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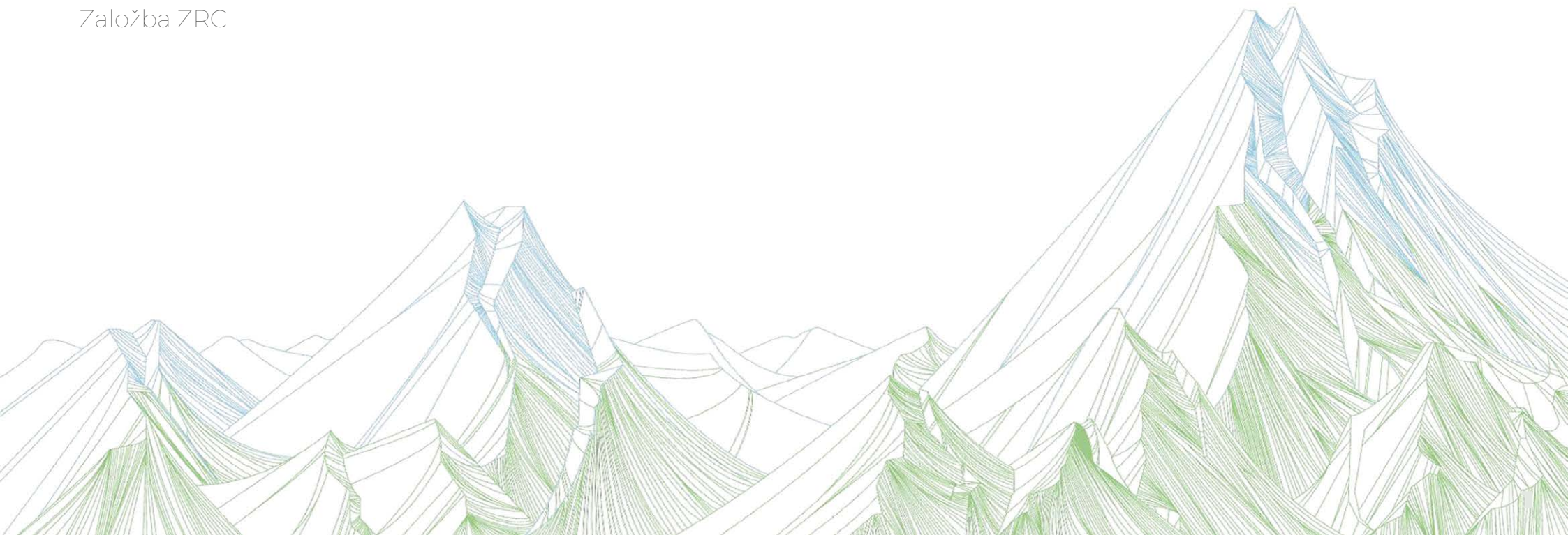
TranStat

ALPINE MOUNTAIN RESORTS IN TRANSITION

POLICY RECOMMENDATIONS

Research Centre of the Slovenian Academy of Sciences
and Arts, Anton Melik Geographical Institute

Založba ZRC



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AlpS GmbH



REGION AURA Regional Council Auvergne-Rhone-Alpes



ecoplus Alpin



RL Lombardy Region



FHGR-Fachhochschule Graubünden



UGA Grenoble Alps University



Austrian Academy of Sciences



UMIL University of Milan

Summary

Alpine mountain resorts are at a crossroads. Climate change, demographic shifts, and socio-economic vulnerabilities are threatening the long-term viability of winter tourism and the resilience of local communities. The TranStat project addresses these urgent issues by identifying pathways in which Alpine resorts can transition to become more sustainable and by translating research insights into practical policy recommendations.

Based on analytical work and participatory processes carried out in nine Living Labs in France, Switzerland, Italy, Austria and Slovenia, the report provides a thorough framework for transition across four key areas: governance, the environment, society and the economy. The document demonstrates that the issues of fragmented governance, environmental degradation, social inequalities and economic dependency are deeply interconnected and must be addressed through coordinated, multi-level approaches. The findings emphasise the crucial role of governance in enabling sustainable transitions. Effective transitions depend on institutional support, cross-sectoral coordination, and the active participation of local stakeholders.

The policy recommendations propose concrete actions at Alpine, national and local levels. These include stronger legal recognition and dedicated funding for the sustainable transition of mountain areas; the integration of tourism with other sectoral policies, such as mobility, housing, and energy; and the reinforcement of participatory governance structures. At the same time, they promote the diversification of local economies, the use of low-carbon mobility systems and renewable energy, and social innovation to enhance liveability and social inclusion in mountain regions.

By connecting analytical evidence with governance practice, TranStat provides policymakers, regional authorities and destination managers with a roadmap to guide the sustainable transition of Alpine mountain resorts. The overarching goal is to shift the focus away from winter tourism towards creating resilient, diverse and liveable mountain communities that can thrive in the face of evolving environmental, social and economic challenges.

Key highlights

▲ **Alpine mountain resorts are at a crossroads:** They are highly vulnerable due to climate change, demographic change and their dependence on winter tourism, and are in need of a sustainable transition.

▲ **Governance as a key enabler of sustainable transition:** Inadequate legal recognition, fragmented institutional responsibilities and limited participation can hinder the transition process in mountain resorts. Strong, coordinated institutions are essential for resilience and implementation.

▲ **Different transition pathways:** Mountain resorts follow diverse trajectories that require context-specific, tailored strategies and consistent policy support for a sustainable transition.

▲ **Integrated and participatory approaches:** Effective transitions depend on coordination across governance levels, policy sectors, and broad stakeholder engagement.

▲ **Living Labs as practical models:** TranStat Living Labs demonstrate how participatory governance can foster innovation and knowledge co-creation to promote liveable and sustainable mountain communities.

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FOREWORD

The Alpine region is highly vulnerable to climate change, experiencing rising temperatures, unreliable snowfall and mounting environmental pressures. Traditionally dependent on winter tourism, mountain resorts also face demographic change, seasonal economic dependence and territorial inequality. Addressing these challenges requires more than technological or financial measures; fundamental changes to governance systems are needed to ensure effective collaboration across administrative levels, sectors, and jurisdictions.

Against this backdrop, this document presents policy recommendations developed within the TranStat project. Intended for policymakers, destination managers, NGOs, researchers and innovation actors, it aims to support the design of sustainable transition strategies for mountain resorts.

The recommendations are based on scientific analysis and participatory processes carried out in nine Living Labs across five countries: France, Switzerland, Italy, Austria and Slovenia. Desk research on policy frameworks was combined with local workshops, national policy dialogues and a transnational stakeholder workshop to ensure that the proposals reflect institutional realities and the lived experiences of mountain communities.

Prepared by the TranStat consortium, this policy brief summarises the key challenges and provides recommendations for the Alpine, national and local levels, with the aim of supporting resilient, diverse and liveable mountain regions.



1 INTRODUCTION – GOVERNANCE AS AN ENABLER OF SUSTAINABLE TRANSITION

Effective governance is crucial for enabling the sustainable transition of Alpine mountain resorts. In the face of climate change, socio-economic vulnerabilities and demographic changes, effective governance systems are required to complement technological and financial responses. These systems must function effectively in different national political contexts and across multiple administrative levels and sectors. Policies are active drivers of change, providing legitimacy, resources and direction for local transition processes. Strong institutions, participatory approaches and multi-level coordination are therefore essential to ensuring continuity and resilience in mountain regions.

The TranStat project has developed a typology of transition pathways that illustrates how governance and scope influence the direction of change. Some mountain resorts benefit from strong institutional support and a broad, systemic approach that fosters long-term resilience and sustainability. However, others have not yet acknowledged the urgency of transition and continue to pursue tourism as their chosen path of development. This diversity confirms that governance determines not only the direction and pace of transition, but also how the environmental, social and economic dimensions of change are managed.

The challenges and opportunities facing the Alps vary widely. Some resorts face demographic decline, while others face environmental degradation or financial strain. This diversity demonstrates that there is no one-size-fits-all solution. Therefore, policy responses must be tailored to governance capacities, socio-economic structures and environmental conditions. The TranStat project confirms that governance and policies adapted to specific contexts are crucial for enabling sustainable transitions.

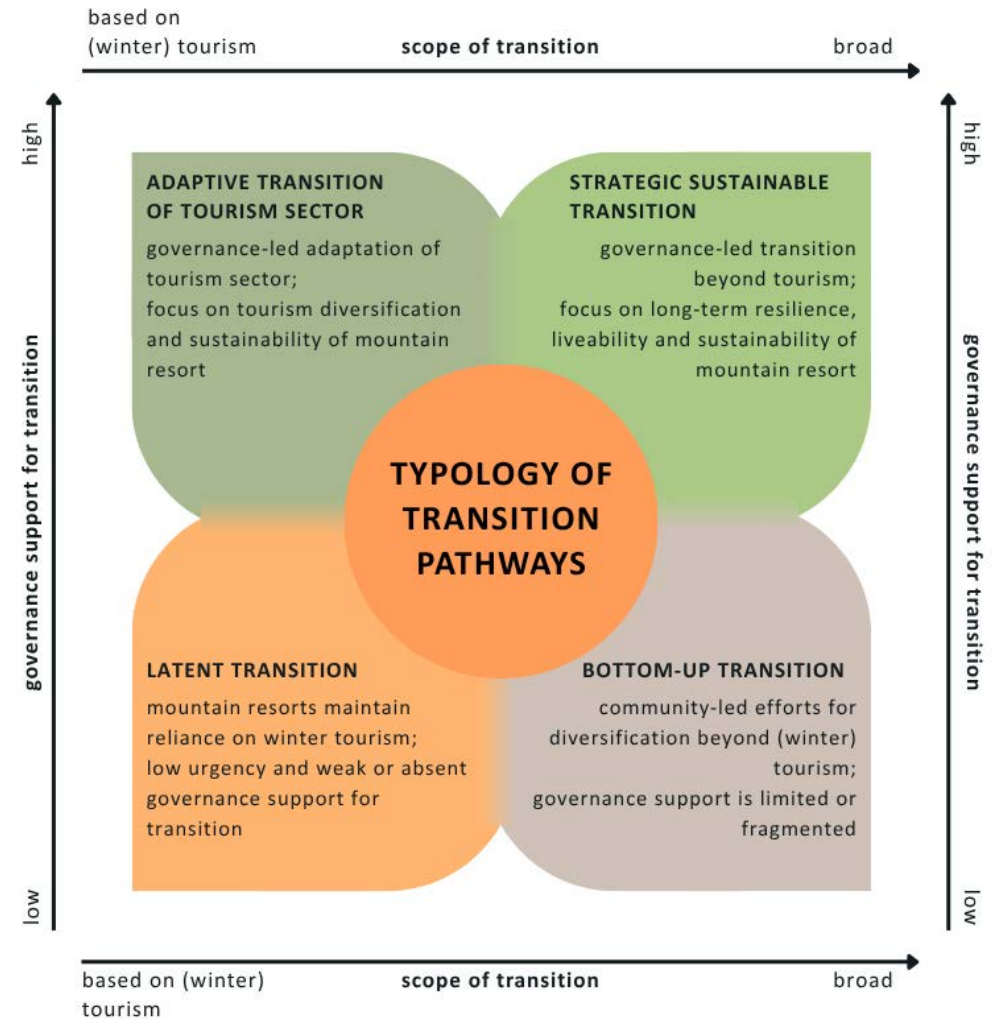


Figure 1: TranStat typology of transition pathways (TranStat project, own elaboration).

2 UNDERSTANDING CHALLENGES OF MOUNTAIN RESORTS IN THE ALPS

Alpine mountain resorts face a complex set of interconnected challenges spanning governance, the environment, society and the economy. Effective governance is crucial in determining how successfully these issues are addressed, influencing the pace and direction of the transition to sustainability.

Governance-related challenges

Weak governance is one of the most significant barriers to a sustainable transition. Limited legal recognition of mountain areas, fragmented responsibilities across sectors and administrative levels, and inadequate institutional capacity in small municipalities all hinder the implementation of coherent policies. Political cycles often undermine long-term continuity, while limited resident participation and weak knowledge exchange reduce legitimacy and slow innovation. Therefore, strengthening governance structures and coordination mechanisms is fundamental to improving institutional continuity, stakeholder inclusion and policy coherence across the Alpine region.

Environmental challenges

With climate change, environmental pressures are intensifying: rising temperatures, declining snow reliability and more frequent natural hazards are directly threatening both winter tourism and local communities. Biodiversity loss, ecosystem degradation, unsustainable land use, intensive snowmaking and water scarcity further increase these risks. Meanwhile, mountain resorts remain heavily dependent on energy-intensive infrastructure and carbon-based mobility systems. Addressing these challenges requires integrated approaches combining adaptation, ecosystem restoration and low-carbon transition strategies.

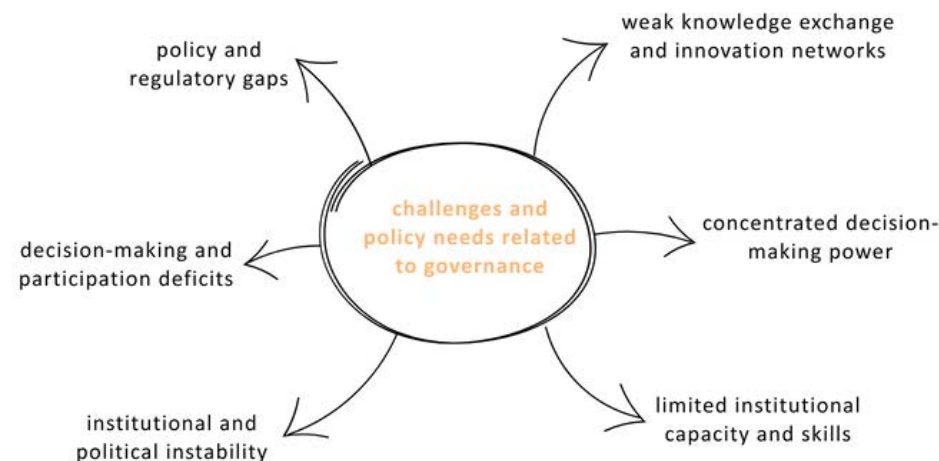


Figure 2: Governance as a cross-cutting challenge in Alpine mountain resorts (TranStat project, own elaboration).

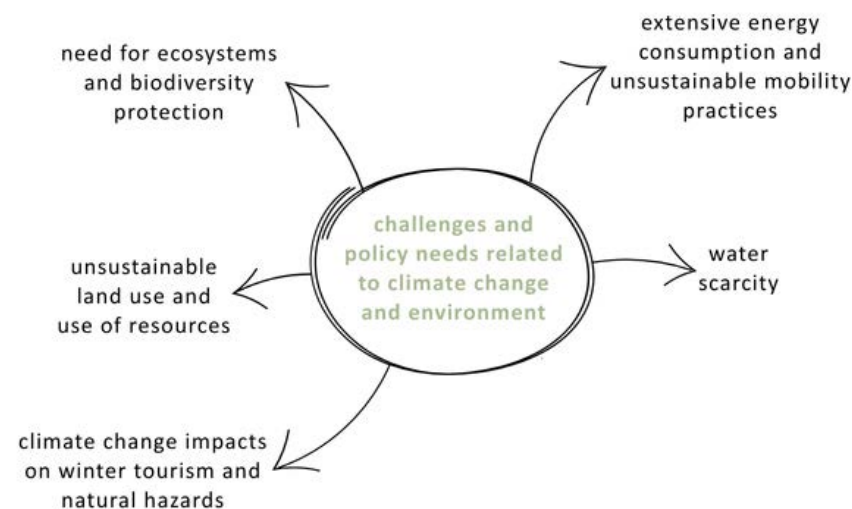


Figure 3: Environmental pressures and the need for integrated adaptation (TranStat project, own elaboration).

Social challenges

Social challenges stemming from demographic change, youth outmigration and an ageing population weaken community resilience. Pressures on housing linked to second homes and tourist rentals reduce affordability for residents and seasonal workers, while seasonal economies limit access to stable employment, healthcare, education and mobility services. These factors undermine liveability and community cohesion. Therefore, safeguarding cultural heritage, strengthening participation and promoting environmental awareness are essential to reinforce local identity and inclusiveness in mountain communities.

Economic challenges

The heavy reliance on snow-based tourism means that economic vulnerability remains high. Many mountain resorts are experiencing a decline in visitor numbers, workforce shortages and limited capacity for innovation. Small enterprises often lack the resources to digitalise or diversify, while obsolete infrastructure and dependence on subsidies increase financial fragility. Key to ensuring long-term economic resilience is developing year-round economies, supporting green and circular business models, and improving access to investment and technical support.

The diversity of these challenges shows that Alpine mountain resorts need context-specific, coordinated responses. Governance is the cross-cutting enabler that links the environmental, social and economic dimensions of transition. This makes institutional capacity and collaboration central to the Alps' sustainable future.

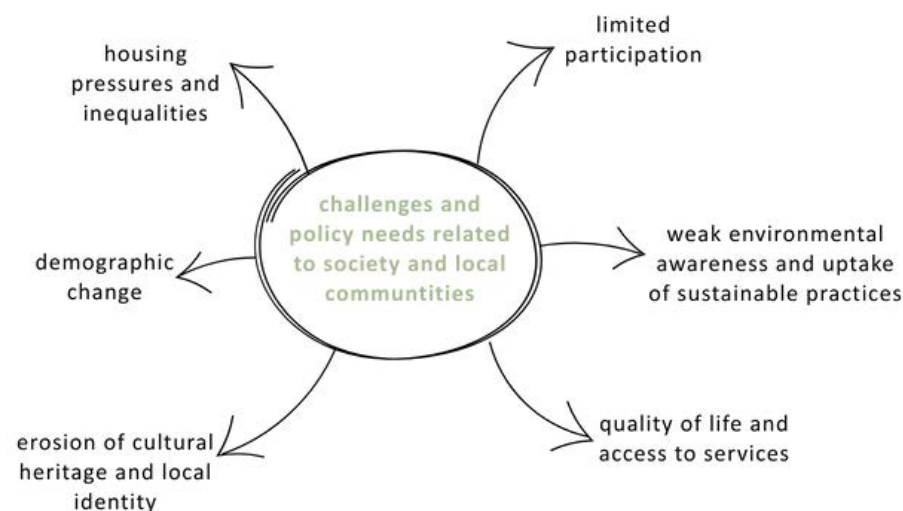


Figure 4: Social challenges affecting liveability and cohesion (TranStat project, own elaboration).

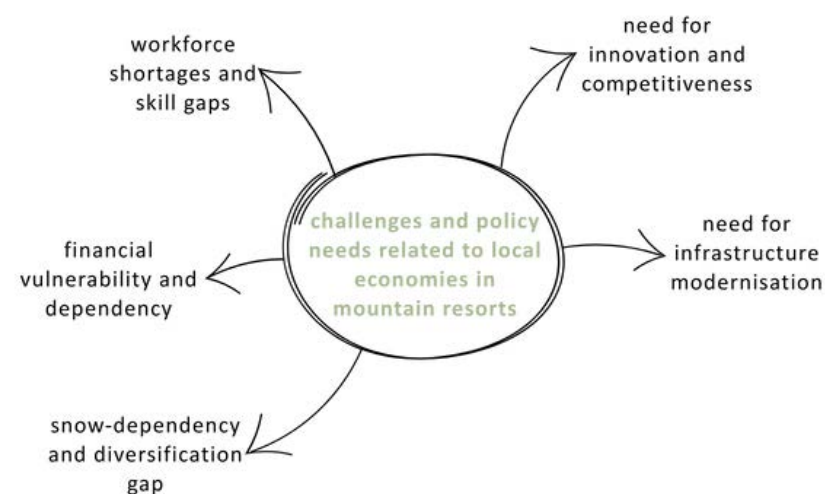


Figure 5: Economic dependence and the need for diversification (TranStat project, own elaboration).

3 POLICY RECOMMENDATIONS FOR SUSTAINABLE TRANSITION OF MOUNTAIN RESORTS

The sustainable transition of Alpine mountain resorts requires coordinated action at all levels of governance. Governance acts as the cross-cutting enabler that links the environmental, social and economic dimensions of the transition. The following recommendations summarise the priorities identified through the TranStat project's policy review, Living Lab experiences, participatory workshops conducted in France, Switzerland, Italy, Austria and Slovenia, and the transnational workshop held in Kranjska Gora, Slovenia, in April 2025.

Governance and institutional capacity

Strong and coordinated governance is fundamental to achieving a sustainable transition. Institutional recognition, dedicated funding and participatory planning are all vital for ensuring that long-term strategies can be implemented effectively and consistently across Alpine territories.

Policy recommendations at the Alpine and international levels

- ▲ Ensure the legal recognition and dedicated funding of mountain areas by implementing Article 174 of the Lisbon Treaty.
- ▲ Revise the protocols of the Alpine Convention to integrate tourism with policies relating to mobility, housing, energy and biodiversity.
- ▲ Create a European Pact for Mountain Regions to encourage collaboration and ensure consistent funding across the Alps.
- ▲ Strengthen and formalise participatory governance platforms at the Alpine level.
- ▲ Create a permanent Alpine transition platform to coordinate transnational learning and policy alignment.

Policy recommendations for the national and sub-national levels

- ▲ Create clear legal frameworks for mountain regions to improve the accountability and continuity of transition processes.
- ▲ Strengthen vertical and horizontal coordination between ministries, regions and municipalities.
- ▲ Mandate inclusive, participatory planning processes that involve residents, young people, second-home owners, and local stakeholders.
- ▲ Ensure the political and financial continuity of transition strategies beyond electoral cycles.

Policy recommendations for the local level

- ▲ Incorporate transition goals into municipal and regional development plans.
- ▲ Maintain continuity and inclusiveness through participatory mechanisms, such as youth councils and stakeholder forums.
- ▲ Use mountain resorts as living laboratories to test and scale up sustainable solutions.
- ▲ Build local institutional capacity through training, technical assistance and peer learning.
- ▲ Strengthen public-private partnerships to foster innovation and shared responsibility.

Climate change and environment

The environmental pressures facing Alpine areas are intensifying, requiring an integrated response combining adaptation, ecosystem restoration and low-carbon strategies. In order to ensure the long-term resilience of mountain resorts, it is essential to protect natural assets and ensure the sustainable use of resources.



Policy recommendations at the Alpine and international levels

- ▲ Strengthen alpine-wide transition strategies.
- ▲ Develop integrated monitoring systems for snow, biodiversity, land use and natural hazards.
- ▲ Implement cross-border water management strategies to prevent conflict and ensure equitable use.
- ▲ Promote low-carbon mobility corridors connecting major Alpine regions and destinations.

Policy recommendations for the national and sub-national levels

- ▲ Integrate climate adaptation objectives into national and regional development policies.
- ▲ Restrict overdevelopment through zoning and robust environmental impact assessments.
- ▲ Fund biodiversity restoration and ecosystem protection programmes.
- ▲ Support renewable energy production (e.g. solar, biomass and micro-hydro) adapted to mountain contexts.
- ▲ Promote modal shifts in transport through rail upgrades, public transport, and infrastructure for electric vehicles.

Policy recommendations for the local level

- ▲ Adopt local adaptation and risk management plans.
- ▲ Implement nature-based solutions to mitigate natural hazards and restore ecosystems.
- ▲ Expand municipal renewable energy initiatives and improve energy efficiency.
- ▲ Develop sustainable local mobility systems (e.g. shuttles, mobility hubs and shared transport).

Society and liveability

Social resilience lies at the heart of a sustainable transition. The liveability of mountain communities is under threat from demographic change, ageing populations and housing pressures. Key to maintaining cohesive and vibrant Alpine societies is strengthening participation, ensuring access to essential services, and safeguarding cultural identity.

Policy recommendations at the Alpine and international levels

- ▲ Set up social monitoring systems across the Alps to track demographics, housing and workforce needs.
- ▲ Facilitate knowledge-sharing platforms for governance, youth engagement and cultural exchange.
- ▲ Promote the protection and enhancement of Alpine cultural heritage and identity.

Policy recommendations for the national and sub-national levels

- ▲ Regulate housing markets to improve affordability and restrict the development of short-term rental properties for speculative purposes.
- ▲ Support social innovation initiatives targeting young people, families and local communities.
- ▲ Invest in training and education programmes in fields such as the sustainable development of mountain areas, renewable energy and the circular economy.
- ▲ Institutionalise participatory governance mechanisms to enhance citizen engagement.
- ▲ Protect tangible and intangible cultural heritage through coordinated policy and funding.

Policy recommendations for the local level

- ▲ Ensure that housing is affordable for residents and seasonal workers.
- ▲ Strengthen community participation by involving residents, young people, and second-home owners.
- ▲ Guarantee access to essential services such as healthcare, childcare, mobility, and education.
- ▲ Integrate cultural heritage into tourism and local development strategies.
- ▲ Promote environmental awareness and behavioural change through education and community initiatives.

Economy and diversification

Economic resilience in mountain regions depends on reducing reliance on snow-based tourism and fostering sustainable activities throughout the year. To ensure financial stability and long-term viability in mountain regions, diversification, innovation and local entrepreneurship are critical.

Policy recommendations for the Alpine and international levels

- ▲ Set up an Alpine-wide transition fund to support the sustainable development of mountain regions.
- ▲ Develop common indicators for measuring resilience, diversification, and overtourism.
- ▲ Promote cross-border innovation networks and partnerships.
- ▲ Create mountain competence centres for knowledge exchange and training.

Policy recommendations for national and sub-national levels

- ▲ Support economic diversification strategies that promote green industries, local food systems and ecotourism.
- ▲ Provide subsidies and tax incentives for sustainable business development.
- ▲ Launch skills development programmes focused on green and digital transitions.
- ▲ Fund and coordinate mountain competence centres for innovation and applied research.
- ▲ Introduce financial risk management instruments to increase the stability of local enterprises.

Policy recommendations for the local level

- ▲ Foster diverse, year-round economies and reduce seasonal dependency.
- ▲ Strengthen local entrepreneurship through microfinance, incubation and mentoring.
- ▲ Develop partnerships with innovation centres.
- ▲ Modernise infrastructure for energy, water and multifunctional public use.
- ▲ Use data-driven tools to manage housing, mobility and visitor numbers.
- ▲ Use public–private partnerships to share investment risks and stimulate local innovation.

The TranStat findings show that a sustainable transition in Alpine mountain resorts requires coherent action across different levels of governance and policy areas. The foundation of resilient and liveable Alpine regions is strengthened institutions, diversified economies and inclusive communities. To turn transition strategies into lasting outcomes for the Alps of tomorrow, it is essential to ensure governance continuity, adequate funding, and meaningful participation. The full TranStat Policy recommendations report is available here: <https://www.alpine-space.eu/project/transtat/>

POLICY BRIEF

This policy brief summarises the key insights and recommendations from the TranStat project, which examined ways in which Alpine mountain resorts can transition to become more sustainable. It translates research findings and participatory results into practical guidance for policymakers and regional stakeholders across the Alpine region.

The findings emphasise the pivotal role of governance in shaping the manner in which the environmental, social and economic aspects of transition are addressed. However, the challenges and opportunities faced by different resorts vary widely: some face depopulation and housing shortages, while others face environmental degradation, ageing infrastructure or limited institutional capacity. This diversity confirms that there is no one-size-fits-all approach. Strategies and policy responses must therefore be context-specific, place-based and tailored to local governance systems, socio-economic structures and environmental conditions.

The TranStat project demonstrates that transitions are possible when supported by robust institutions, participatory governance and coordinated action across sectors and levels. The policy recommendations presented in this document are intended to guide such processes. They emphasise diversification beyond winter tourism, improving liveability for mountain communities, and protecting Alpine ecosystems.

Looking to the future, continuity of governance, stable financing and strong collaboration between Alpine, national and local stakeholders will be essential. The sustainable future of Alpine mountain resorts depends on a shared commitment to creating resilient, diverse and liveable mountain regions that balance environmental stewardship with social and economic well-being.

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ABOUT THE TRANSTAT PROJECT

The TranStat project addresses the challenges faced by Alpine mountain resorts and their surrounding areas in the face of climate change, demographic shifts and economic vulnerability linked to their reliance on snow-based tourism. These developments not only threaten tourism, but also the social and economic fabric of mountain communities across the Alps.

To address these issues, the TranStat project unites scientific institutions, regional and local authorities, and development agencies to enhance governance capabilities for transition. The project combines analytical research with practical, participatory work in nine Living Labs spanning five Alpine countries: France, Switzerland, Italy, Austria and Slovenia. These Living Labs co-create transition pathways by engaging local stakeholders, testing innovative approaches, and facilitating the exchange of knowledge between mountain resorts at various stages of transformation.

TranStat's strategy focuses on raising awareness, building institutional capacity, and translating scientific insights into practical action. The main activities include:

- ▲ Promoting transnational cooperation and knowledge exchange among Alpine policymakers, researchers and stakeholders.
- ▲ Implementing Living Labs as participatory spaces to design and test local transition strategies.
- ▲ Developing long-term transition strategies, policy recommendations and transferable tools to promote the sustainable diversification of mountain regions.

The project aims to strengthen governance systems, support social and environmental innovation, and enhance the resilience and liveability of mountain resorts beyond winter tourism. The project's findings are translated into transnational policy recommendations and practical guidance for decision-makers committed to the Alps' sustainable future. For more information and project updates, visit: <https://www.alpine-space.eu/project/transtat>



[Link to TranStat project outputs.](#)

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