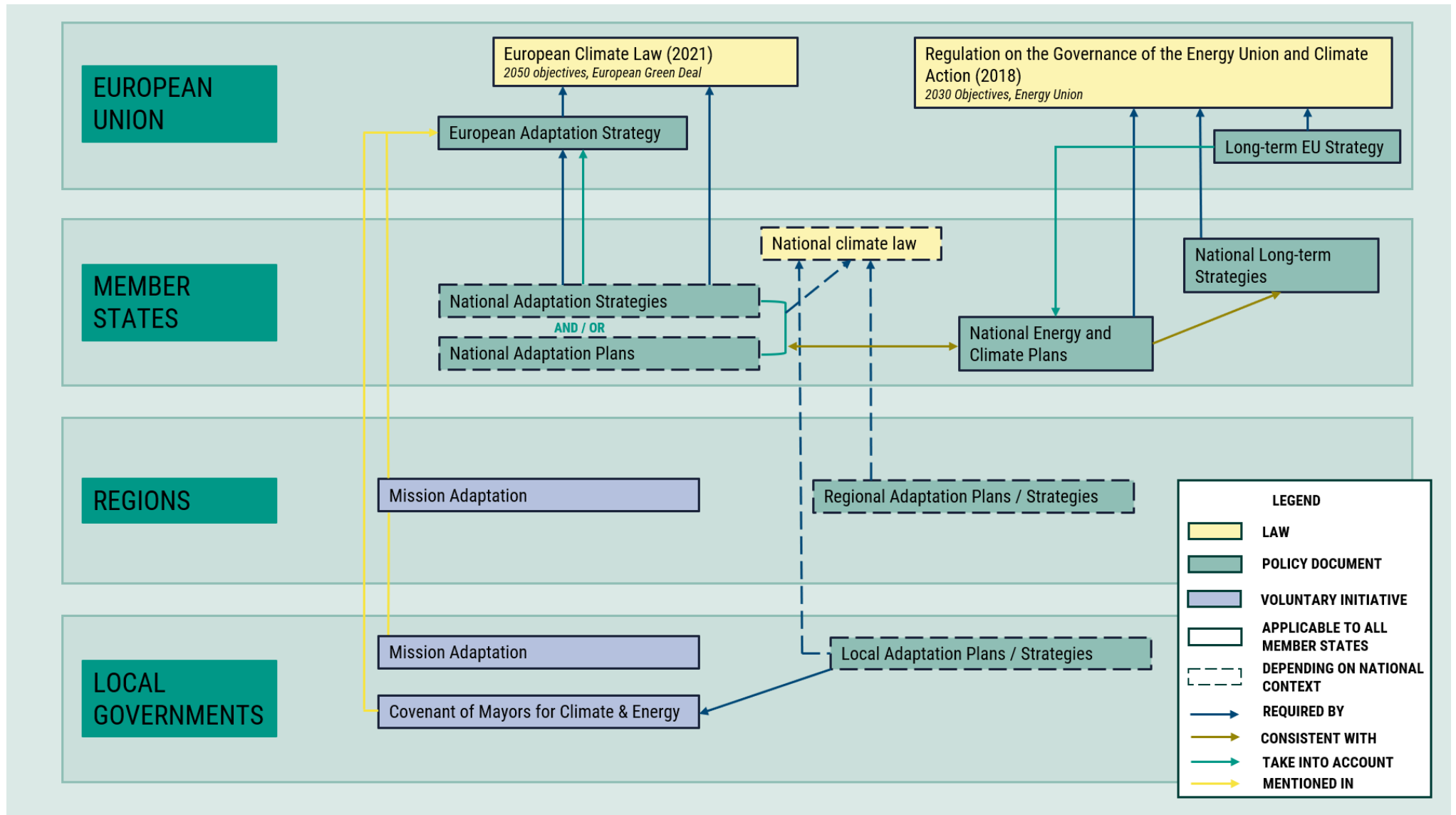
At the level of European Union, all the Member States of the Union are signatories to the Paris Agreement, but coordinate their positions and set common goals – notably for emission reduction – at the EU level. Thus, there is a common EU NDC,¹⁵ that sets a target of 55% emissions reduction compared to 1990 levels by 2030, but does not mention adaptation actions, which are harder to coordinate at a Union level and are organised through the governance framework analysed next in this study.

b. The European Adaptation Strategy: The gradual development of a structured governance

The discussions on adaptation policy at the European level began in the mid-2000's, and the unevenly-paced development of national adaptation policies preceded and finally led to the development of a European policy, in what has been described as a "piecemeal fashion".¹⁶ The first Adaptation Strategy of the European Union (EU) was adopted in 2013,¹⁷ drawing from guidelines laid out in the 2009 White Paper on Adaptation, aiming to put in place anticipatory measures at the local, regional, national and European levels, in a coherent and coordinated way. This first strategy was built around promoting action by Member States, better informing decision-making, and focusing on the most vulnerable sectors. It helped to allocate funding at the European level for capacity building and the implementation of actions. At the local level, it helped introduce adaptation into the Covenant of Mayors. It also led to the development of the Climate-ADAPT portal, a one-stop-shop for resources on adaptation in Europe.

In February 2021, the Commission adopted a new strategy¹⁸ for adaptation to climate change. **Figure 4** depicts the larger framework into which this strategy fits. Integrating takeaways from the evaluation of the first strategy, it defines and identifies ways in which the EU can adapt to the effects of global warming by 2050. The new strategy, which is also an integral part of the EU Green Deal, is based on four main objectives – smarter, swifter, systemic adaptation and intensified international cooperation – covered by 49 actions. It proposes that adaptation action be implemented in an integrated manner with other Green Deal priorities like the Biodiversity Strategy, Renovation Wave, Farm to Fork Strategy, Forest Strategy, the Circular Economy and Zero Pollution Action Plans, Forest Strategy, Soil Strategy, Smart and Sustainable Mobility Strategy, and Renewed Sustainable Finance.

FIGURE 4
 THE GOVERNANCE FRAMEWORK FOR ADAPTATION POLICY IN THE EUROPEAN UNION
 Source: Climate Chance



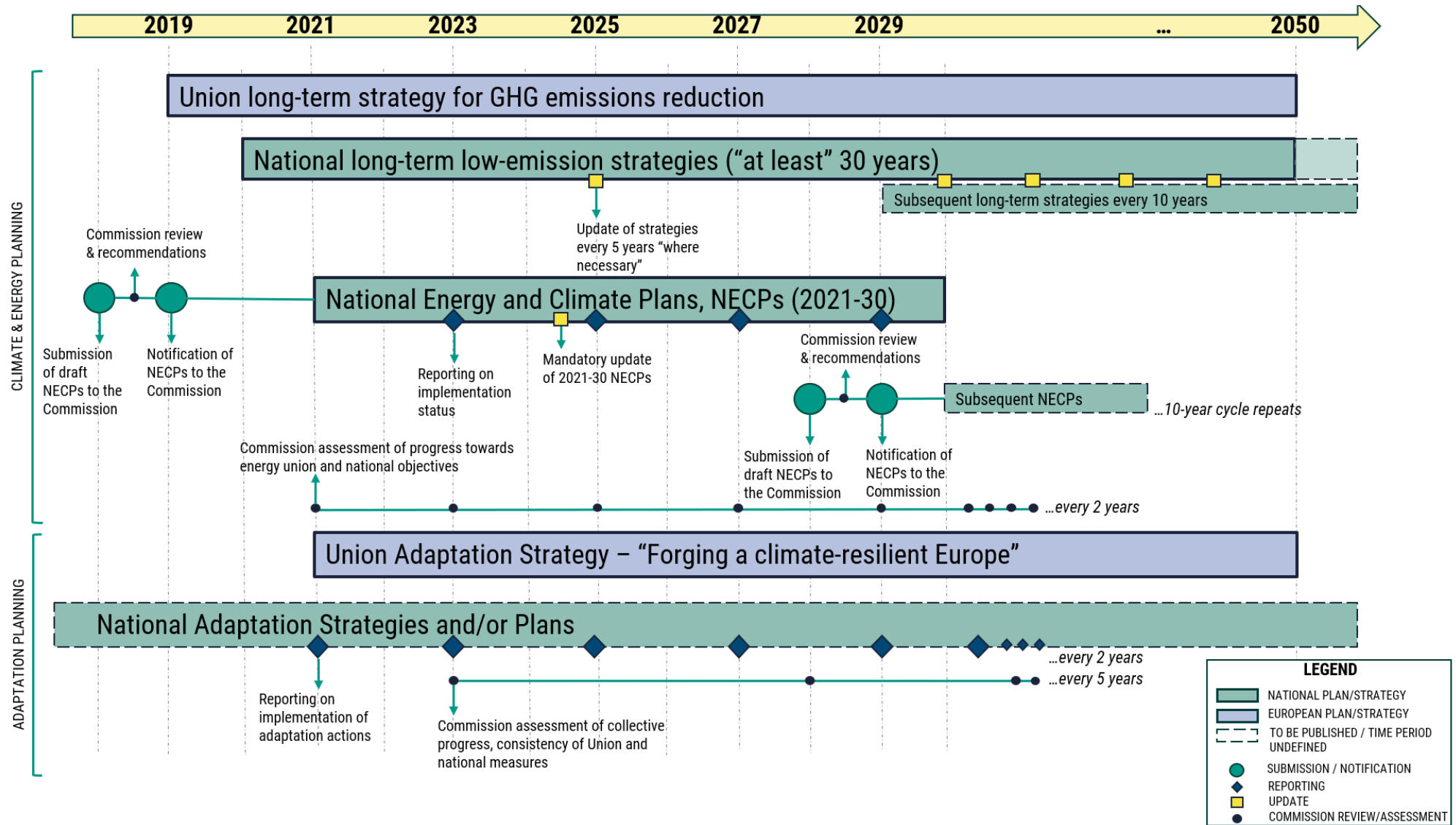
While the Adaptation Strategy states that “Member States will *continue to be the main implementation partners*”, with more support through EU-level action, the focus on more systemic adaptation includes prioritising local adaptation. The Strategy calls for improved risk assessments, and *encourages* national, regional and local authorities to further develop adaptation strategies based on the latest science.

This Strategy is backed by legislations which aim to enact its goals and priorities, and make legally binding some of its actions. The European Climate Law, which entered into force in 2021, translates into law the goals of the European Green Deal – centred around reaching climate neutrality in 2050. It also provides for “*increased ambition and policy coherence on adaptation*”;¹⁹ engraving in law the adoption of the Union adaptation strategy (**figure 4**), and “*national adaptation strategies and plans based on robust climate change and vulnerability analyses, progress assessments and indicators, and guided by the best available and most recent scientific evidence*” (Art. 5).²⁰

The Climate Law adds on to the existing governance structure established by the Regulation on the Governance of the Energy Union and Climate Action²¹ (referred to henceforth as GovReg), which entered into force in 2018, aiming to implement strategies and measures to meet the EU’s 2030 energy and climate targets. It establishes a governance mechanism based on integrated National Energy and Climate Plans (NECPs) covering ten-year periods starting in 2021 (Art. 3), alongside European and national long-term strategies to meet Paris Agreement and energy union objectives (Art. 15). In their NECPs, Member States are required to set objectives, targets and contributions on adaptation, related to the five dimensions of the Energy Union (energy security, solidarity and trust; the internal energy market; energy efficiency; decarbonization of the economy; and research, innovation and competitiveness) (Art. 4).

The Climate Law and GovReg together also set up a cycle for the updating of policy documents and reporting, as depicted in **figure 5**, accompanied also by periodical assessments of policy consistency with Union objectives, and recommendations to Member States by the Commission. This is particularly the case for the NECPs, of which Member States need to submit drafts, and the Commission reviews these drafts in order to make recommendations that need to be taken into account. The GovReg stipulates that changes in States’ adaptation policies are to be included in NECP progress reports, which are submitted every two years (Art. 17). It also establishes integrated reporting on national adaptation actions every two years (Art. 19), different from the progress report on NECPs. Reporting under the GovReg intended to be in line with the Katowice Decision (COP24) on State reporting and transparency under the Paris Agreement. Implementing Regulation (EU) 2020/1208²² sets out the exact arrangements for implementing this adaptation reporting. The Climate Law also requires the European Commission to assess collective and individual progress on adaptation through information submitted by Member States under the Regulation on the Governance of the Energy Union and Climate Action, and publish the conclusions every five years, fitting also into the timeline of the Global Stocktakes under the Paris Agreement.

FIGURE 5
THE TIMELINE OF POLICY DOCUMENT COORDINATION AT THE EU LEVEL
Source: Climate Chance



In none of the Member States however, are national or subnational governments asked to set, *binding and measurable targets* for adaptation however, for which they can be held accountable – whereas civil society organisations have held that setting precise targets is important to accelerate adaptation action by ‘reluctant’ governments.²³ The requirements are even less defined and uniform for lower levels of governance, namely the regional and local levels.

Local strategies show a lot more voluntary action, with support from higher levels. To put the Adaptation Strategy into practice at the local level, in 2022 the Commission launched the EU Mission “Adaptation to Climate Change”, an action programme to support at least 150 European regions and communities in becoming more resilient by 2030.²⁴ The Horizon Europe programme is providing €370 million of funding between 2021 and 2023 to support research and innovation actions in favour of adaptation. 118 regions from 18 countries were selected for the first phase of the Mission in 2022, and current signatories stand at 308 local authorities.^{25,26} There is also no prescription at the European level as to local adaptation planning and action in terms of documents required or reporting. Most of the action that is taking place is voluntary and bottom-up, often passing through initiatives like the Covenant of Mayors (**cf. below**).

c. National adaptation policies differ in their approaches to multi-level integration

The current European Adaptation Strategy document mentions that all Member States have a **national adaptation strategy or plan**. Several Members States also have a legal requirement or political commitments institutionalising regular risk assessments to feed into their strategies and plans. The evaluation of the first EU Adaptation Strategy²⁷ showed that as of 2013, 15 Member States had already adopted an adaptation strategy and/or plan – with the terms “strategy” and “plan” being used differently by different States, though in general plans are more precise and contain specific actions. The level of detail in these documents varied greatly.

According to the EEA Report that evaluated Member States’ 2021 reporting under the GovReg on adaptation actions, strategies and plans remained “soft, non-binding” policies in most countries.²⁸ The assessment of the 2023 reporting counted nine new national strategies or plans, while other countries were in the process of revising their documents. Climate laws are increasingly being enacted by countries to give greater power to their adaptation policies, introducing “harder” elements – eight out the 27 Member States, Croatia, Finland, Greece, Hungary, Ireland, Luxembourg, Portugal and Spain have now adopted climate laws with provisions on adaptation.²⁹ Germany adopted a law dedicated entirely to climate adaptation in 2023, which will come into force mid-2024, requiring all levels of government to take precautionary climate adaptation measures.³⁰ Certain countries also have legislations that complement the adaptation policy framework, in the management of more precise hazards – the Dutch Delta Programme or the Polish Drought programme, for example.

Adaptation priorities have not significantly changed compared with the previous reporting cycle. Among the 15 countries that mention sectoral priorities, the energy sector has risen in priority since 2021. The most reported priorities include health, biodiversity and ecosystem-based approaches, water management, transport, agriculture and food.

d. Subnational policies and the bottom-up dynamic

Globally, most National Adaptation Plans include a role for sub-national governments in adaptation, an analysis of all the NAPs submitted to the UNFCCC carried out by the NAP Global Network³¹ found. More often so in the planning and implementation stages of the policy cycle. Most NAPs also mention coordinating mechanisms across different levels of governance, either using existing structures or creating new mechanisms. All of the NAPs reference one or more non-governmental actor at the subnational level (civil society, local communities, businesses, women, youth, Indigenous people, people with disabilities, etc.).

In Europe, the evaluation of the 2023 GovReg reporting notes that subnational adaptation policies continue to advance in all countries, mostly driven by voluntary, bottom-up approaches. Soft, collaboration-based forms of vertical steering accompanied by supportive governance across levels are much more common than a top-down regulatory approach with obligations for subnational policymaking, which exists in a few countries like Croatia, Denmark, Greece, France and Sweden. Countries with coercive top-down frameworks have increased slightly over the 2021-2023 period, to stand at nine countries.

Top-down approaches have naturally resulted in a higher number of adaptation policy documents reported at the regional and local levels, though literature suggests little evidence of higher implementation when compared to bottom-up approaches.³² In countries that have softer vertical integration, support from the national levels varies by country, and includes policy inputs, capacity building, funding, and support for participation in national and international city networks, like the Covenant of Mayors.³³ By joining the initiative, cities commit to voluntarily developing a local adaptation strategy or integrating adaptation into ongoing development plans, and to reporting their progress every two years.

While numbers of local adaptation plans are hard to aggregate, as of 2012, 24% of 100 cities that were studied had an adaptation strategy. As of 2018, 26% of all EU Cities (Covenant and non-Covenant ones) had adopted adaptation plans³⁴, as had 40% of cities with more than 150,000 inhabitants.³⁵ According to the 2022 assessment by the European Covenant of Mayors carried out by the European Union Joint Research Centre (JRC)³⁶, 4,044 signatories from the EU-27 were committed to adaptation, of which 996 (24.6%) had submitted a complete adaptation plan. Spain, Italy and Belgium count the highest number of Covenant signatories committed to adaptation, with Belgium having the highest share of population covered by a local adaptation commitment (nearly 100%).

A 2023 study³⁷ of 327 large- and medium-sized European cities with from 2005 to 2020 showed that 51% of them has an adaptation plan in place, though less than half of these were under a legal obligation. The study also found that plan quality has been improving over time, becoming more detailed and multi-faceted within certain topics, though not necessarily becoming broader in terms of topics addressed.

The regional level – despite differing in definition according to the level of decentralisation and federal structure of countries – is also key to adaptation policies. With the EU Cohesion Policy, and even more so with the European Green Deal, the regions are emerging as essential for

implementation.^c To make this central role more concrete, the Committee of the Regions has set up a working group called “Green Deal Going Local” to reinforce the regions’ role in the Green Deal’s implementation, which included the creation of handbook for local and regional authorities on adaptation.³⁸ Regions are also taking voluntary action, and of the 301 signatories of the EU Mission Adaptation that were assessed in 2023, 66% had completed a risk assessment, 80% had an adaptation strategy in place, 70% had a dedicated resource-person or team for adaptation, and 66% had a dedicated regional adaptation budget.³⁹ Regions are also pooling forces through initiatives like RegionsAdapt, which has over 70 members from around the world, representing over 300 million inhabitants. The European members include one French region (La Réunion), one Italian region (Lombardy), two British regions (Scotland, Wales) and three Spanish regions (Basque Country, Catalonia, Navarre).

3) The state of implementation, MRE and financing across Europe

a. More regular and comprehensive assessments

The first Climate Risk Assessment (CRA) at the EU level was initiated in 2022 and published in 2024 by the European Commission’s Directorate-General for Climate Action and the EEA, in order to identify adaptation priorities in Europe and support policy development in “climate-sensitive sectors”, through an expert-driven approach synthesising existing data and knowledge.⁴⁰

The cycle of periodical CRAs is well stabilised at the level of the Member States, with a large share of countries reporting updated or new CRAs since their 2021 reporting; this is an update from the situation in 2021, where the EEA had identified the “systematic, comprehensive and regular renewal” of assessments to be the exception rather than the trend.^{41,42} CRAs are increasingly different in terms of sectors and territories covered, as well as territorial scales – not just between countries but also within countries. At the subnational level too, Risk and Vulnerability Assessments (RVAs) are making strong progress, with more countries reporting sub-national assessments, as well as an increasing number of such assessments taking place through voluntary initiatives or networks.⁴³

b. Progress in implementation masked by the MRE challenge

The evaluation of 2023 GovReg reporting⁴⁴ showed that more Members States have reported mainstreaming adaptation considerations into various economic sectors, including tourism, transport, health, built environment, culture, etc. but also into disaster and crisis management, as well as resource management. This mainstreaming was also reported by countries as taking place at the subnational level, such as through the integration of adaptation into urban planning (ex. SCOT and PLUI in France, and other examples from Italy, Luxemburg, Portugal, Spain and Romania).

In terms of increasing adaptive capacity, most countries reported doing so through information provision, guidance, decision support, supporting climate proofing of projects, newsletter, web-portals or educational programmes. Seven countries (compared to 10 in 2021) reported not having started assessing the increase in adaptive capacity. Subnationally, Covenant of Mayors data from

^c To read more about the role of European regions in climate action, refer to the Observatory’s analysis “[European Regions Illustrate the Central Role of Local and Subnational Governments in a Just Transition Towards a Low-carbon Economy](#)”.

2023 showed that each signatory had an average of 5.8 adaptation actions included in their strategies and plans – of which 1.3 are completed, 3.4 are ongoing and 1.1 are yet to be started. The local level, also being the final line of implementation of climate policies, also sees a relatively higher level of integration of mitigation actions with adaptation, with higher measures with parallel co-benefits for both.⁴⁵

The difficulty in assessing implementation and progress made could be tracked to the state of *monitoring, reporting and evaluation* (MRE). At the national level, countries most often reported an “indicator-based” approach, though the types of indicators used and how they fed back into the adaptation policy cycle was unclear. Overall, evaluation practices remain less reported by countries, compared to monitoring practices. At the subnational level, even monitoring practices vary greatly, with a plethora of methodologies, each one evolving over time.⁴⁶ Most Member States mention that regions and municipalities are responsible for their implementation and evaluation of local strategies and measures. Current literature affirms the global lack of progress in monitoring and evaluation of adaptation progress – across levels of governance – stemming from conceptual as well as data challenges when it comes to adaptation metrics, and defining what constitutes “successful” adaptation.^{47, 48, 49}

The problem of monitoring and evaluating progress is even more present at the local level, where it is more generalised, applying to both mitigation and adaptation. A study of 2020 Covenant of Mayors mitigation data highlighted the financial and technical barriers that exist in tracking local progress.⁵⁰ More specifically on adaptation, the 2022 assessment of the Covenant of Mayors identified firstly a gap between risks and priorities identified in RVAs, and the actions mentioned in action plans, though this could be attributed to jurisdictional limits. Additionally, only 744 cities (out of 1289 who had submitted RVAs) had identified at least one adaptation goal, let alone indicators to measure progress towards it. Only 54 monitoring reports submitted by signatories include “valid” information on progress towards the adaptation goal and the implementation status of planned actions.⁵¹

c. Adaptation finance: A preponderance of EU funding

The EEA in a 2023 study noted that the quality and quantity of national level data on adaptation budgets does not allow for a systemic assessment of all measures affecting a given sector or area, neither for a comparison of costs and benefits of actions across sectors.⁵² The 2023 GovReg reporting also revealed that Member States face challenges also when it comes to tracking financing of adaptation. Firstly, assessing the cost of adaptation remains a challenge, and current assessments are limited to the federal or sectoral levels. Most adaptation planning documents do not mention dedicated budgets, nor streams of financing, leading in turn to a difficulty in allocating financial resources for implementing adaptation. Those countries that did report quantitative elements on adaptation financing mentioned that most of these funds came from the EU level, and EU funding instruments helped to coordinate adaptation policies.⁵³

This includes funding from a range of EU instruments like the Recovery and Resilience Facility, the LIFE Programme, Horizon Europe, the European Cohesion Policy, the European Regional Development Fund, the Cohesion Fund, the Just Transition Fund, and others. 20% of funds had to be

devoted to mitigation or adaptation projects from 2014-2020, representing about 78 billion euros and up to nearly a third of the ERDF.⁵⁴ The 2021 – 2027 Multiannual Financial Framework requires that at least 25% of the European budget in climate-related expenditure.⁵⁵

The structure of disbursements at the European level also reinforces the important role on regions as determinants of the direction of finance flows,⁵⁶ as does regional level participation in initiatives like Mission Adaptation. A 2018 study of local level adaptation in Europe revealed that large municipalities tend to fund adaptation locally, whereas less urban or less densely populated areas depended more on international or national funding.⁵⁷ A more recent study at the global level highlighted the interrelated obstacles of developing monitoring and evaluation along with efforts in financing.⁵⁸

References

- ¹ Möller, V. et al (2022). [Annex II: Glossary](#). In Pörtner, H.-O. et al. (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. *Cambridge University Press*.
- ² UNFCCC (n.d.) [Adaptation and resilience. Introduction](#). *United Nations Framework Convention on Climate Change*.
- ³ Möller, V et al (2022). Annex II..., *op cit*.
- ⁴ Jones, R. et al. (2004). [Assessing current climate risks](#). *Adaptation Policy Framework for Climate change: Developing strategies, policies and measures*. UNDP, Cambridge University Press, Cambridge, UK, 91-117.
- ⁵ Pörtner, H.-O. et al. (2022). [Climate Change 2022: Impacts, Adaptation and Vulnerability](#). Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. *Cambridge University Press*.
- ⁶ EEA (29/06/2023). [Global and European temperatures](#). *European Environment Agency*.
- ⁷ Berrang-Ford, L. et al. (2021). [A systematic global stocktake of evidence on human adaptation to climate change](#). *Nature Climate Change*, vol. 11. 989 – 1000.
- ⁸ Petzold, J. et al. (2023). [A global assessment of actors and their roles in climate change adaptation](#). *Nature Climate Change*, vol. 13. 1250 – 1257.
- ⁹ OECD (2009). [Integrating Climate Change Adaptation at the National Level](#). In OECD (2009). [Integrating Climate Change Adaptation into Development Co-operation: Policy Guidance](#). *OECD Publishing*.
- ¹⁰ UNEP (2023). [Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed](#). *United Nations Environment Programme*.
- ¹¹ OECD (2023). [Climate Finance Provided and Mobilised by Developed Countries in 2013-2021: Aggregate Trends and Opportunities for Scaling Up Adaptation and Mobilised Private Finance](#). *Climate Finance and the USD 100 Billion Goal*. *OECD Publishing*.
- ¹² Buchner, B. et al (2023). [Global Landscape of Climate Finance 2023](#). *Climate Policy Initiative*.
- ¹³ Pörtner, H.-O. et al (2022). *Climate Change 2022...op. cit*.
- ¹⁴ Hammill, A., Dazé, A., & Dekens, J. (05/12/2019). [The National Adaptation Plan \(NAP\) Process: Frequently Asked Questions](#). *NAP Global Network*.
- ¹⁵ Spain & the European Commission (2023). [Update of the NDC of the European Union and its Member States](#). Submission by Spain and the European Commission on behalf of the European Union and its Member States.
- ¹⁶ Rayner, T. & Jordan, A. (2010). Adapting to a changing climate: an emerging European Union Policy? In Jordan, A. et al (2010). [Climate Change Policy in the European Union: Confronting the Dilemmas of Mitigation and Adaptation?](#). *Cambridge University Press*.
- ¹⁷ European Commission (2013). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. [An EU Strategy on adaptation to climate change](#). COM/2013/0216 final. *European Commission*.
- ¹⁸ European Commission (2021). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. [Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change](#). COM/2021/82 final.
- ¹⁹ *Ibid*.
- ²⁰ [Regulation \(EU\) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations \(EC\) No 401/2009 and \(EU\) 2018/1999 \('European Climate Law'\)](#), [2021]. OJ L243.
- ²¹ [Regulation \(EU\) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations \(EC\) No 663/2009 and \(EC\) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and \(EU\) 2015/652 and repealing Regulation \(EU\) No 525/2013 of the European Parliament and of the Council \(Text with EEA relevance\)](#). [2018]. OJ L328.
- ²² [Commission Implementing Regulation \(EU\) 2020/1208 of 7 August 2020 on structure, format, submission processes and review of information reported by Member States pursuant to Regulation \(EU\) 2018/1999 of the European Parliament and of the Council and repealing Commission Implementing Regulation \(EU\) No 749/2014 \(Text with EEA relevance\)](#). [2020]. OJ L278.
- ²³ Lenaerts, K., Tagliapietra, S. & Wolff, G. (2022). [How can the European Union adapt to climate change while avoiding a new fault line?](#) Policy Contribution 11/2022. *Bruegel*.
- ²⁴ Directorate-General for Research and Innovation (n.d.). [EU Mission: Adaptation to Climate Change](#). *European Commission*.
- ²⁵ Directorate-General for Communication (07/06/2022). [118 regions and local authorities join the EU Mission for Adaptation to Climate Change](#). Press Release. *European Commission*.

- ²⁶ Directorate-General for Climate Action (07/03/2023). [EU Mission Adaptation Signatories now number over 300](#). News Article. European Commission.
- ²⁷ European Commission (2018). [COMMISSION STAFF WORKING DOCUMENT Evaluation of the EU Strategy on adaptation to climate change Accompanying the document REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the implementation of the EU Strategy on adaptation to climate change](#). SWD/2018/461 final.
- ²⁸ EEA (2022). [Advancing towards climate resilience in Europe — Status of reported national adaptation actions in 2021](#). European Environment Agency.
- ²⁹ Leitner, M. et al. (2023). [Is Europe on track towards climate resilience? – Status of reported national adaptation actions in 2023](#). Technical Paper 2/23. European Topic Centre on Climate change adaptation and LULUCF (ETC-CA).
- ³⁰ BMUV (13/07/2023). [Bundesregierung verabschiedet erstes bundesweites Klimaanpassungsgesetz](#). Pressemitteilung. Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz
- ³¹ Luna Rodriguez, M., Ledwell, C. & Bankole, O. (2023). [Progress on vertical integration in national adaptation plan processes: Analysis of strategic linkages between national and sub-national levels](#). NAP Global Network synthesis Report. International Institute for Sustainable Development.
- ³² EEA (2020). [Urban adaptation in Europe: how cities and towns respond to climate change](#). EEA Report 12/2020. European Environment Agency.
- ³³ EEA (2022). [Advancing towards climate...](#), *op. cit.*
- ³⁴ Reckien, D. et al. (2018). How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities in the EU-28. *Journal of Cleaner Production*, vol. 191. 207 – 219.
- ³⁵ European Commission (2018). COMMISSION STAFF WORKING DOCUMENT...*op. cit.*
- ³⁶ Melica, G. et al (2022). [Covenant of Mayors: 2022 assessment](#). EUR 31291. Publications Office of the European Union.
- ³⁷ Reckien, D. et al. (2023). [Quality of urban climate adaptation plans over time](#). *npj Urban Sustainability* vol. 3, 13.
- ³⁸ European Committee of the Regions (20/09/2022). [Adapting to climate change: new toolkit for cities and regions now online](#). News. European Committee of the Regions.
- ³⁹ Directorate-Generak for Climate Action (02/2023). [Analysis of information provided by the signatories of the charter of the Mission Adaptation to Climate Change](#). European Commission.
- ⁴⁰ Climate-ADAPT (n.d.). [European Climate Risk Assessment](#). European Commission, European Environment Agency.
- ⁴¹ EEA (2022). [Advancing towards climate...](#), *op. cit.*
- ⁴² Leitner, M. et al (2023). [Is Europe on track...](#), *op. cit.*
- ⁴³ Thomas, T. M. (2023). [Local Governments: Commitment and action are advancing, but monitoring of progress lags behind](#). In Global Observatory of Climate Action (2023). Global Synthesis Report on Climate Action 2023. *Climate Chance*.
- ⁴⁴ Leitner, M. et al (2023). [Is Europe on track...](#), *op. cit.*
- ⁴⁵ Grafakos, S., et al. (2020). [Integration of mitigation and adaptation in urban climate change action plans in Europe: A systematic assessment](#). *Renewable and Sustainable Energy Reviews*, vol. 121.
- ⁴⁶ Thomas, T. M. (2023). [Local governments...](#), *op. cit.*
- ⁴⁷ Adaptation Committee (2021). [Approaches to reviewing the overall progress made in achieving the global goal on adaptation \[Technical paper by the Adaptation Committee\]](#). United Nations Framework Convention on Climate Change.
- ⁴⁸ Dilling, L. et al. (2019). [Is adaptation success a flawed concept](#). *Nature Climate Change*, vol. 9. 572 – 574.
- ⁴⁹ Goonesekera, S. M., Olazabal, M. (2022). [Climate adaptation indicators and metrics: State of local policy practice](#). *Ecological Indicators*, vol. 145.
- ⁵⁰ Rivas, S. et al. (2022). [Covenant of Mayors 2020: Drivers and barriers for monitoring climate action plans](#). *Journal of Cleaner Production*, vol. 332.
- ⁵¹ Melica, G. et al (2022). [Covenant of Mayors...](#), *op. cit.*
- ⁵² EEA (2023). [Assessing the costs and benefits of climate change adaptation](#). European Environment Agency.
- ⁵³ Leitner, M. et al (2023). [Is Europe on track...](#), *op. cit.*
- ⁵⁴ Dijkstra, L. (2017). [My region, My Europe, Our future: The seventh report on economic, social and territorial cohesion](#). European Commission.
- ⁵⁵ Climate-ADAPT (n.d.). [EU funding of adaptation](#). European Commission; European Environment Agency.
- ⁵⁶ Global Observatory of Climate Action (2022). [European Regions Illustrate the Central Role of Local and Subnational Governments in a Just Transition Towards a Low-carbon Economy](#). *Climate Chance*.
- ⁵⁷ Aguiar, F. C., et al. (2018). [Adaptation to climate change at local level in Europe: An overview](#). *Environmental Science & Policy*, vol. 86. 38 – 63.
- ⁵⁸ Olazabal, M. & Ruiz De Gopegui, M. (2021). [Adaptation planning in large cities is unlikely to be effective](#). *Landscape and Urban Planning*, vol. 206.