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The Case of Lombardy

Aligning **subnational** implementation for **climate adaptation** with national priorities

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This case study is part of a special collection developed by Regions4 with the support of the European Climate Foundation (ECF), examining how subnational governments engage with National Adaptation Plans (NAPs) within multilevel governance contexts.

Territories

The collection presents three cases - Gauteng (South Africa), São Paulo (Brazil), and Lombardy (Italy) - each representing a distinct governance configuration with its own strengths, gaps, and contextual conditions in aligning legal mandates and financial capacity for NAPs implementation.

The insights are drawn from interviews and survey data and are intended to inform ongoing research and policy discussions on strengthening multilevel adaptation governance.

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About this Publication

Introduction

As one of Italy's most economically significant and climatically diverse regions, Lombardy is highly exposed to a wide range of climate risks, from Alpine glacial retreat and mountain flooding to Po Valley droughts and urban heat stress. Its experience highlights the potential of sustained subnational leadership in adaptation governance and the persistent challenges of translating strong legal and planning frameworks into consistent implementation across a complex, multilevel territory.

Key information

Location:
Lombardy Region, Italy

Governance system:
Unitary system with some regional autonomy in environmental policy, within the national legislative framework and accounting for territorial specificities.

NAP references to subnationals?
Yes, explicitly

Areas of focus:
Spatial planning, water management, risk prevention, biodiversity, urban resilience, climate mainstreaming across sectoral policies

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Background and Context

Case Overview

Lombardy is one of Italy's most economically and demographically significant regions, home to over **ten million people** and a diverse territorial mosaic that spans the Alps in the north, the pre-Alpine lakes and foothills in the middle, and the Po Valley in the south.

It encompasses major urban centres, including Milan, one of Europe's main economic hubs, alongside smaller cities, rural landscapes, and mountain communities. This geographic and socioeconomic complexity shapes both the scale and the nature of the climate risks the region must manage.

Italy's National Climate Change Adaptation Plan (PNACC, 2023), which serves as Italy's National Adaptation Plan submitted to the UNFCCC, provides the overarching national framework within which Lombardy's adaptation governance is examined in this case study.

The climate pressures Lombardy faces are diverse and interconnected.

Increased frequency and intensity of extreme rainfall events are driving urban flooding and hydrogeological instability across the region's river systems and foothill areas. Prolonged droughts and water stress are affecting agricultural productivity, water supply security, and hydropower generation, all critical dimensions of Lombardy's economy. Accelerating glacial retreat in the Alpine arc is progressively altering river flow regimes and long-term water availability. Urban heat island effects in the metropolitan area intensify heatwave impacts on public health, energy demand, and working conditions. These pressures interact across ecosystems, infrastructure systems, and communities, requiring coordinated responses across sectors, jurisdictions and levels of governance.

Within Italy's constitutional framework, Regions hold autonomous legislative and administrative powers across a broad range of competences, including spatial and territorial planning, water management, agriculture, forest management, civil protection, and environmental regulation, making them central institutional actors in adaptation governance. This institutional positioning gives Lombardy both the authority and the responsibility to develop its own adaptation frameworks, in alignment with national policy and European regulatory directions.

The PNACC explicitly recognises multilevel governance as a structural feature of adaptation implementation, identifies regions and local authorities as key actors, and provides methodological guidelines for regional strategy development, explicitly citing Lombardy's own governance approach as a leading and replicable example for other Italian regions. This case study examines how that role unfolds in practice, tracing the chain from the PNACC's national framework, through Lombardy's legal and institutional response, to the implementation gaps that emerge where financial capacity, cross-sector integration, and local institutional support have not yet fully caught up with the responsibilities the framework defines.



Institutional and Planning Frameworks

Lombardy's adaptation governance is built around a mainstreaming approach, i.e., the systematic **integration of climate objectives across all regional policies** and planning instruments, rather than treating adaptation as a standalone policy area.

This approach is formalised through two main complementary instruments: the Regional Climate Law (Regional Law No. 11/2025) and the Regional Adaptation Strategy (SIRACC). Together, they establish an integrated framework combining adaptation and mitigation within a single policy architecture, ensuring coherence across sectoral domains.

The Regional Climate Law provides the legislative foundation for climate mainstreaming, creating binding requirements for the integration of climate objectives into regional planning processes. The SIRACC translates these principles into concrete actions, with a focus on enhancing territorial resilience across the region's diverse landscapes and urban systems. The strategy ensures alignment with sectoral policies in areas such as spatial planning, water management, and disaster risk prevention, embedding adaptation as a cross-cutting requirement rather than a sectoral add-on.

Lombardy's institutional trajectory in this area is notably long-standing. The region adopted its first adaptation strategy in 2014 and its first action plan in 2016, well ahead of Italy's national planning cycle, reflecting an early commitment to building adaptation governance capacity and learning through practice.

This sustained engagement has allowed the region to evolve its approaches, strengthen institutional arrangements, and accumulate experience that is now explicitly recognised in the national framework as a reference point for other Italian regions.

Each policy iteration has also served as an opportunity to refine approaches, strengthen institutional foundations, and ensure that regional frameworks remain aligned with national mandates as the PNACC has developed, feeding subnational experience back into national planning.

The key mechanisms supporting integration include:

At the National Level	At the Regional Level
• *Italy's National Climate Change Adaptation Plan (PNACC, 2023), which provides national guidance and methodological tools for regional strategy development;*	• *Regional Law No. 11/2025*, establishing a legislative basis for climate mainstreaming across all regional policies;
• The *National Observatory on Adaptation*, a multilevel governance platform through which Lombardy engages with national authorities on NAP implementation.	• The *Regional Adaptation Strategy (SIRACC)*, providing the strategic framework for territorial resilience and coherence with sectoral policies;
	• The *Regional Climate Committee* and the *Regional Platform for Circular Economy and Decarbonisation*, which support coordination, knowledge-sharing, and policy coherence across actors and sectors.

Following the NAP Global Network framework, Italy's coordination architecture combines vertical mechanisms, linking regional governments to national bodies through the National Observatory on Adaptation with multidimensional platforms such as the Regional Climate Committee and the Regional Platform for Circular Economy and Decarbonisation, which bring together government, civil society, academia, and the private sector around a shared adaptation agenda.

Likewise, Lombardy's active participation in the National Observatory is particularly significant: it allows regional implementation experience to feed directly into the development of national methodologies and tools, creating the bidirectional relationship between subnational practice and national policy development that effective multilevel NAP governance requires.

Financial Capacity and Constraints

Lombardy's financial framework for adaptation draws on a combination of dedicated regional funding instruments and the **integration of climate objectives** into broader financial planning and investment programmes,

a structure that reflects the same mainstreaming logic underpinning the region's overall governance approach.

The Regional Climate Law provides specific funding mechanisms, including resources for capacity building, training, and territorial agreements designed to support local adaptation initiatives. These instruments are complemented by European funding channels, including programmes under the EU cohesion policy framework and LIFE, which play an important role in financing adaptation-relevant investments in areas such as ecosystem restoration, water management, urban resilience, and flood risk reduction.

The region retains full autonomy to allocate its own resources, and this flexibility is an important asset in designing coherent adaptation investment strategies. This financial architecture reflects Lombardy's broader mainstreaming approach: rather than relying on a dedicated adaptation budget, the region embeds climate objectives across existing financial planning instruments. Although this is a model that the PNACC encourages, it requires strong institutional capacity to implement consistently across sectors and levels of government.

Access to funding is shaped by both availability and the administrative capacity to engage with different financial mechanisms. European and international funding opportunities typically involve competitive application processes, complex eligibility criteria, and reporting requirements that demand significant technical and administrative capacity to navigate.

The region identifies complex application procedures and competitive selection processes as notable access constraints, particularly for smaller municipalities within Lombardy's territory that seek to implement locally tailored adaptation measures but have more limited institutional resources for project preparation and fund mobilisation.

The regional government plays an important intermediary role in this context, providing technical support and guidance that helps local authorities engage with available financing instruments. Such intermediary function of translating regional financial planning capacity into support for local authorities is precisely the role the PNACC envisions for regions in Italy's multilevel adaptation governance architecture.

Yet it also highlights a structural tension:

the more ambitious the national framework's expectations of regional intermediation, the more critical it becomes that **regional governments** themselves have **access to sufficient, stable, and predictable funding to fulfil that role.**

For Lombardy, as for the other cases in this series, the alignment between legal mandates and financial capacity remains the central implementation challenge.



Multilevel Adaptation in Practice

The SIRACC and the Mainstreaming Approach

One of the most illustrative dimensions of adaptation in Lombardy is the development and implementation of the Regional Adaptation Strategy (SIRACC) as an integrated governance instrument.

The SIRACC is not a standalone plan but a strategic framework deliberately designed to embed adaptation across Lombardy's existing sectoral planning systems: from spatial development and water management frameworks to agricultural policy and disaster risk reduction instruments.

This integration function distinguishes the **Lombardy model:** rather than creating a parallel adaptation architecture, the strategy works through and within the institutional systems that already govern territory and investment in the region.

The SIRACC was developed through a participatory process involving regional departments, municipalities, research institutions, and technical agencies including ARPA Lombardia, which provides the scientific underpinning for regional climate data, modelling, and scenario development. These climate data and projections are made available to municipalities and local actors, enabling them to **integrate contextualised climate risk information into their own planning processes.**

Particularly noteworthy is the role of the **Regional Climate Committee**, which performs technical and advisory functions in support of the Region's activities, and the Regional Platform for Circular Economy and Decarbonisation. These bodies bring together stakeholders from public administration, the private sector, civil society, and academia to support the implementation of the Regional Climate Law and broader climate policies.

In doing so, they promote the **cross-sectoral engagement** that is essential for effective climate mainstreaming, while ensuring the institutional continuity needed to sustain adaptation governance across political and administrative cycles. In this sense, these platforms function as the social and institutional infrastructure of NAP implementation, i.e., the spaces through which legal mandates are translated into coordinated sectoral action over time.

The SIRACC experience also illustrates a concrete point of alignment between regional and national frameworks. The PNACC explicitly references Lombardy's approach as a leading example, and Lombardy's participation in the National Observatory allows its implementation experience to feed directly into the development of national guidance and methodologies. This bidirectional relationship, where regional practice informs national tools and national frameworks provide direction for regional planning, reflects the kind of mutually reinforcing multilevel governance that the PNACC envisions as the architecture for Italy's national adaptation effort.

A broader lesson for NAP implementation can also be deduced from this example:

subnational governments that invest in governance capacity, participatory processes, and knowledge systems do not merely implement national priorities, they generate the evidence and institutional learning that national frameworks depend on to remain effective and territorially grounded.



From Planning to Implementation

The PNACC sets an ambitious framework for regional adaptation governance: regions are expected to develop strategies, mainstream climate objectives across sectors, support local authorities, and contribute to national monitoring and learning systems.

Lombardy has responded with a substantial foundation of legal instruments, strategies, and coordination mechanisms. Yet the distance between this institutional foundation and consistent implementation across the region's diverse municipalities and sectors remains the central challenge shaped by several interconnected factors that reflect broader patterns in multilevel NAP governance.

Cross-sector integration is progressing, though unevenly across departments. Adaptation is formally embedded in regional strategies and planning instruments, with environmental and climate-focused units relatively advanced in mainstreaming climate considerations into their processes. Integration into sectors such as transport, infrastructure, and housing, where the region plays a significant role in investment and territorial planning, is ongoing, as these departments progressively align with the adaptation priorities established in the SIRACC and the Regional Climate Law.

The mainstreaming approach embedded in regional legislation provides a structural mechanism for this integration, but translating legal requirements into consistent sectoral practice requires sustained institutional engagement and the progressive development of sector-specific implementation guidance. This uneven integration across sectors is not unique to Lombardy, it is a structural feature of NAP implementation identified across the cases in this series, where climate adaptation tends to progress more rapidly in environmental departments than in other sectors where important investment decisions are made.

Municipal-level implementation is a central dimension of the translation challenge. The PNACC explicitly identifies the support of local authorities as a regional responsibility, making the progressive strengthening of this intermediary function not just a regional priority but a condition for effective national NAP delivery.

The delivery of concrete adaptation actions depends heavily on the institutional capacity, technical expertise, and financial resources of local authorities, which vary considerably across Lombardy's diverse network of municipalities. Aligning priorities, timelines, and implementation approaches across this governance chain requires effective intermediary support, including technical guidance, locally adapted climate information, and coordination frameworks, that helps smaller municipalities engage with regional and national adaptation priorities in ways that are actionable given their own institutional realities. The Regional Climate Law's territorial agreements and capacity-building instruments address part of this challenge, though the region acknowledges that strengthening this local support function remains an ongoing priority.

Institutional capacity for monitoring and reporting is also progressively developing. Lombardy participates in the National Observatory's monitoring framework and is working to align regional tracking systems with national methodologies and indicators. Formal mandatory reporting mechanisms between the regional and national levels are not yet fully in place, reflecting the recent publication of the national plan and the still-consolidating nature of NAP monitoring arrangements in Italy. This gap matters beyond administrative completeness: without structured reporting, the bidirectional learning that effective multilevel NAP governance depends on, i.e., where regional implementation experience informs national guidance and national frameworks adapt to territorial realities, cannot function systematically.

Taken together, these factors mean that Lombardy has established a strong institutional foundation for adaptation governance. The transition to sustained and measurable implementation across sectors and municipalities, however, continues to evolve as operational guidance, financial instruments, and local institutional capacity are progressively strengthened.



Replicability and Key Lessons Learned

Lombardy's experience illustrates how sustained institutional investment in adaptation governance can build a strong enabling environment for PNACC implementation through progressive policy development, legal mandates, and structured coordination mechanisms.

At the same time, implementation outcomes continue to be shaped by how these elements interact with financial resources, sectoral integration, and the variable capacity of local authorities across a complex and heterogeneous territory. For other regions considering how to apply these lessons to their own context, three interconnected dimensions should be taken into account:

Early and sustained investment in governance builds implementation capacity over time.

Lombardy's adoption of its first adaptation strategy was in 2014, more than a decade before the current Regional Climate Law. This reflects a trajectory in which governance maturity is built progressively through iterative policy development, institutional learning, and accumulated technical expertise. For other regions, this points to the value of beginning the adaptation governance process even where national mandates are not yet fully defined. As national frameworks evolve, successive policy can both inform the development of national mandates and provide opportunities to update regional strategies, ensuring continued alignment while strengthening institutional foundations for future action. In the Italian context, this iterative relationship between regional practice and national framework development is itself institutionalised through the National Observatory, making Lombardy's long governance trajectory not just a regional asset but a contribution to the national adaptation effort.

Mainstreaming adaptation into existing planning instruments is more effective than creating parallel governance structures.

Lombardy's Regional Climate Law and SIRACC embed climate objectives within the sectoral policies and planning systems that already govern territory and investment, reducing institutional fragmentation and ensuring that adaptation is integrated where decisions about infrastructure, land use, and public services are actually made. This approach directly reflects the PNACC's implementation logic and offers a replicable model for regions across diverse governance contexts. This is particularly relevant for aiming to scale adaptation governance without requiring large budgets or the creation of new administrative structures, and for those seeking to ensure coherence between climate adaptation and broader development planning priorities.

Active participation in national governance platforms amplifies regional impact.

Lombardy's engagement in the National Observatory on Adaptation allows its implementation experience to contribute to the development of national methodologies and tools that apply across all Italian regions. This bidirectional relationship between regional practice and national policy development illustrates how capable subnational governments can function not only as implementers of national priorities, but as contributors to shaping the frameworks within which those priorities are defined and operationalised. Formalising and resourcing this intermediary role through structured coordination mechanisms, shared data systems, and dedicated capacity building support would significantly enhance its replicability across Italian regions and beyond. For other regions, this points to a practical lesson: investing in the capacity to participate meaningfully in national governance platforms is itself a form of NAP implementation that multiplies regional impact beyond territorial boundaries.

Multilevel Governance Framework at a Glance - Lombardy, Italy

Subnationals referenced in NAP	**Yes:** explicitly, as key implementation actors; Lombardy cited as a leading example
Legal mandates	**Yes:** Regional Climate Law (2025) establishes binding mainstreaming requirements
Regional adaptation plan	**Yes:** SIRACC, plus integrated into regional planning frameworks
Capacity building	**Not in place:** no formal national capacity-building support received from the national government
Coordination mechanisms	**Moderate:** National Observatory in place; formal reporting not yet structured
Financial capacity	**Partial:** stable and mainstreamed into regional budget, but not fully sufficient
Mandate–finance alignment	**Moderate:** strong legal and planning framework; financial integration progressing but incomplete



Takeaways

Lombardy's experience exemplifies that effective subnational NAP implementation is the product of sustained institutional investment over time: more than a decade of interative governance has created the planning and legal foundation from which the PNACC can be meaningfully implemented at regional level.

A strong governance architecture is not sufficient on its own: consistent cross-sector integration, adequate financial resources, and structured support for local authorities remain the conditions that the PNACC's multilevel vision requires but that are not yet fully in place. Lombardy's active engagement further demonstrates that regions can play a dual role in adaptation governance: implementing national priorities while also contributing to the development of national approaches through their own practical experience.

For other regions, Lombardy's experience highlights that the most replicable element of a governance model is not its specific instruments, i.e., the law, the strategy, the committee, but the logic connecting them: embed adaptation where planning decisions are made, engage actively in national frameworks, and treat governance as a long-term investment rather than a policy event.



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For More Information

To learn more about this project, contact us by email at **info@regions4.org** to schedule an informational meeting, clarify your questions, and receive support for the implementation of similar projects.

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Aknowledgements

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Regions4 is a global network of subnational governments driving action in climate change, biodiversity, and sustainable development. It was born in 2002 to represent states, regions and provinces at UN negotiations, European Union initiatives and global discussions on biodiversity, climate change and sustainable development. Today, Regions4 brings together 59 members across 25 countries, collectively representing 171 subnational governments reaching over 430 million people.

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