



Regions 4Climate

Fostering smarter, faster and systemic adaptation in Castilla y León, Nordic Archipelago, Sitia and Troodos

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Heidi Tuhkanen, SEI Tallinn, Selma Guyon, SEI Tallinn, Sumaiyya Saleem, ICLEI, Julia Tuomimaa, University of Helsinki, Mette Juhl Jessen, University of Copenhagen



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This policy brief examines the regional governance and steering instruments of four European regions in the Regions4Climate Systemic Adaptation Challenge Suite and provides recommendations for smarter, faster and more systemic adaptation.

We found that:

- Castilla y León, Nordic Archipelago, Sitia and Troodos are linking adaptation with rural development, agriculture, tourism, water management, disaster risk reduction, biodiversity and local livelihoods, but these connections need to be more systematically embedded in sectoral policies and planning frameworks.
- Local, regional and national authorities should define clearer mandates related to adaptation, ensure policy alignment across governance levels and improve cross-sectoral coordination to reduce fragmentation and support local implementation.
- Local and regional authorities need to strengthen climate-risk knowledge, vulnerability assessments, climate services and monitoring systems and better integrate them into planning, prioritisation and policy revisions across institutions and sectors.
- Stable financing, stronger local and regional implementation capacity, and better use of stakeholder networks are needed to scale adaptation beyond individual projects, emergency response and sector-specific actions.

Introduction

Climate change poses a growing threat to regions across Europe, with more frequent and severe weather events disrupting communities, economies, and ecosystems. Adaptation is essential to build resilience and protect vulnerable areas, but it requires adequate planning, coordination, and policies.

European Commission's European Missions - Adaptation to Climate Change Implementation Plan outlines three objectives: smarter, faster and systemic adaptation. The plan presents these objectives as sequential and mutually reinforcing intervention steps that build on one another to achieve the Mission's overall goals. **Systemic adaptation** involves creating impact at scale and delivering cross-border value (See Fig. 1). Systemic adaptation builds on smarter and faster adaptation by moving from robust climate-risk knowledge, partnerships and implementation pathways towards coordinated, long-term resilience across sectors, governance levels and territories.

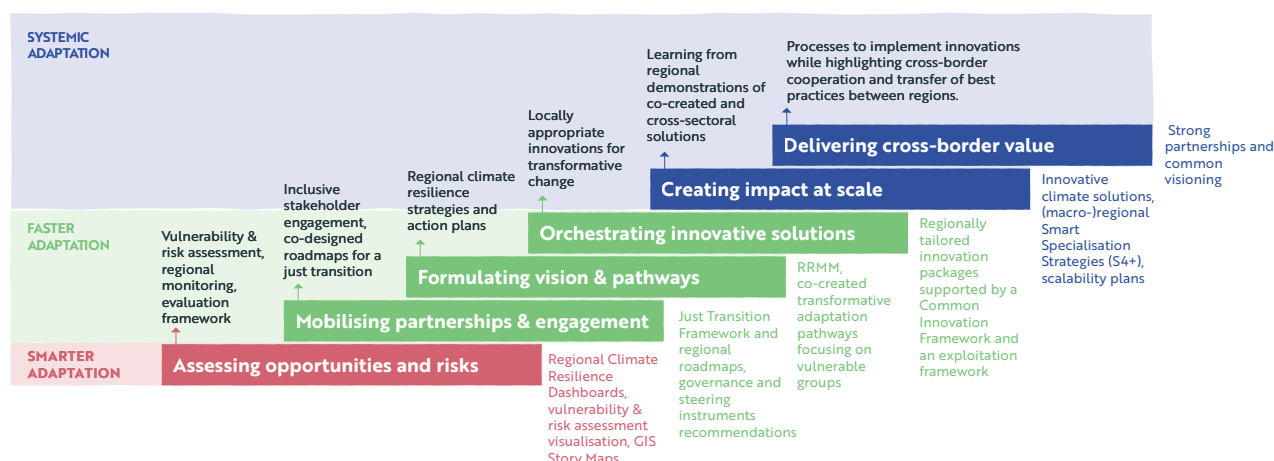


Figure 1 The implementation steps for achieving Adaptation Mission Objectives, which also align with the smarter, faster and systemic adaptation approaches. Adapted from the EU Mission on Adaptation to Climate Change – Implementation Plan. Smarter adaptation refers to step 1, Faster adaptation refers to steps 2-4, while Systemic adaptation refers to steps 5-6. Selected actions that regions are implementing in Regions4Climate are on the left of each step and selected research and innovation support examples provided by the project are on the right. These examples are not exhaustive.

This policy brief synthesises the Regions4Climate project’s governance and policy insights related to transformative adaptation for Challenge Suite 3: Systemic Adaptation in the Regions4Climate regions of Castilla y León, Nordic Archipelago (South-West Finland¹), Sitia and Troodos. In their Regions4Climate Innovation Packages, this group of regions is working to strengthen their climate resilience, with a focus on protecting strong local cultures and unique community features, and promoting innovative solutions to adapt economic activity that is vulnerable to climate pressures. Although this Challenge Suite focuses their Innovation Package activities that support systemic adaptation, the recommendations take a more comprehensive perspective based on insights related to smarter, faster and systemic adaptation.

Climate change adaptation is the process of adjusting to current or anticipated climate conditions and their impacts², enhancing adaptive capacity, strengthening resilience, and reducing vulnerability³. **Governance** is considered the combination of formal and informal institutions, procedures and mechanisms that steer policy and decision-making⁴.

This policy brief draws on conclusions from the Regions4Climate Governance recommendations (D4.3)⁵, draft Policy recommendations (D4.4)⁶, as well as the regions’ self-assessment results using the Regional Resilience Maturity Model (RRMM)⁷. The RRMM evaluates adaptation readiness across multiple dimensions and indicators. For this policy brief, we draw on the results focused specifically on governance- and policy-

- 1 The D4.3, D4.4 and the RRMM defined the scope of Nordic Archipelago differently due to the availability of information. Therefore, the policy and governance analysis will focus solely on South-West Finland which was covered by all three analyses.
- 2 IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 p
- 3 Singh, C., Iyer, S., New, M.G., Few, R., Kuchimanchi, B., Segnon, A.C., Morchain, D., 2022. Interrogating ‘effectiveness’ in climate change adaptation: 11 guiding principles for adaptation research and practice. *Climate and Development* 14, 650–664. <https://doi.org/10.1080/17565529.2021.1964937>
- 4 Levi-Faur, D. 2012. *The Oxford Handbook of Governance*. Edited by D. Levi-Faur. Oxford: Oxford University Press. p. 8
- 5 Malmström, et al. 2024. Regions4Climate D4.3 Governance Recommendations.
- 6 Tuhkanen, et al. 2025. Regions4Climate D4.4 draft Policy and Steering Instrument Recommendations.
- 7 Manuelli, et al. 2023. Regions4Climate D4.1 Regional Resilience Maturity Model and Framework.

related dimensions, namely Dimension 1: Regional Governance and Institutional capacity, Dimension 2: Plans and policy instruments, and Dimension 6: Finance and resources. The overview of relative maturity patterns across regions helps contextualize the strengths and gaps identified in the governance and steering instrument analysis. This analysis assesses how regional governance strengths and gaps contribute to faster, smarter, and systemic adaptation. The brief aims to share integrated governance and policy recommendations for adaptation with local and regional authorities within the Challenge Suite 3, as well as with local and regional governments across the EU more broadly.

Climate adaptation governance can be understood through considering aspects such as structure or the effective coordination among local, regional, and national authorities, key actors driving decision-making and implementation, as well as mechanisms, such as the steering instruments. These include regulatory instruments, such as regulatory frameworks and policies; financial instruments, such as financial incentives and penalties, dedicated funding, etc., and informational instruments, such as collaborative platforms, networks, etc. Clarifying responsibilities, empowering key actors, and optimising the tools used to achieve governance objectives enable policymakers to strengthen climate adaptation governance.



Map 1 The four regions of Challenge Suite 3

Governance and policy analysis

Castilla y León

- **Geography** – Castilla y León is a landlocked autonomous community in northwestern Spain, bordering Portugal and several Spanish regions (94,216.91 km²; population around 2.4 million). The region is characterised by an inner plateau surrounded by mountains and drained by the Duero River. Rainfall is scarce and concentrated in spring and autumn, resulting in marked summer droughts and a high risk of forest fires.
- **Economy** – The economy is based on agriculture and livestock, followed by the manufacturing industry. The region is experiencing demographic decline, particularly in rural areas and small towns, with outmigration to urban centres and an ageing population.
- **Governance** – Spain is a decentralised unitary state with an asymmetrical division of powers and legislative competences at the sub-national level. Castilla y León is an autonomous community composed of nine provinces.
- **Regulatory instruments** – Adaptation is guided by Spain's Climate Law and National Adaptation Strategy. At the regional level, the Regional Climate Strategy provides the main framework. Policies focus on sustainable economic activity in rural areas, including climate-adapted technologies and practices, support for entrepreneurship among women and young people, educational programmes for primary producers, and the promotion of green social business models and sustainable food production. The region Castilla y León is currently developing a new Climate Resilience Strategy⁸, along with an updated Climate Change Action and Investment Plans.
- **Financial instruments** – Financial instruments include funds allocated for disaster risk reduction and adaptation, European funding such as European Regional Development Fund (ERDF) grants, green bonds to finance sustainable projects, and publicly funded demonstration projects on ecosystem restoration.
- **Informational instruments** – Knowledge is mobilised through regional networks and platforms, including local action groups, the REDCyL network of municipalities for sustainability, and the URCACYL regional cluster of agricultural cooperatives. Additional instruments include the LIFE Soria ForestAdapt project, which engages with local and traditional knowledge on adaptation and resilience, the annual environmental sustainability report (ISACYL) used for monitoring and evaluation, and an environmental education portal for public outreach.

STRENGTHS

- **Broad stakeholder engagement and strong networks:** Adaptation involves public, private, and third-sector actors. The region has strong existing platforms for knowledge mobilization, transboundary cooperation and learning, including the REDCyL, URCACYL and a regional network of local action groups.

⁸ Castilla y León is currently developing a new Climate Resilience Strategy, along with Climate Change Action and Investment Plans, as the current Climate Change Action Plan (CCAP) is outdated. Due to the CCAP's age, the regional analysis and recommendations will be less detailed and narrower in scope than the other R4C regional results.

- **Diverse funding for adaptation:** The region uses diverse instruments to support adaptation measures such as ecosystem restoration and climate-resilient infrastructure. For instance, the regional development plan identifies grants and public procurement as funding sources for adaptation measures, e.g., the renaturalisation of educational centres and other public buildings through permeability and landscape restoration⁹. Additionally, the region has issued green bonds to finance and encourage further investment in climate-resilient infrastructure, energy efficiency and renewable energy.
- **Robust regulatory framework:** Climate adaptation is supported by a strong policy framework, including the national climate law and an adaptation plan, and sectoral strategies related to water management, forestry and biodiversity. According to the RRMM analysis, a new regional adaptation strategy is under development to replace the outdated one. Together, these will provide a clear legal or strategic basis for action and define responsibilities across governance levels.
- **Formally defined responsibilities across governance levels:** Responsibilities for adaptation are established and legally defined between national and regional levels through the national climate law and adaptation plans at the national and regional levels. This provides clarity in mandates, supports alignment of objectives across governance levels, and enables coherent vertical implementation of adaptation policies.

AREAS OF IMPROVEMENT

- **Financial instruments** – Despite diverse funding sources, financing remains largely project-based or funded by national or EU programmes and not supported by a dedicated or continuous budget at the regional or local level. Moreover, according to the RRMM, the funding remains fragmented and linked to sectoral initiatives rather than a comprehensive regional financing strategy. The use of incentivising and penalising instruments remains limited.
- **Limited climate services and analytical tools** – While networks support knowledge exchange, regional policies lack dedicated climate services, including regular climate risk, vulnerability, and exposure assessments, as well as analytical tools to support monitoring, evaluation, and evidence-based adaptation planning.
- **Piloting and testing:** While the region has strong networks, current policies do not systematically support piloting, testing, and scaling of adaptation solutions. Strengthening the role of these networks could enable learning, replication, and wider uptake of effective measures. Existing platforms and networks could be better leveraged to support experimentation, learning, and replication. More structured co-ordination may be needed to support replication across the region.
- **Collaboration between regional and national authorities:** Collaboration exists but could be improved operationally. According to the RRMM, monitoring systems remain fragmented across sectoral institutions. Creating intersectoral coordination bodies, developing integrated strategies across sectoral policies, and implementing unified systems for monitoring and managing shared data between institutions would improve resilience planning.

⁹ Programme of Castilla y León FEDER 2021-2027 (2023)

Nordic Archipelago¹: South-West Finland

- **Geography** – The Nordic Archipelago region covers the archipelago areas of Finland and Sweden, as well as the Autonomous Region of Åland. However, this policy brief only covers Southwest Finland¹. Turku is the region's capital and largest city, with over 209,000 inhabitants. This area of Southwest Finland covers 10,910 km² of land and has a population of 485,570, on average of 44 inhabitants per km². The area has around 20,000 islands near the coast.
- **Economy** – Southwest Finland is characterised by summer tourism, maritime industry, pharmaceutical and health technology, vehicle manufacturing, and the production and processing of agricultural products. The seasonal influx of tourists puts pressure on regional resources, while the transport sector faces challenges related to fleet modernisation, seasonal demand fluctuations, and the organisation of ferry connections.
- **Governance** – Finland is a unitary decentralized state with national, regional, and municipal levels of governance. Sub-national legislative powers are at the municipal and wellbeing services county level, while self-government at the regional level is limited. Based on municipal law (2015), municipalities have regulatory power and a high degree of autonomy in terms of decision-making, including land-use and resource allocation. Regional Councils are stipulated in the Finnish law and represent mandatory joint municipal regional authorities, have administrative duties and set regional development priorities and prepare regional plans. Additionally, since 2026, ten newly formed regional Economic Development Centres have acted as regional arms of the Finnish state and have the responsibility to support the practical implementation of adaptation into regional development through coordination and funding (though not explicitly for adaptation).
- **Regulatory instruments** – Adaptation is guided by the Climate Act (2019) and National Adaptation Plan (NAP) (2022). While obligations are mainly at the national level, adaptation is integrated into land-use planning, with a focus on balancing development and ecosystem protection. The Climate Act (2019) obligates the relevant national authorities (ministries) to develop plans for their respective administrative branches, but does not set obligations for the regions or municipalities. The NAP sets targets and assigns responsibilities at the national level. Southwest Finland has a regional adaptation strategy for 2011–2020, which is under revision. At the local level, Turku has a climate plan (SECAP) which includes an assessment of the state of adaptation and adaptation measures.
- **Financial instruments** – Regional adaptation planning is funded by EU-funded projects (Horizon, ERDF, etc.). The region is involved in several EU projects related to adaptation, including Regions4Climate, RESIST, Precilience, and CLIVAS. There is no earmarked public funding for adaptation on the national, regional or municipal level. The private sector participates in adaptation on a voluntary basis.
- **Informational instruments** – Knowledge about adaptation is generated both nationally, regionally and locally, e.g. through the Finnish Climate Guide (Ilmasto-opas.fi), as well as general and sectoral risk assessments conducted for the region through projects. The City of Turku is also a member of the Covenant of Mayors.

GOVERNANCE AND POLICY-RELATED STRENGTHS

- **Long-standing adaptation planning:** Southwest Finland adopted its first adaptation strategy already in 2011 as part of its regional climate strategy. The strategy included a framework for climate risk assessment and sector-specific vulnerability, and concrete adaptation measures have since been conducted. The Climate Roadmap is being updated, and the new roadmap will have a strengthened focus on climate risks and sector-specific measures.

- **Strong local example of evidence-based adaptation:** Turku aims to strengthen its understanding of climate risks through enhanced environmental monitoring and allocates resources to support this goal¹⁰. Turku conducts decision making based on climate risk assessments and impact monitoring, in alignment with its Covenant of Mayors (CoM) framework.
- **Integration of nature-based solutions (NbS):** Regional and local adaptation planning promotes NbS, including sustainable forest management and ecological corridors, respectively supporting resilience to extreme weather and biodiversity protection^{10,11}.

AREAS OF IMPROVEMENT

- **Policy coherence for adaptation:** According to the RRMM analysis results, municipalities and regional actors participate in national and EU adaptation initiatives, but a comprehensive regional adaptation strategy has not yet been established. Some sectoral plans, such as the Southwest Finland Forest Programme (Lounais-Suomi metsäohjelma) 2026–2030, incorporate resilience considerations. However, integration across planning frameworks remains limited due to a lack of clear responsibilities, resources and indicators, which originate from the national level. Also, Southwest Finland’s development plan and S3 strategy¹² addresses adaptation to a limited extent through general statements of support. Connections between the policies could be made more complete to support innovative adaptation across the region.
- **Governance structures and policies:** According to the RRMM, the governance structures for climate resilience are still emerging. Despite long-standing work with adaptation, strategic coordination at the regional level is lacking and adaptation planning does not have a strong role in the current regional Climate Roadmap (2021). While municipalities in the region cooperate, coordination across sectors and governance levels for adaptation is developing. Still, it remains limited due to the absence of a dedicated regional strategy and constrained institutional resources. Responsibilities are divided among municipalities, regional councils, national authorities, wellbeing services counties and the third sector. Collaboration exists but often relies on project-based initiatives.
- **Private sector engagement:** Private sector participation in adaptation remains largely voluntary, with few targeted financial incentives and no regulatory instruments to systematically steer businesses towards action. While collaboration with property owners works well, it should be extended to other private sector actors as well. Engaging the private sector could help diversify financial instruments beyond national programmes and EU-funded project schemes.
- **Climate services:** Climate information and risk data are produced by multiple actors, including national climate service providers (e.g. Regional Councils), boundary organisations, and municipalities. The absence of a centralized regional adaptation data, e.g. in the “Lounaistieto” (Southwest data) open access platform, where mitigation data is stored, limits accessibility, consistency, and systematic use of climate knowledge in municipal decision-making.

¹⁰ Turku Climate Plan 2029 (SECAP) (2022)

¹¹ Southwest Finland’s Climate Roadmap (2021)

¹² The Regional Strategy of Southwest Finland 2040+ (2021)

Sitia

- **Geography** – Sitia is a municipality located in Lasithi province in the easternmost part of the island of Crete, Greece (1,800 km²; population around 76,000). The Sitia region, as a Regions4Climate region, includes the Sitia municipality and neighbouring areas and is characterised by a mountainous coastal landscape and is among the most exposed regions in Europe to thermal drought, making it a climate hotspot. It is strongly dependent on the climate–energy–water–food–society nexus.
- **Economy** – The region hosts the Sitia UNESCO Global Geopark, attracting significant tourism and providing recreational opportunities. The area is also known for its high-quality Protected Denomination of Origin extra-virgin olive oil.
- **Governance** – Greece is a decentralised unitary state without legislative powers at the sub-national level. There are three levels of government: national, regional, and municipal. Regional and municipal authorities are self-governed and responsible for planning and implementing policies within their competences, under the principles of sustainable development and social cohesion and in line with national and EU frameworks.
- **Regulatory instruments** – Adaptation is guided by the National Adaptation Strategy and implemented through regional adaptation action plans. Crete’s Regional Plan for Climate Change Preparedness (2021) defines vulnerability and adaptation priorities across sectors and territories. It supports the development of municipal adaptation plans and promotes sustainable economic activities.
- **Financial instruments** – Financial instruments include EU funding programmes (e.g. LIFE, Horizon, Inter-reg), national loans for resilience, and the Greek Regional Development Corporate Agreement 2021-2027 fund, alongside support from local organisations such as agricultural cooperatives. There are also fines for not clearing wild grass from abandoned fields to reduce fire risk. According to the RRMM analysis, adaptation funding also remains largely project-based and linked to sector-specific investments, e.g. through EU loans for renewable energy. In the case of Sitia, municipal funding is influenced by the level of risk and emergency conditions affecting the area, as well as population-related needs, particularly following its characterisation as being in a state of emergency. Most current actions are financed through emergency and recovery funding mechanisms and focus primarily on prevention and immediate response measures rather than on the development of comprehensive climate adaptation plans.
- **Informational instruments** – Knowledge is mobilised through cooperative networks, including geopark networks, volunteer networks, and local action groups. Water management activities generate local and traditional knowledge through flood exercises. Monitoring and evaluation are supported by climate stations implemented within the Regions4Climate project. Public outreach is promoted through events, tourism activities, festivals, and cultural centres.

STRENGTHS

- **Strong climate risk knowledge base:** The larger Crete region uses risk monitoring technologies, including smart systems for sustainable coastal and marine tourism¹³, monitoring pandemics, and natural hazards¹⁴. It draws on data, indicators and tools from the European Climate-ADAPT platform to support adaptation planning, strengthening the evidence base for decision-making¹⁵. According to the RRMM analysis, monitoring and evaluation mechanisms are partially in place to track progress in resilience-related actions.

¹³ Smart Specialisation Strategy for the region of Crete for the 2021-2027 programming period (2021)

¹⁴ For the Crete of 2030 Plan (2023)

¹⁵ Crete’s Regional Plan for Climate Change Preparedness (2022)

- **Engagement in regional adaptation planning:** Climate adaptation actively involves a broad range of actors, including public authorities, the private sector, third sector organisations, and households, supporting inclusive planning processes and shared responsibility across different stages of adaptation. This is reflected in Crete's regional adaptation plan¹⁵, where, e.g., civil society is involved in monitoring implementation, raising awareness to support reforestation activities, and developing coordinated approaches to address climate-related health risks. According to the RRMM analysis, governance arrangements for climate resilience in Sitia are relatively developed, with coordination mechanisms linking municipal actors and regional authorities.
- **Cross-border knowledge exchange:** Crete's regional adaptation plan includes measures to transfer awareness and know-how from other regions of Greece for improved implementation, utilising Greece's National Council for Adaptation to Climate Change, an advisory platform for the sharing of good practices¹⁵.
- **Diverse financial instruments:** The region has access to various financial sources, including grants, economic incentives, loans and penalizing instruments, many of which are not adaptation-specific, to support climate adaptation and resilience-related measures. For example, the Crete provides grants to livestock farmers affected by extreme weather events and financial incentives for the transfer of livestock production from high-risk to low-risk areas¹⁵.

AREAS OF IMPROVEMENT RELATED TO GOVERNANCE AND POLICY

- **Adaptation and resilience planning:** According to the RRMM analysis, Sitia does not have a local adaptation or resilience plan and relevant directions and actions related to adaptation and resilience are mainly developed at the regional level through the strategies and plans of the Region of Crete. Further, resilience parameters and considerations are integrated into various sectoral plans and emergency preparedness frameworks, and policy instruments increasingly acknowledge aspects of socially just transitions. Sitia could update its SECAP (2015) to also cover adaptation and increase cooperation with neighbouring municipalities in the Lasithi Region, or initiate the development of an adaptation plan for Eastern Crete if it is relevant for tackling cross-border risks more locally.
- **Limited strategic scaling of NbS:** While NbS are mentioned in the regional policies (Crete's regional development plan and adaptation plan), they are limited to specific projects rather than being part of a broader approach that supports the use and scaling of NbS. A comprehensive NbS approach could also be a focus of local adaptation planning.
- **Financial instruments:** Due to the reliance on project-based funding, adaptation-aligned funding, as well as emergency and recovery funding, Sitia (or the region) could explore a more comprehensive strategy for funding adaptation. This could include the various financial instruments used in the region, but could also explore the use of new instruments, such as dynamic water pricing, to support adaptation and mitigate drought-related risks.
- **Horizontal fragmentation:** According to the RRMM analysis, cross-sectoral coordination exists but remains constrained by administrative silos and limited policy coherence. Indeed, although Crete's adaptation plan includes sector-specific actions, responsibility for implementation and funding is dispersed across multiple sectors and administrative levels, with no single coordinating body to ensure horizontal coherence, align actions, or consolidate resources across the adaptation policy cycle.

Troodos

- **Geography** – Troodos is a mountainous and forested area in the centre of Cyprus (1,476.8 km²; population around 27,695) that spans the Limassol and Nicosia Districts. It covers approximately one-third of the territory of the Republic of Cyprus and is sparsely populated.
- **Economy** – The economy is based on agriculture, including vineyards and traditional products, as well as handicrafts that support tourism. Cyprus aims to diversify tourism by promoting the Troodos Mountains and local communities as key destinations. However, projected decreases in rainfall and increases in temperature are expected to impact forests and agriculture negatively, affecting key economic activities and livelihoods.
- **Governance** – Cyprus is a centralised state with legislative powers at the national and local levels. National laws allocate administrative responsibilities to local governments (municipalities). It is ruled based on the principle of local self-administration. Districts act as administrative units of the central government, ensuring the implementation of national policies. Local governance is organised through municipal and community councils. Troodos, as a R4C region, is not an administrative unit, but rather a geographical and cultural region that is governed by local community councils. According to the RRMM analysis, most governance responsibilities for climate resilience rest with national institutions, while regional coordination primarily occurs through project-based initiatives.
- **Regulatory instruments** – Adaptation is guided by the National Adaptation Strategy and National Adaptation Plan (2025), with the Department of Environment of the Ministry of Agriculture, Rural Development and Environment responsible for climate policy. There is currently no requirement for municipalities to develop local adaptation plans. Regional efforts focus on promoting climate-neutral and regenerative tourism, including training for local businesses and authorities, supporting renewable energy use, reducing waste, and improving connectivity, with oversight from a destination management board. A Sustainable Energy and Climate Action Plan (SECAP) will be completed by August 2026. The plan includes a qualitative climate risk assessment using downscaled regional projections.
- **Financial instruments** – Financial instruments include nationally managed support schemes, particularly for forest fire protection, as well as project-based funding through national programmes, EU funds, and grant schemes to support adaptation to high temperatures in rural councils. Local community councils can request additional funding from the Ministry of Interior. Innovative funding approaches include a project that supports local communities in developing identities and their competitiveness based on traditional agricultural products.
- **Informational instruments** – Knowledge is mobilised through projects, like Regions4Climate, that promote local knowledge, as well as through the SECAP, which the region is in the process of developing to join the Covenant of Mayors network. Policy efforts also aim to strengthen risk assessments and information-sharing platforms.

GOVERNANCE AND POLICY-RELATED STRENGTHS

- **Active local level leadership:** The active local community councils that collectively govern the Troodos region have managed to develop a nationally recognised strategy for developing their mountain communities. Despite the current lack of local adaptation plans or established vertical coordination, they have been able to support overall resilient development using national adaptation funds available for rural community councils.

- **Climate services:** The national S3 strategy supports the use of remote sensing and climate change monitoring to support risk assessment and reduction across various key innovation sectors, e.g. agrifood, cultural heritage, and construction¹⁶.
- **Integration of adaptation and disaster risk reduction:** Cyprus's adaptation plan mitigates risks related to wildfire, extreme heat and flooding. Adaptation measures, such as climate-proofing tourism infrastructure and building construction standards, are complemented by measures to improve early warning systems¹⁷.
- **Sustainable water management:** The Troodos region is concerned with ensuring a continued freshwater supply and, therefore, plans to redefine its water institutions' missions to focus on sustainable water management and irrigation efficiency¹⁸. Cyprus's adaptation plan also reflects this concern with measures related to irrigation, industrial water use, and urban areas, as well as water-related ecosystems¹⁸.

AREAS OF IMPROVEMENT RELATED TO GOVERNANCE AND POLICY

- **Nature-based solutions:** While the national level adaptation plan supports the application of NbS, e.g. through the use of resilient species, protection of water systems, ecological corridors, and habitats, the Troodos development plan does not apply NbS as a concept to promote ecosystem-based development.
- **Multi-level coordination:** Climate adaptation responsibilities are not clearly defined or allocated across national, regional, and local levels, resulting in fragmented implementation, as well as limited accountability and vertical coordination between authorities and local communities.
- **Financial instruments:** Adaptation in Troodos relies mainly on project-based funding and sector-specific resources, with no dedicated or continuous funding covering the full adaptation policy cycle, including planning, implementation, monitoring and evaluation. According to the RRMM analysis, local community councils rely primarily on central government funding and have limited capacity to allocate resources for resilience planning. Financial planning for climate resilience is currently constrained by the absence of dedicated regional governance structures and adaptation strategies.

Synthesis

The governance and policy analysis for the Systemic Adaptation Challenge Suite^{5,6,7} shows that Castilla y León, Nordic Archipelago (South-West Finland), Sitia and Troodos have established important foundations for advancing adaptation across sectors, territories and governance levels. These regions demonstrate elements that support systemic adaptation, including cross-border stakeholder networks, cross-sectoral cooperation platforms, and policy instruments that connect adaptation with rural development, agriculture, tourism, water management, disaster risk reduction and ecosystem resilience. In Regions4Climate, they are further advancing their work on systemic adaptation by collectively implementing 27 sets of innovation packages linked to new agricultural and integrated pest management practices, promotion of female entrepreneurship, energy renovations, promotion of local way of living, changing of energy and transport patterns in isolated areas, and protection against climate extremes. Together, these elements show that the regions have

¹⁶ Cyprus Smart Specialisation Strategy 2030 (2023)

¹⁷ Cyprus's Climate Change Action Plan (2017)

¹⁸ Summary of the National Strategy for Development of the Troodos Mountain communities (2019)

important foundations for smarter adaptation through climate-risk knowledge systems, while also creating enabling conditions for faster adaptation through regional and local strategies, stakeholder engagement, local leadership, and implementation-oriented planning.

At the same time, the analysis highlights that progress towards fully systemic adaptation remains uneven. In the regions, challenges remain in coordinating adaptation across governance levels, sectors, and local actors; translating national or regional strategies into consistent local implementation; and embedding adaptation into sectoral policies, financing systems, and monitoring frameworks. Climate services, vulnerability assessments and monitoring systems are fragmented or underdeveloped in some cases, while financing often remains project-based, sector-specific or emergency-oriented rather than stable and continuous. Addressing these gaps would help the regions move from individual strategies, projects and networks towards more coherent, long-term and system-wide adaptation, where knowledge, financing, governance and implementation capacity are better aligned to deliver resilience at scale.

Shared policy and governance recommendations

This section presents an integrated set of recommendations based on two sets of regional analyses: one focused on governance⁵ and one focused on policy and steering instruments⁶. The recommendations below reflect elements relevant to local and regional governments in each region but are not necessarily shared by all regions. More details on a broader set of recommendations for each region can be found in the specific deliverables (Regions4Climate D4.3 and D4.4). In connection with the recommendations, we also present connected good practices from across Europe identified in the Regions4Climate [Good Practice Leaflet](#).

Strengthen multi-level governance and coordination

- Clarify mandates and responsibilities for climate adaptation across national, regional, and local levels to reduce overlaps and gaps in implementation.
- Improve alignment between national strategies and local plans to ensure that adaptation objectives are translated into coherent on-the-ground actions that serve to protect the local society and economy.
- Strengthen coordination mechanisms across sectors and administrative levels, particularly where responsibilities are distributed across institutions or rely on voluntary collaboration.

Good practice addressing multi-level governance challenge: The Basque Country. The region launched Udalsarea 2030 in 2002, a cooperation network to promote sustainability across Basque municipalities through shared governance and technical support. It strengthens coordination between local and regional authorities and improves support for local sustainability policies.

Mainstream climate adaptation across sectoral policies and planning

- Integrate climate adaptation systematically into sectoral policies, regional development strategies, and spatial planning frameworks to ensure consistent consideration of climate risks.
- Define shared cross-sectoral resilience objectives to guide implementation and reduce fragmentation between policy domains.
- Strengthen the strategic use and scaling of NbS by embedding them into planning processes rather than limiting them to project-based applications.

Secure and diversify funding for climate resilience

- Move beyond reliance on project-based funding by developing more stable and continuous financing approaches for adaptation.
- Diversify financial instruments across the adaptation policy cycle, including the use of incentives, public procurement, and innovative tools where appropriate.
- Strengthen the mobilisation of private sector investment and partnerships to support implementation and expand the resource base for adaptation actions.

Strengthen climate knowledge systems and their use in decision-making

- Improve the availability and use of climate risk, vulnerability, and exposure assessments to support evidence-based planning, prioritisation and implementation of adaptation actions.
- Strengthen monitoring and evaluation systems where gaps remain so that adaptation progress can be tracked and policy adjustments informed by evidence.
- Enhance coordination and interoperability of climate data across institutions, sectors and governance levels to ensure that knowledge is effectively used in decision-making processes.

Good practice for centralised climate data governance: Castilla y León. Since 2015, the region has operated a GIS-based geoportal providing georeferenced, real-time risk information on wildfires, floods, and other hazards to authorities and the public. The platform integrates open data from weather stations and wildfire reports, supporting coordinated disaster response and continuous updates to cartographic and risk data.

Strengthen implementation capacity and coherence at the local level

- Support municipalities and local actors, such as active community councils, as key implementers of adaptation, through clearer guidance, peer-learning opportunities, tools, and coordination platforms.
- Improve consistency in implementation across municipalities communities, sectors and regional networks to reduce fragmentation and uneven progress.
- Strengthen administrative capacity and continuity where needed, including through dedicated roles or coordination mechanisms that support cross-sectoral collaboration and replication of effective measures.

Good practice for cross-sector collaboration in climate adaptation: Nordic Archipelago. The Nordic Archipelago Inspirational Forum brings together decision-makers, stakeholders, and communities across borders to develop shared strategies on sustainable transport and renewable energy systems. This cross-sectoral network has grown into an independent entity, demonstrating how structured stakeholder engagement can generate lasting inter-regional collaboration beyond the lifespan of individual projects.



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