



Climate-neutral and Climate-resilient Alps 2050

Declaration of Innsbruck
Alpine Climate Target System 2050
7th Report on the state of the Alps "Natural Hazard Risk Governance"



IMPRINT

Permanent Secretariat of the Alpine Convention

Herzog-Friedrich-Strasse 15
6020 Innsbruck
Austria

Branch office

Viale Druso / Drususallee 1
39100 Bolzano / Bozen
Italy

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FOREWORD

The present publication “Climate-neutral and Climate-resilient Alps 2050” lays out the three central climate policy results of the XV Alpine Conference: the Declaration of Innsbruck, the Alpine Climate Target System 2050 and the 7th Report on the State of the Alps “Natural Hazard Risk Governance”. The overriding questions are: How can the goal of “climate-neutral and climate-resilient Alps” be achieved by 2050 and what does modern natural hazard management look like? The Alpine Climate Target System 2050 and the 7th Report on the State of the Alps, a summary of which is contained in this publication, attempt to provide answers to these questions. The “Declaration of Innsbruck” adopted by the XV Alpine Conference serves as their common umbrella. Together, these are the most important products on the subject of climate change mitigation and adaptation developed during the Austrian Presidency of the Alpine Convention over the past two and a half years (October 2016 to April 2019). At the XV Alpine Conference in Innsbruck on 4 April 2019, the ministers of the eight Alpine states and the representative of the European Union approved this package, thus creating a climate policy milestone within the framework of the Alpine Convention.

The task is now to communicate and disseminate these results and, above all, to act towards climate-resilient and climate-neutral Alps - from our point of view a very important aspect of this publication. The Alpine Climate Target System sets concrete targets for 2050 in twelve sectors, ranging from spatial planning to energy, transport, tourism or research and development. It provides recommendations to achieve the objectives, with a strong emphasis on cooperation and communication with relevant public and private stakeholders and civil society.

We welcome this result from Innsbruck. We also see that it will be a long and certainly challenging road to implementation. We look forward to walking with you along this path.

Markus Reiterer, Secretary General of the Alpine Convention

Helmut Hojesky, Chair of the Alpine Climate Board of the Alpine Convention

Ewald Galle, Alpine Convention Focal Point Austria and President of the Permanent Committee of the Alpine Conference 2016-2019

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DECLARATION OF INNSBRUCK¹

The Alpine Conference

- *considering the fact* that the average temperature increase in the Alpine area is nearly twice as high as in the surrounding areas and
- *deeply concerned* by the increase of the adverse consequences of climate change in the Alps, especially through extreme events and natural hazards, that also have particularly high impacts on the region's economy which relies increasingly on ecosystem services,
- *aware* that the activities in the Alpine area, among others through emissions from traffic, buildings and tourism, contribute to climate change, which underlines the need to take adequate action to reduce these emissions,
- *acknowledging* that the Alpine area is a fragile and vulnerable area with specific natural, cultural and historical features and unique biodiversity, encompassing highly sensitive ecosystems which need to be preserved,
- *considering the fact* that the constantly growing and often conflicting uses of the Alpine resources are increasingly endangering the Alpine living, economic and cultural space and the resulting impairments either cannot or can only be repaired with substantial effort, considerable costs and over long periods of time,
- *aware* that the vital interests and needs of the population living and working in the Alps need to be considered sufficiently and adequately, also with regard to demographic changes,
- *aware* of the overall goal of the Alpine Convention to establish a balance between necessary protection and economic development,
- *aware* of the need to foster a sustainable economy in order to meet the climate-related challenges of the Alpine region and to contribute to the reduction of greenhouse gas emissions at global level,
- *convinced* that further cooperation between the mountain regions of the world is necessary for the mitigation of and adaptation to climate change, with the goal of increasing international awareness regarding the particular vulnerability of mountain areas,
- *mindful* of ongoing research and systematic observation activities in the Alpine region and of the need to encourage continued transnational research in the Alps that will serve a better understanding of the interaction between territory, economy and environment in the Alps and help forecasting future climate developments in the Alpine area,

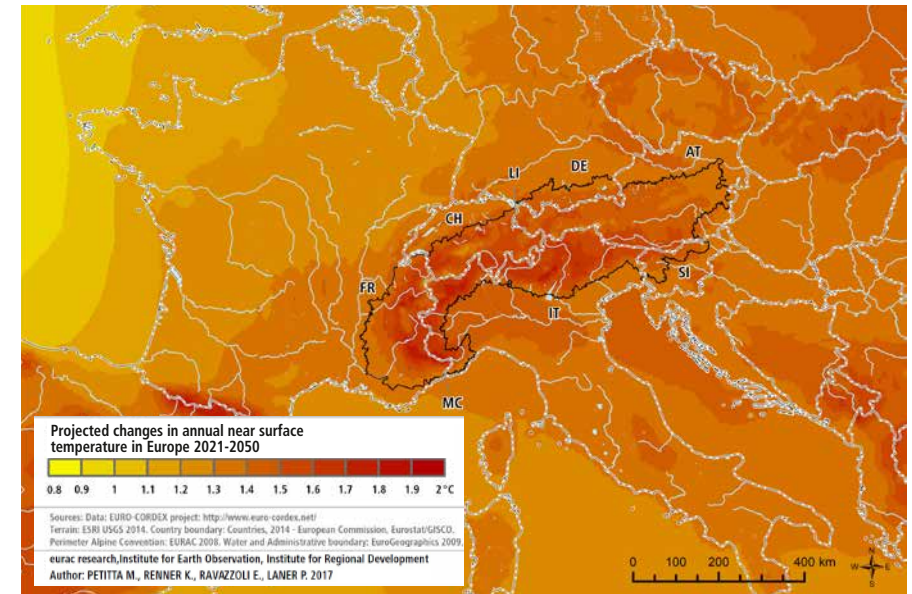
¹ The Declaration of Innsbruck was adopted in French, German, Italian and Slovenian languages. This courtesy English translation is provided by the Permanent Secretariat of the Alpine Convention.

- *acknowledging* the manifold initiatives for mitigation of and adaptation to climate change in the Alpine area, especially the ClimaHost competition and the Alpine Partnership for Local Climate Action (ALPACA),
- *basing itself* on the Alpine Convention, its Protocols and Declarations and the Multi-Annual Work Programme 2017-2022

at its XV session on the 4th of April 2019 in Innsbruck

1. *reaffirms* the objective to work towards climate-neutrality and climate-resilience of the Alps until 2050 in line with European and international provisions, including the need to update by 2020 the nationally determined contributions under the 2015 Paris Agreement;
2. *adopts* the **Alpine Climate Target System 2050** prepared by the Alpine Climate Board and *urges* all Contracting Parties, Observers and relevant partners and actors to implement it to the best of their abilities;
3. *intends* to further develop the Alpine area as a model region for comprehensive and integrated climate change mitigation and adaptation activities, in cooperation with regional and local authorities and in line with the Paris Agreement 2015 and the results of the UNFCCC COP 24 in Katowice 2018;
4. *calls upon* all Contracting Parties to give the Alpine area priority within their respective climate strategies and action plans at all relevant levels;
5. *intends* to intensify its efforts to reinforce awareness on climate change in order to motivate the relevant actors and the general public to take decisive action to contribute to achieving the objective of climate-neutral and climate-resilient Alps 2050;
6. *calls upon* the Thematic Working Bodies of the Alpine Convention to contribute to the implementation of the Alpine Climate Target System 2050 in line with their respective mandates;
7. *adopts* the **7th Report on the State of the Alps** on the topic of "Natural Hazard Risk Governance" and *calls upon* all Contracting Parties, Observers and relevant partners to implement the recommendations of the report to the best of their abilities;
8. *calls upon* the intensification of cooperation and involvement, in the context of sustainable risk prevention, of all concerned parties, stakeholders and the responsible national, regional and local authorities.

ALPINE CLIMATE TARGET SYSTEM 2050



Projected temperature change in Europe: The map shows the projected temperature change in the Alpine area (2021-2050) compared with the reference period (1971-2000). The temperature rise is likely to be more severe in the Alpine region compared to other European areas, with a projected rise by almost 2 °C.²

1 Background for an Alpine Climate Target System

Climate change is occurring at a faster pace in the Alps than in lowland areas. It is affecting the living conditions of their 14 million inhabitants, 30'000 animal species and 13'000 plant species. The impacts of climate change vary across the Alps, but they do not stop at administrative borders: alpine-wide and cross-sectoral collaboration in mitigation and adaptation is required.

To this effect, the Ministers of the eight Alpine countries in charge of the Alpine Convention and the European Union adopted a Declaration on Climate Change (2006) and an Action Plan on Climate Change in the Alps (2009). There followed an array of activities with climate relevance within many thematic bodies of the Alpine Convention, which led to alpine-wide guidelines in the field of water management (including hydropower), natural hazards, local adaptation and more. In recent years, the Vision "Renewable Alps" was affirmed (2014) and the 6th Report on the State of the Alps "Greening the Economy in the Alpine Region" approved (2016).

² Source: *The Alps in 25 maps*, Permanent Secretariat of the Alpine Convention 2018. This map is included for information purposes and does not constitute an integral part of the Alpine Climate Target System 2050.

In 2016, the XIV Alpine Conference identified “Taking action on climate change” as one of the six priorities of its Multi-Annual Work Programme (MAP) for the period 2017-2022 and decided “to establish an Alpine Climate Board in order to bundle together existing climate change initiatives and contributions in the Alpine area and to elaborate proposals for a concrete target system of the Alpine Convention in regard to the perspective of a “climate-neutral Alpine space” in accordance with the European and international objectives”.

Composed of representatives of all Alpine states and many Alpine Convention Observers, the Alpine Climate Board (ACB) worked over two years in a collegial, highly participative manner and actively involving the Thematic Working Bodies of the Alpine Convention. As a first step, the ACB developed a comprehensive “stock-taking” (Stock-taking report 2017; updated in February 2019), which identified over hundred recent or ongoing climate-related activities of Alpine Convention bodies (thematic bodies, Permanent Secretariat), of the Contracting Parties (with relevance for the overall Alpine area or with high potential for transferability) as well as of Observers. The report provided an analysis of the current focus of activities and first recommendations for further action of the Alpine Convention.³

For the design of the Alpine Climate Target System, the ACB focussed on **soft, but verifiable objectives** for the **2050 horizon** with the aim of enhancing the added value of alpine-wide cooperation. The present report, prepared for approval by the XV Alpine Conference in April 2019, outlines the proposals for an overall structure of the Climate Target System of the Alpine Convention (part 2). It identifies four general principles guiding the process (part 3). The overall strategic objectives are defined in part 4 and operationalized in sectoral climate targets in part 5. Communication aspects, recognised as a pillar of the system, are developed in part 6. Finally, part 7 provides recommendations for the implementation of the Alpine Climate Target System.

2 Overall structure of the Alpine Climate Target System

Based on a literature review as well as the approaches of other transnational regions, and on brainstorming sessions within the ACB, a structure with several layers for the Alpine Climate Target System has been designed:

- **Roof:** The overall target system is embedded in the existing legal framework of the Alpine Convention, with its Protocols and Decisions and their specific objectives and targets. Also, it is guided by the overall targets of the Paris Agreement as well as the UN Sustainable Development Goals.
- **General principles:** The general principles guide all activities of the Alpine Convention with respect to climate change mitigation and adaptation. They are aspirational in scope, with an

innovative character and supported by “storylines” that can be understood and supported by all relevant stakeholders.

- **Overall strategic targets:** They define relevant policy aims/visions and frame the sectoral targets as well as all operational measures to be identified and implemented in later steps.
- **Sectoral targets:** Sectoral targets are defined to operationalize the overall strategic targets.
- **Communication targets:** The target system is supported by a communication pillar of a more operational scope, with proposals for specific activities (based on the stock-taking report as well as discussions and workshops during the ACB meetings). The communication targets can thus be seen as pilot actions for the Alpine Convention and can also serve as examples for the subsequent development of operational measures at sectoral level.

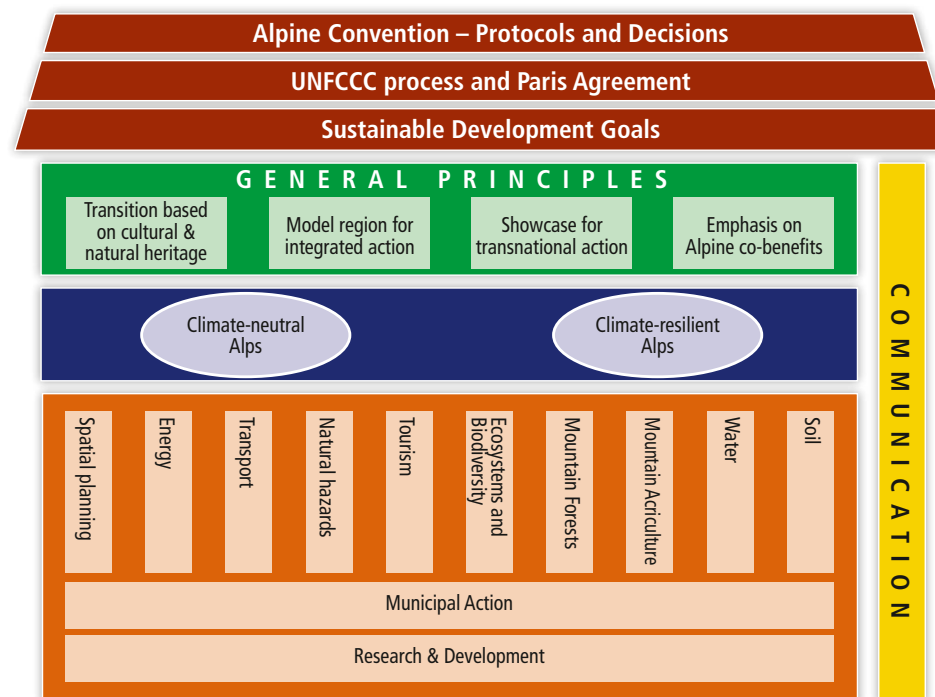


Figure: Overview of the Alpine Climate Target System 2050

³ The related Declarations, Action Plan, Multi-Annual Work Programme and Decisions of the Alpine Conference, the report of the Alpine Climate Board’s Stock-taking and other reference documents are available on www.alpconv.org.

3 General principles of the Alpine Climate Target System

The added value of the Alpine Climate Target System, with respect to national and international targets, lies in the specific characteristics of the Alpine area and the existing experience of the Alpine Convention. **Cooperative approaches** based on multi-level governance and stakeholder involvement play an important role for the Alpine Convention; its activities focus on the development of common strategies and actions at alpine-wide level, involving all Alpine countries and the Alpine Convention Observers. The Alpine Convention has a **cross-cutting scope** and its legal base and activities cover most topics with special relevance for the Alpine area. This broad scope of action allows the effective implementation of climate mainstreaming activities. The Alpine area also builds on specific **civil culture and economic business models** that encompass the maintenance of landscape and cultural heritage as well as innovative approaches. This culture is an important basis to help find solutions for multiple challenges in the Alps. Also, the Alpine people, with a limited available area for settlements and economic activities, have historically developed **specific settlement and cultivation patterns** which meet the challenges of the Alpine environment. The stock-taking exercise has highlighted that these settlement structures often define the alpine-specific character of common activities at the level of the Alpine Convention. Finally, due to their sensitive environment and specific meteorological and topographical characteristics, the Alps have a **high vulnerability to climate change**. This specific high vulnerability also has **effects on health**, e.g. due to the formation and transport of air pollutants. There is a pressing need to develop specific adaptation solutions and improve the resilience of the region.

On the basis of these characteristics, the following general principles have been developed to guide the Alpine Climate Target System:

FOUR GENERAL PRINCIPLES	
Transition based on cultural and natural heritage	The transition towards a climate-neutral society and economy requires the broad application of innovative technologies and approaches. In the Alps, these need to be designed in a way to reflect the needs of the Alpine population, which is strongly rooted in its cultural heritage and in the Alpine nature. Also, the specific environmental characteristics of the Alpine area need to be considered. Innovative solutions will build a bridge between those two challenges, e.g. by providing specific solutions for energy-efficiency in historic buildings, by strengthening regional/local economic cycles etc.

Model region for integrated action	The Alpine Convention has affirmed its willingness to make a strong contribution towards the implementation of the Paris Agreement. At the same time, the Alps face over-proportional impacts from climate change and thus have a high need for smart adaptation options. In consequence, the Alpine Convention aims at developing the Alps into a model region for integrated approaches which have both a mitigation and an adaptation focus and maximise co-benefits between both aspects.
Showcase for transnational action	Many activities for climate change mitigation and adaptation require transnational action at the level of the Alpine Convention, to avoid unwanted overlaps between diverging national and/or regional approaches, create a higher impact in the overall Alpine area and increase visibility for the transnational dimension of problems and solutions. While the need for alpine-wide action is also relevant for other policy fields, there is a specific challenge with respect to climate change action, due to its cross-cutting and multi-level character. The Alpine Convention will move ahead with showcases for common action, which involve the relevant public and private stakeholders to avoid that mitigation and/or adaptation measures get stuck in the "implementation pipeline".
Emphasis on Alpine co-benefits	Activities related to climate change mitigation and adaptation will be designed so as to generate co-benefits with sectoral policies and other cross-cutting topics e.g. demographic change. Systematically exploring the co-benefits of each climate change mitigation and adaptation action, e.g. on health and socio economic issues, the development of specific settlement structures or nature conservation, will improve acceptance of these activities and support the transformation to a climate-resilient society.



4 Overall strategic targets

As illustrated in chapter 1, the Alpine Convention has defined in the past specific policy aims and visions, laid down in formal decisions of the Alpine Conference, which emphasize the need to achieve both climate change mitigation and adaptation. These are used as basis for the strategic layer of the Alpine Climate Target System and merged into two overarching and complementary strategic targets.

TWO STRATEGIC TARGETS	
Climate-neutral Alps	Until 2050, the Alps will reduce their greenhouse gas emissions in line with science-based reduction targets. Representing a wealthy region at the heart of Europe – and yet one particularly vulnerable to rising temperatures, the Alpine states are called upon to implement measures regarding energy efficiency and renewable energy and to develop a climate-neutral economy. Joint action at the level of the Alpine Convention will create an added value to national and regional approaches. This vision includes innovative approaches with respect to lifestyles and consumption patterns and relates to greening all economic sectors as well as private activities.
Climate-resilient Alps	Climate change vulnerabilities and impacts need to be included in long-term decision making, in order to minimise negative effects on the ecosystems, the communities and the local and regional economy and to turn challenges into potential benefits. Under this vision, the Alps take a pro-active and holistic approach, focusing on soft and green adaptation measures, rather than on defensive and infrastructure-based ones. Soft measures which focus on awareness raising and the improvement of adaptive capacities at all levels empower the development of smart and flexible adaptation approaches, in line with other planning and development processes. For instance, tourism regions reflect new lifestyles and new demand aspects and at the same time integrate adaptation issues into the planning process. Green adaptation measures focus on biodiversity, ecosystem-based approaches as well as green infrastructures, and are thus in line with the high commitment to the Alpine environment.

5 Sectoral climate targets

The protection and sustainable development of the Alps rely on a fine balance between the different uses of the natural resources. Therefore, from the onset the practical implementation of the Alpine Convention has been carried out through specific protocols and thematic bodies. The Alpine Climate Target System is accordingly following a sectoral approach and defines concrete targets in ten different sectors of activity, complemented by two transversal fields of actions. These sectoral targets are based on the recommendations of the stock-taking report of the ACB and also consider activities and work focuses of the thematic bodies. As all other elements of the target system, the sectoral targets relate to the time-horizon 2050.

SECTORAL CLIMATE TARGETS		
	Target name	Target description
Spatial planning Targets (_SP)		
T_SP1	Priority for climate change mitigation and adaptation in spatial planning processes	Spatial planning systems and strategies at transnational, national and regional level (legal and institutional framework, instruments, procedures including in cross-border regions) give a strong priority to climate change considerations, including mitigation and adaptation aspects (e.g. by fostering spatial structures that reduce the need for individual car traffic or by stronger cooperation between neighbouring municipalities to use available land more efficiently).
T_SP2	Planning systems in risk management changed from passive to proactive	Climate-related risk management systems with active risk communication activities are implemented as effective tool to support individual risk precaution measures at public and private level throughout the Alps. The preventive role of spatial planning in protection against climate-driven natural hazards is strengthened: securing and restoring of natural flood retention and runoff areas, improved consideration of hazard zone and risk mapping, and more stringent enforcement of zoning and building restrictions in areas exposed to (potential future) risk from various natural hazards.

Energy Targets (_E)		
T_E1	Alpine efficiency solutions	Throughout all economic sectors and activities, the Alpine area uses the full potential of energy-efficiency and energy-savings solutions. In particular, the building stock is fully climate neutral in its operation (including considerations of whole life-cycle emissions), making use of local and sustainable building and insulating materials as well as passive heating and cooling options.
T_E2	Renewable decarbonized Alps	The potential for renewable energies for electricity, heat and mobility demands is fully used in the Alpine area. The development of renewable energy production is based on a common set of guidelines to assess the adequacy of renewable energy sites, under consideration of climate change impacts, conservation of sensitive ecosystems, and other potential trade-offs especially with regards to the alpine environment. All coal-fired power plants in the Alps are shut down until 2030. Gas-fired power plants can remain as reserve capacity but meet the best-available technology standard.
T_E3	Decentralized, sustainable energy solutions for the Alps	An ecologically sound, efficient and resilient system of decentralized energy solutions, integrating new electricity demands in the housing and transport sector and making use of innovative energy storage systems and smart grids, meets the challenges of a fluctuating energy supply as well as potential climate change impacts on energy infrastructures in the Alps.
T_E4	Alpine energy democracy/citizen involvement	The Alpine energy system builds on the principle of energy democracy: citizens, private stakeholders or other members of the civil society are involved in the planning of energy projects and are financially participating in renewable energy and energy savings projects.
T_E5	Climate-proofed Alpine hydropower	Alpine hydropower stations are managed and, if necessary, adjusted to meet the needs of a more fluctuating renewable energy system as well as the challenges of changing seasonal water availability, ecologically required residual water flow and the increasing need to balance different water uses.

Transport Targets (_Tr)		
T_Tr1	Modal shift of Alpine freight transit	Alpine freight transit transport (> 300km) is shifted to rail, going beyond European modal shift objectives, supported by an ambitious implementation of innovative logistics solutions.
T_Tr2	Reduced car-dependency (inner-Alpine and transalpine passenger transport)	Sustainable mobility solutions such as public transport, shared mobility and non-motorized transport are further developed and supported through an improvement in quality and services (multi-modality, integrated timetables and ticketing, comfort and further "smart" innovative services) so that accessibility in remote Alpine areas is improved and there is a significant increase of the share of public transport and non-motorized transport in the modal split for commuter, leisure and holiday mobility.
T_Tr3	Reduced transport demand (passenger and freight)	Transport demand of both freight and passenger transport is reduced through making use of transport saving spatial structures, new working solutions (i.e. telework), pooling of shipments, regional distribution chains and changed mobility and behavioural patterns.
T_Tr4	Decarbonised transport fleet	The road transport fleet is CO ₂ -free (heavy goods and light vehicles), through electric mobility and other alternative drive trains.



Natural Hazards Targets (_NH)		
T_NH1	Alpine risk management	An alpine-wide risk management plan (linked to disaster risk reduction planning processes), integrated with warning systems and ICT-based sectoral management systems, delivers up-to-date information on natural hazard risks to critical infrastructure and ensures the functionality of accessibility of the Alpine territory.
T_NH2	Permafrost and erosion monitoring	An alpine-wide and coordinated permafrost and erosion monitoring is in place which delivers information on short- and long-term effects of permafrost loss and resulting erosion.
T_NH3	Individual risk precaution	Individual risk precaution measures are implemented by the Alpine population, including object and property-related measures, based on improved risk awareness and alpine-specific know-how and skills.

Tourism Targets (_Tou)		
T_Tou1	Car-free, attractive tourism traffic	Tourism destinations and cities, together with transport service providers, enable Alpine tourists to travel without individual car (to and within the Alpine destinations) through attractive public and alternative transport systems.
T_Tou2	Sustainable diversification of Alpine tourism	Alpine tourism destinations provide all-season, diversified and sustainable tourism services and offers – including cultural, health and wellness offers, meeting the challenge of climate change impacts and more fluctuating weather conditions.
T_Tou3	Minimized carbon footprint of Alpine hotels and gastronomy	Alpine hotels and restaurants make use of energy management systems and environmental management systems to minimize their carbon footprint towards carbon-neutrality (including climate-friendly solutions in renovation processes and a strong use of regional services and products). They are certified by relevant new or existing labelling schemes which are transnationally comparable.

Ecosystems and Biodiversity Targets (_Eco)		
T_Eco1	Preserved ecosystems and biodiversity	The loss of endangered species (flora and fauna) and habitats of the mountain zone (including glaciers) is reduced to a large extent. Existing invasive species are effectively managed and measures are enforced to prevent the development of new invasive species.
T_Eco2	Alpine-wide system of protected areas	Adaptation and mitigation aspects are included in all management plans of existing and new protected areas in the Alps. Nature-based solutions are implemented in protected areas. Existing protected areas are further strengthened and new ones, for example UNESCO biosphere reserves, are designated to cover species, habitats and ecological processes that would no longer be included due to the shifts caused by climate change.
T_Eco3	Maintained and restored Alpine ecosystem services	Alpine specific landscape management, including the maintenance of pasture areas and the limitation of scrub encroachment, safeguards high-quality landscapes and ensures the maintenance and restoration of ecosystem services. The crucial benefits provided by Alpine ecosystems for an improved adaptive capacity are taken into account in plans about climate change at various scales.
T_Eco4	Alpine ecological connectivity	Connectivity between protected areas and beyond is maintained and further developed, in order to increase ecosystems resilience and to enable favourable conditions for Alpine species, habitats, and ecological processes.



Mountain Forests Targets (_Fo)		
T_Fo1	Potential of protective mountain forests fully used	The protective function of mountain forests is maintained, restored and enhanced (including adaptation of forest ecosystems to climate change through sustainable adaptive forest management).
T_Fo2	Mountain forests as carbon sink	Mountain forests are adapted to climate change with the aim to maintain their positive role for the local climate and protect or, if possible, further strengthen their carbon sink role.
T_Fo3	Accelerated forest conversion	Conversion of forest ecosystems to close-to-nature forests is achieved, using endemic forest species adapted to climate change.
T_Fo4	Alpine-wide sustainable forest management	A prioritized forest management is fully implemented to balance different regional uses under changing climate conditions (wood as basis for wood products, biomass, non-wood forest products such as resins etc.), supported by an effective system for monitoring the health condition of mountain forests. Priority is given to the production of long-lived wood products.

Mountain Agriculture Targets (_Agr)		
T_Agr1	Energy self-sufficiency of Alpine farms	Through the development of sustainable and site-suitable renewable energy systems, Alpine agriculture is able to cover its energy consumption in a self-sufficient way.
T_Agr2	Alpine value chains for agricultural products	Regional value chains/circular economy are established to reduce transport emissions ("food miles", "product carbon footprint").
T_Agr3	The Alps as model region for organic farming	Mountain agriculture takes on a model role for a shift towards organic farming. The predominant share of Alpine farms is managed on the basis of the principles of organic farming and is certified by relevant labels (incl. aspects of artificial fertilisation, import of fodder etc.).
T_Agr4	Resilient and climate-friendly mountain agriculture	To cope with climate change impacts, mountain agriculture is based on diversified species and crops which suit local conditions, promoting the conservation of traditional crop varieties and animal breeds in regard of a broad pool for adaptation.

Water Targets (_W)		
T_W1	Alpine-wide optimized water management	An Alpine-wide optimized water management as basis for controlling water availability under changing water resources is in place to avoid conflicts, including transnational river basin management as well as zones without any water extraction. Coordination and information concerning water consumption and water demand have considerably improved.
T_W2	Drinking water security	The availability of high-quality drinking water for the Alpine population is secured under relevant climate change scenarios in a sustainable way. The qualitative and quantitative security of the water supply especially in areas threatened by water scarcity is increased by means of planning and technological measures.
T_W3	Alpine-wide sustainable flood risk management	The Alps and their population are effectively protected from floods and the impacts of heavy rain events, preferably through the development of green infrastructure (natural water retention measures, healthy riparian forests and lateral areas as well as protective forests in the watershed, peatland and wetland) or at least greener structural flood risk reduction measures.



Soil Targets (_S)		
T_S1	Minimised land-take and sealing	There is no more additional (net) land-take and land sealing. Brown field redevelopment approaches have been strengthened to protect Alpine-specific soils and their services.
T_S2	Enhanced Alpine soil quality	Alpine soil quality is improved. Especially wetlands and peatlands including riparian forests, are re-established as CO ₂ -sinks in the Alps. Soil erosion is avoided to maintain the function of Alpine soils for mountain agriculture and other sustainable uses.

Municipal Action Targets (_MA)		
T_MA1	Municipalities as transition engines	Municipalities are the “transition engines” for a climate governance structure. Supported by networks and roof organisations, the municipal level holds the knowledge and expertise to bring together climate mitigation and adaptation with other challenges (e.g. preservation of environmental and cultural heritage).
T_MA2	Climate action institutionalized in municipal action	Alpine municipalities have climate strategies in place which include both mitigation and adaptation, on the basis of a good provision with personal capacities in their administrations.
T_MA3	Networks of CO₂-free municipalities	Networks of CO ₂ -neutral municipalities are implemented, including transnational regions. These networks are constantly enlarged to cover the predominant share of Alpine municipalities.

Research and Development Targets (_RD)		
T_RD1	The Alps as model region for vulnerability assessments	The Alps act as a model region for vulnerability assessments, based on a unified set of indicators, and the development of Alpine-specific regional adaptation needs and solutions.
T_RD2	Open cross-cutting research questions answered	Cross-cutting and major research questions are answered through a close interaction between policy makers, administration, NGOs and the research community, including questions on the atmospheric interaction between clouds and land surface, the dynamics of Alpine vegetation etc.
T_RD3	Alpine-wide climate-data availability	Climate data is made available in an open platform to serve decision making processes and information of private and public stakeholders. The exchange on a comprehensive climate data set for the Alps is further continued and enhanced.
T_RD4	Research on climate-driven extreme events and climate impacts on glaciers	Research provides new insights on the effects of climate change, on extreme events and the development of approaches to better cope with residual risk and uncertainties in decision-making.

6 Communication pillar

Implementing the Alpine Climate Target System requires the active involvement of various stakeholders across all the sectors considered above. The purpose of the Communication pillar is to empower the different levels of these stakeholders to take up action. A comprehensive communication strategy is needed in order to develop the communication pillar in a systematic way, ensuring that activities reach out to all relevant stakeholders. Based on first discussions, the climate communication strategy of the Alpine Convention should include the following elements:

- **Target group:** This includes policy-makers at local, regional and national level, public administrations in charge of all relevant sectors, the scientific community, educators, communicators, the general public and further stakeholders – with a special focus on young people.
- **Communication methods/instruments:** Information needs to be provided with different levels of detail, so that it becomes accessible to all target groups (e.g. information for sectoral stakeholders needs to be more detailed, information for the general public should rather have an easy-to-understand and engaging character). Different communication channels and various direct and indirect methods for stakeholder involvement can be applied. The communication

strategy should clearly point to the communication instruments needed to inform each target group on the target system and its underlying knowledge (e.g. different presentation formats of the target system addressing different target groups, information hub bringing together Alpine-related climate change information, dissemination tools for other mountain regions) as well as to methods for initiating a stronger stakeholder dialogue (e.g. via different kinds of events, participation processes, bilateral exchange between networks and platforms).

- **Innovative communication formats:** The Alpine Climate Target System 2050 includes concrete visions for the development of the Alpine region. These have a great potential to apply innovative communication formats, maybe also interactive methods for involvement (e.g. an endless flyer or a standard or digital game for developing implementation pathways for the target system, design thinking approaches) and to apply the story-telling technique in different presentation formats.

The following table proposes activities identified by the ACB, which could be included in the communication strategy

PROPOSAL FOR OPERATIONAL COMMUNICATION AND INFORMATION ACTIVITIES	
Integrated information hub	Develop an integrated information hub and provisions for a better access to climate services, building on existing hubs/information portals. Such integrated information hub should be maintained in a dynamic way to keep track of the state-of-the-art, and it should include elements for active user involvement (e.g. an exchange forum for municipal stakeholders).
“Transition dialogue” – Shaping climate-neutral and climate-resilient Alps 2050	Activities towards awareness raising and a societal dialogue on the impacts of implementation of the climate target system: What does the climate target system mean for life, lifestyles, consumption patterns and behavioural change in the Alps 2050 and what can citizens contribute? This transition dialogue should consider state-of-the-art knowledge on climate communication.
Mainstreaming climate change aspects into schools and training	Strengthen the inclusion of climate change related information in school, higher education and continued education curricula, including “training the trainers”.
Greening of Alpine Convention operations	Implementation and communication of the Green Event standards for the organisation of events of the Alpine Convention (catering, accommodation, travel). Continuation of the efforts of the Permanent Secretariat to reduce the CO ₂ -footprint of the offices.

7 Recommendations

The Alpine Climate Target System provides a vision for climate-neutral and climate-resilient Alps in the year 2050. To reach the targets, ambitious measures and activities at all levels will be necessary. The ACB, in order to contribute to the conscientious implementation of the Alpine Climate Target System and to establish the Alps as a model region, recommends the following actions:

1. OVERALL IMPLEMENTATION – Ambitious targets require ambitious action

The successful implementation of the Alpine Climate Target System will only be possible if all Alpine countries strengthen their cooperation and if they give a clear priority to implementing the Alpine Climate Target System.

Prioritize Alpine-wide coordinated action in national climate action	The Alpine countries will give a high priority to the implementation of common and Alpine-wide approaches within their respective national and regional frameworks – only a common approach with harmonized policies will lead the way towards a full decarbonisation of the Alpine area as well as an effective adaptation to climate change impacts. The ACB will develop proposals for implementation measures under consideration of this priority.
Integrate climate change mitigation and adaptation in all activities (Climate-proofing)	The ACB works together with all Thematic Working Bodies of the Alpine Convention to ensure that their mandates for the new working programme are climate-proofed (consideration of mitigation and adaptation impacts in each activity of the mandate). The implementation of the target system will only be possible if co-benefits/synergies with other fields of action are used to their full extent.
Initiate pilot actions	The ACB will initiate the implementation of pilot actions which are seen as a crucial chance for the Alpine Convention to increase its visibility in the climate policy field and to effectively work towards implementation of the target system. Specific proposals can be brought forward by Alpine countries and/or stakeholders. Specific responsibilities need to be defined for each pilot action.
Mobilise resources	The strong commitment towards implementing the Alpine Climate Target System will have to be reflected in appropriate human and financial resources. The ACB will reflect on means to support specific actions.

Foster exchange with other mountain regions	The ACB, supported by the Permanent Secretariat, will strengthen the exchange with other mountain areas, such as communication outreach activities (e.g. through UNFCCC COP side-events).
Develop a monitoring tool	A monitoring tool, including a set of well-defined indicators to monitor the target achievement as well as implementation of specific activities, will be set up by the ACB.

2. UPDATE OF THE CLIMATE ACTION PLAN – An up-to-date action plan increases capability to act and agility

An updated Climate Action Plan brings together the specific activities on all different levels and streamlines them better. The update of the Climate Action Plan of Evian⁴ would thus be a potential output of the next working phase of the ACB.

Review of adaptation and mitigation measures of Action Plan	Comprehensive review and possible amendment of the measures proposed in the Climate Action Plan 2009 will be conducted, taking into account the Alpine Climate Target System 2050 and the outcome of the regular stock-taking (see below).
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Regular update of stock-taking	The stock-taking of climate change mitigation and adaptation activities ⁵ with relevance for the Alpine Convention will be updated regularly to feed the update of the Action Plan and the information hub.
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⁴ Action Plan on Climate Change in the Alps (Alpine Convention 2009, www.alpconv.org).

⁵ Synthesis report. Stock-taking as basis for defining activities of the Alpine Climate Board (Alpine Convention 2019, www.alpconv.org).



3. COMMUNICATION AND COOPERATION – Ambitious action requires a broad and active support

The implementation of the full Alpine Climate Target System until 2050 will only be possible with the active support of all relevant public and private stakeholders including civil society. This will require a comprehensive communication strategy to better inform and empower all relevant stakeholders including civil society about the ACB's activities and their involvement in all follow-up activities.

Develop a Communication strategy	To increase visibility on and awareness of the target system, the ACB will develop a comprehensive communication strategy. This communication strategy will include information on the relevant target groups, the specific tools (e.g. events, information hub, different presentation formats for the target system), as well as the process to develop the tools and put them to use.
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Explore new forms of cooperation	On the basis of the stakeholder event to be organised in the frame of the ACB, the stakeholder needs in order to overcome the implementation gap will be assessed. Specifically, new forms of cooperation between the ACB and stakeholders, especially other existing Alpine-wide networks (such as the Alpine Partnership for Local Climate Action, ALPACA) and the possibility to jointly develop pilot actions and further implementation activities will be explored.
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7TH REPORT ON THE STATE OF THE ALPS “NATURAL HAZARD RISK GOVERNANCE”⁶

To actively contribute to current discussions on the ecological, economic and social development of the Alps, the Alpine Convention periodically publishes a Report on the State of the Alps (RSA). For the 7th report, the Natural Hazards Platform of the Alpine Convention (PLANALP) has prepared a status quo analysis to examine current changes in the way society handles natural hazards along with recommendations for enhancing risk governance.

Natural hazards are closely linked to climate change. Especially in the Alps, changing hazard areas also create new challenges for effectively handling natural hazard risks. Adaptive behaviours and strategies are essential. Professional risk governance can help to foster mitigation and adaptation on different levels. This is also outlined in several national and transnational strategies on climate change adaptation.

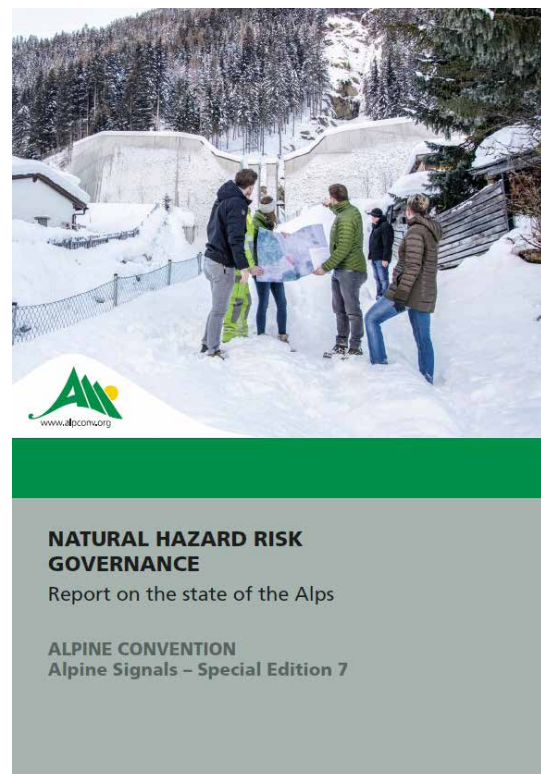
Natural hazards pose an omnipresent constant threat to our living environment and to human life. Alpine areas are particularly prone to a number of hazards, such as river floods, avalanches, rockfalls, debris flows and landslides. With the development of modern democratic states, hazard management as a state responsibility was based on a legal foundation. The various authorities in charge have since then been struggling to ensure and maintain the adequate safety of people, to protect infrastructure and in generally to reduce risks. Natural hazards limit spatial development and need to be considered accordingly. The way hazards are managed is changing. There are changes in institutional capacities, climate conditions and in the involvement of concerned people. Exclusively state-led planning, financing and implementation mechanisms for hazard prevention are gradually being complemented by inclusive processes that involve the public and take natural hazard risk into account.

The report provides an overview on the risk governance concept and its relevance for the Alpine Convention Member States. The overview is followed by an analysis of how risk governance is applied to existing management systems. To illustrate different forms of potential governance mechanisms, good practice examples from the entire Alpine Convention perimeter are included in the report. Although risk governance is a general concept, this report exclusively applies it to specific phenomena, i.e. floods, avalanches, torrential hazards, rockfalls and landslides.

⁶ This text is adapted from the Executive Summary of *7th Report on the State of the Alps* (Alpine Convention 2019, www.alpconv.org).

The report concludes with the following recommendations for enhancing natural hazard risk governance:

- promote risk governance as a concept to enhance risk management;
- use risk governance to develop integrated measures for hazard prevention;
- integrate local initiatives in developing solutions for managing natural hazard risks;
- provide financial and other incentives to include and consider participatory approaches in various steps of developing protection and prevention systems;
- apply risk governance in a practical and professional way.



The Alpine Convention, signed in 1991, has been ratified by the eight Alpine countries of Austria, France, Germany, Italy, Liechtenstein, Monaco, Slovenia, Switzerland and the European Union. It is the first international treaty aimed at the cross-border sustainable development and protection of an entire mountain range. It consists of a Framework Convention complemented by eight implementation Protocols on: mountain farming, tourism, spatial planning and sustainable development, transport, nature protection and landscape conservation, mountain forests, soil conservation and energy. Beside the present Declaration of Innsbruck, common declarations have been adopted on population and culture, climate change and sustainable economy.

The Alpine Convention works through the biannual Alpine Conference, the current Presidency, the Permanent Committee, the Compliance Committee, numerous Thematic Working Bodies, and the Permanent Secretariat. Also, the single Contracting Parties and many Observer organisations contribute to the implementation of the Alpine Convention.

www.alpconv.org

Permanent Secretariat of the Alpine Convention

Herzog-Friedrich-Strasse 15
A-6020 Innsbruck
Tel. +43 (0) 512 588 589 12

Branch office

Viale Druso / Drususallee 1
I-39100 Bolzano / Bozen
Tel. +39 0471 055 352

info@alpconv.org |

