

POLICY BRIEF

Crossing the last mile in climate services: Putting policies into action

Adapting to climate change, building resilience to climate extremes and transitioning to a net-zero emission society requires effective planning and climate smart decision-making. Achieving these ambitions in Europe depends on transformative action starting locally; in cities and rural areas, and across sectors. Climate services are essential to support science-based decision-making towards these goals, but require enabling policies and the mobilising of local actors, data and knowledge to be effective. Empowering actors to adapt and build resilience from the bottom up, starting from their own local context, contributes to strengthening resilience at national and regional scale. Building from local solutions also safeguards investments in climate science and systems at European and global scale.

The European Union has set ambitious targets to support the Paris Agreement and to transform Europe towards a net-zero society, adapting to climate change; with increased resilience to floods, droughts and heatwaves that are projected to further increase in severity and frequency. These ambitions are supported through initiatives such as Copernicus¹, the Group on Earth Observations² and Destination Earth³, providing cutting-edge science data and services on the earth's system, natural hazards, and how these develop due to climate change in a world that is heavily influenced by human actions. Such initiatives are essential, but there is a large gap between the data these provide and users in cities, regions, rural communities and sectors across Europe. This gap is not only in the resolution, relevance and credibility of data and information services, but also in governance relations, policies and sustainable business models. Additionally, gaps exist in how ambitious targets set at EU-level can be translated and tailored into actions taken at local level by local actors. Pathways to decarbonisation and adaptation, as well as increasing resilience to climate extremes is complex, takes time, and very much depends on local contexts and the buy-in of local actors across European cities, rural areas and regions. Disregarding the specific needs communities and sectors have, and the local knowledge and adaptation capacities they hold,

¹ <https://www.copernicus.eu/en>

² <https://earthobservations.org/>

³ <https://destination-earth.eu/>

may lead to maladaptation. Especially for those that are most vulnerable.

This brief shares findings from research in four aligned European funded projects that establish a new paradigm in climate services. This is founded in a human centric approach and recognises the social and behavioural preferences of users and that decisions and actions are rooted in local contexts and knowledges. In this brief we outline four recommendations to policy to bridge the gap between climate services provision and climate service use; the last mile of climate service delivery.

Key Recommendations:

Strengthen policies and resources to mobilise local data and knowledge: Copernicus, ESA and GEO provide essential data and services at European level. Policy should enable integration with high quality and harmonised local data and knowledge. This is essential for climate services to be credible, trusted and used at local level.

Enable societal actors to foster co-creation and knowledge integration at local level: Informing and inspiring local decision making depends on multiple actors on the climate services value chain. The role of brokers is pivotal. Policy should support all actors, and facilitate sustainable financing and business models for all, including users.

Set ambitious targets locally and consider mitigation and adaptation together: Adaptation and mitigation start at a local level in cities and communities. Policy should strengthen coordination between national and local level, translating ambitions to the local level and context. This increases resilience, incentivises adaptation and contributes to mitigation.

Ensure monitoring and evaluation (M&E) is integral to mitigation and adaptation strategies: Policy should incentivise transparent and harmonised monitoring and evaluation of mitigation and adaptation strategies. This enables bottom-up strategies to be inclusive, specific and flexible to changing local needs and contexts; contributing to achieving ambitious national targets.

Strengthen policies and allocate resources to mobilise local data and knowledge

Climate Services rely on high quality and harmonised data at spatial and temporal scales that are relevant to the needs of users. At European level, initiatives such as Copernicus, Destination Earth, European Space Agency and by the Group on Earth Observations ensure free and open availability of continental and global datasets. Availability and open access to local data at national, sub-national, (transboundary) river basin and city level is, however, more challenging. It also differs greatly across European countries and agencies. This hampers the credibility, added value, and use of climate services at local level. Importantly, it holds back the emergence of a flourishing climate services business sector. National and local policy, and enabling mechanisms (e.g. funding, capacity, tools) are essential to ensure data can be easily accessed, trustfully used, and operationalised at local level to enable local adaptation and planning processes and support early warning. Data management at all levels should follow the FAIR (Findable, Accessible, Interoperable, Reusable) principles. Uptake of climate services depends strongly on effective policy incentives,



thus calling for policy levers to foster the use of climate services. Such policy should recognise that climate services go beyond scientific data alone as these should provide actionable insights and advisories tailored to local users and contexts. The local knowledge both climate services users and providers hold has an important role in shaping decisions at local level, and should be considered as equal to scientific knowledge.

Enable societal actors to foster co-creation and knowledge integration at local level

Bridging the gap between the provision of climate information through climate services and the use of that information in decision making is critical. This last mile in climate service delivery should be the starting point through co-creation of services to support effective climate adaptation and mitigation strategies. The role of brokers between climate service providers and users is essential to realise the added value of services at local level and ensure there is a bi-directional flow of information and building of mutual trust. Line agencies representing different sectors, Non-Governmental

Organisations (NGOs), Civil Society Organisations (CSOs), as well as small and medium sized enterprises are uniquely placed to ensure this happens through inclusive co-creation and integration of local knowledge and needs. This contributes to the legitimacy of service delivery, a key factor in uptake. Policy levers should enable and incentivise capacity building and the establishing of sustainable business models, not just for climate service providers and brokers, but also for the users of climate



services. It is crucial to identify the main stakeholders at different levels of governance (e.g. city, community, catchment, sub-national, national), recognising the complexity and diversity of actors involved. These differ substantially across Europe depending on the local context, established relationships, and maturity of the climate services market. Specific incentives and programs are required to go beyond the leading cities and sectors, ensuring small and medium sized localities and communities are supported and that those that are more vulnerable are not left behind.

Set ambitious targets locally and consider mitigation and adaptation together

High-level policy has set ambitious goals on reaching targets at EU and national level. However, to avoid implementation gaps, ambitions need to be enacted at local level, providing tailored support and including policy levers for decision making at that level. Change starts locally and should be inclusive. Even if emission reductions through actions at local level are mostly minor, these are essential. Adaptation is equally implemented at local level, requiring changes in societal habits and behaviours, but also bringing positive co-benefits for citizens (more green space, better health, increased



preparedness and resilience to climate extremes), as well as awareness which is essential to foster support of mitigation measures. Policy levers are required to improve coordination between national strategies and local implementation capacities and resolve difficulties in financing mitigation and adaptation projects, particularly in vulnerable areas. These should also recognise that mitigation and adaptation is cross-sectoral and requires involvement of civil society and both the public and private sector. Experience with data sharing, actor coalitions and investment vehicles around mitigation strategies must be leveraged to drive uptake of more complex adaptation strategies. Climate services and tools should support achieving mitigation and adaptation ambitions at local level, but need to go beyond climate risk data delivery. These should be tailored to each specific case and not remain generic and impersonal, but support local action planning aiming to increase resilience and identify pathways to decarbonisation and adaptation.

Ensure monitoring and evaluation (M&E) is integral to mitigation and adaptation strategies

Increasing resilience to climate extremes, and implementing mitigation and adaptation require time and continuous engagement, in particular for vulnerable populations and sectors. Climate services require continuous evaluation through effective feedback mechanisms and adjustments to changing needs and realities. Policy should incentivise developing, implementing and sustaining adequate and consistent



methods for monitoring and evaluation (M&E), and improve access to high-quality M&E data to foster accountability and transparency.

Quantitative, qualitative, and mixed-methods approaches can support M&E, such as Theory of Change frameworks that visualise and document how mitigation and adaptation strategies lead to desired outcomes or impacts through agreed and accepted key performance indicators (KPIs). Strengthening M&E ensures that instruments such as Sustainable Energy and Climate Action Plans (SECAPs) are transparent, effective and adaptable, and that

these have a particular focus on vulnerable groups and vulnerable economies. Without clear and harmonized M&E, sectoral targets typically remain vague, making it difficult to reach ambitious (national) targets.

Feedback gained from M&E can be instrumental in designing and implementing impactful policies and programmes, and ensuring tailored climate services are dynamic and remain in tune with needs of stakeholders at local level. Establishing communities of practice and introducing common metrics for the main existing instruments (SECAPs), also enables inclusive collaboration between actors across different levels and departments. A contribution by all is needed to ensure mitigation and adaptation strategies are successful.

Methodology

This policy brief has been developed as a joint initiative by four research projects funded under European Union Green Deal Call “Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation”. The findings presented in this brief are grounded through the focus these four projects have on the last mile of climate services and working in close collaboration with stakeholders in cities, river basins and across sectors in Europe. REACHOUT has accelerated climate adaptation in seven cities across Europe by co-creating an open triple-A toolkit to analyse heat, flood risk and social vulnerability, and to set priority and ambition for adaptation by ranking risks and exploring adaptation actions. LOCALISED helped bridge the information and practice gap between national decarbonisation plans and local needs for both planning and implementing ambitious mitigation and adaptation actions through a Climate Action Strategiser tool that enables cities and other local stakeholders to define local pathways to net-zero. RethinkAction engaged with stakeholders in six representative case studies, co-creating an Integrated Assessment Platform to the effects of Land-use based Adaptation and Mitigation Solutions (LAMS). I-CISK advanced co-creation of human-centred climate services following a behaviourally informed approach. Fifteen pre-operational climate services were launched to increase resilience and improve coping and adaptation strategies of cross-sectoral stakeholders in seven living labs in Europe and Africa.

Acknowledgements and contact information

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Contact and further information

Further details can be found on the respective project websites. These also include deliverables, user stories, experiences, tools and publications

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