Interreg Alpine Space

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BeyondSnow

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Interreg Alpine Space Project "BeyondSnow"

Resilience-oriented policy guidelines for alpine Snow-tourism destinations

Output 3.1 – April 2025

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1 The Interreg AS BeyondSnow project

Due to climate change, snow coverage in the Alps is very likely to continue decreasing in the future. Research indicates that the Alps have seen an average 8.4% decline in snow cover per decade since the 1970s. The zero-degree level (the altitude at which snow rests) has risen by 250 meters in the last 50 years and is predicted to increase by another 400-650 meters by 2060 (https://www.greenmatch.co.uk/ 2024). In addition to the ecological impacts, especially small– and medium-altitude snow tourism destinations and their communities must also consider the socio-economic consequences of the diminishment of snow coverage (Fig 1).

Therefore, there is an inherent need for destinations at lower and medium altitudes to adapt, since natural snow coverage is not guaranteed anymore and at the same time the possibility for snowmaking is also declining sharply due to high temperatures. The project "BeyondSnow" aims to increase the socio-ecological climate resilience of snow tourism destinations at medium-low altitude to enable them to retain or even increase their attractiveness for residents and tourists. During the project (from 01.11.22 to 31.10.25), new sustainable development paths, transition processes, and implementable solutions are conjointly devised within 10 specific Pilot Working Areas (hereinafter PWAs) and 13 partners (Fig 2). Citizens, destination managers and decision-makers at different technical and political levels are the core group of people involved in this process.

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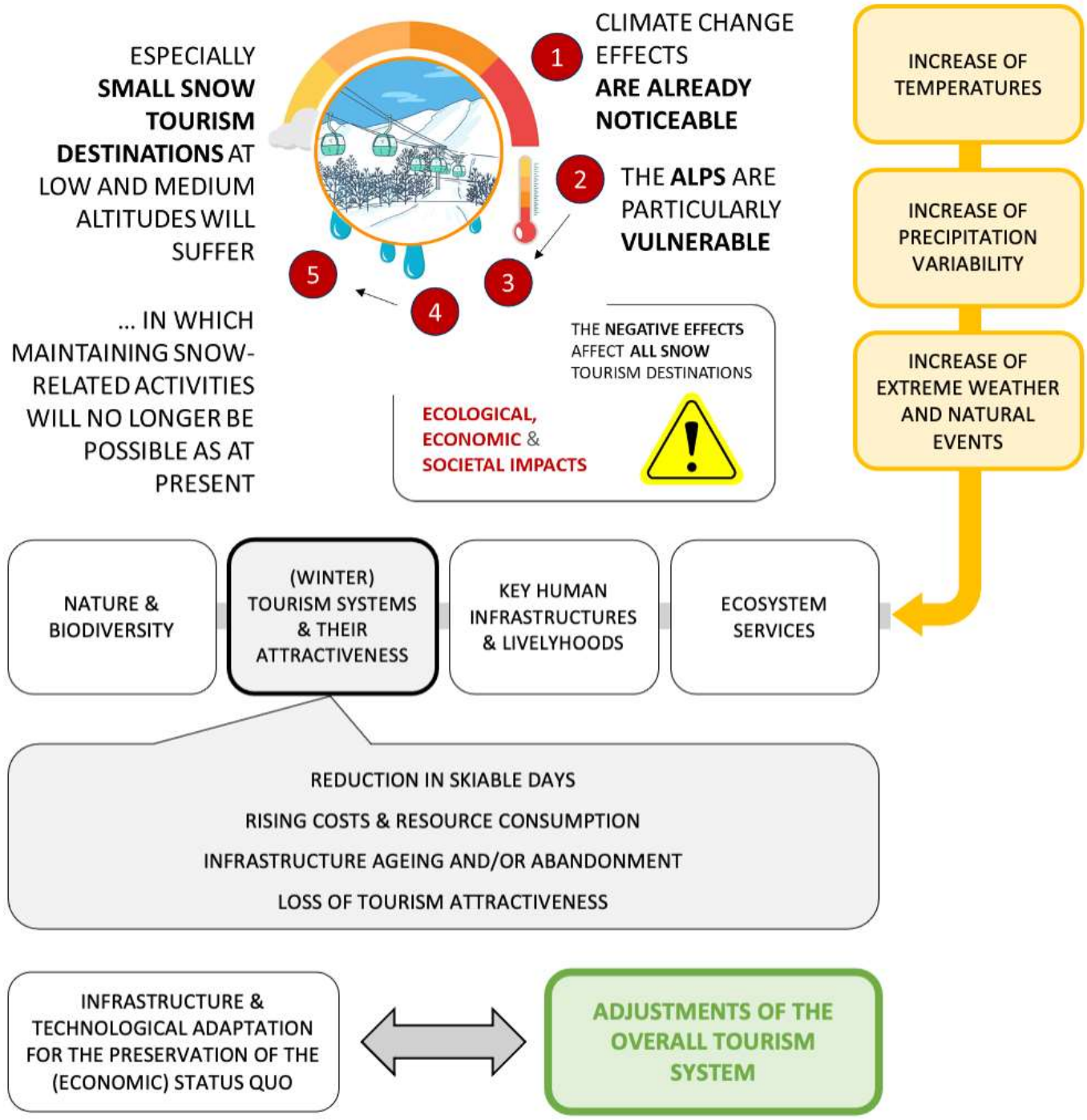

Figure 1. Main climate change impacts (Eurac Research)

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Nr.	ACRONYM	COUNTRY	NAME	TIPOLOGY	PWA
LP	EURAC	IT	Eurac Research Institute for Regional Development	Research Center (non-profit Foundation)	-
PP02	LEGAMBIENTE	IT	Legambiente Lombardy Aps/Onlus	Environmental Association - NGO	Piani d'Erna
PP03	POLITO	IT	Polytechnic University of Turin	University	Monesi
PP04	CMTO	IT	Metropolitan City of Turin	Public Authority	Ala di Stura & Balme
PP05	CARNIAMOUNT	IT	Mountain Community of Carnia	Public Authority	Pradibosco
PP06	PEARLS	AT	EGTC Alpine Pearls	EGTC	Werfernweng
PP07	RAGOR	SI	Development Agency for Upper Gorenjska	Non-profit public institution	Bohinj
PP08	ARCTUR	SI	Arctur Computer Engineering d.o.o.	Private Company	-
PP09	DIT	DE	Deggendorf Institute of Technology	University	Grosser Arber
PP10	METABIEF	FR	METABIEF Ski Resort	Non-profit public institution	Métabief
PP11	SAB	CH	Swiss Center for Mountain Regions	Association	Sattel-Hochstuckli
PP12	AidA	DE	Community Network "Alliance in the Alps"	Association	Balderschwang
PP13	FABTRA	FR	Fabrique de Transitions	Association	-

Table 1. Project Partners and Pilot Working Areas (PWAs)

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2 The four guiding policy principles for climate change transition of STDs

Due to the described challenges of climate change, there is a high probability that (snow) tourism destinations on lower and medium altitudes will not be able to maintain their socio-economic status quo. To ensure future competitiveness, transition policies accompanied by well-defined strategies are essential. The present guidelines should ideally support destination managers, economic actors, regional decision makers and tourism entrepreneurs in their efforts to face the endeavours of climate change threatening more and more snow-related activities at lower and medium altitudes. It is structured according to the following four guiding policy principles towards a resilient tourism destination:

1) Draft a clear picture of the resources and assets your destination has as well as the challenges it faces (see chapter 3 “Main characteristics of Pilot Working Areas”)

2) Select the appropriate methodology for stakeholder mobilisation and participation (see chapter 4.1 “Transition methodologies”).

3) Elaborate a transition strategy, including an action plan, aiming at increasing the climate change resilience of your destination, and don’t be afraid of potential long-term adaptations of the strategy, treating it as a “living document” (see chapter 4.2 “Transition strategies”).

4) Perform a constant monitoring of the strategy and necessary adaptations of measures considering also the changing environment (see chapter 5 “Climate resilience tool”).

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3 Main characteristics of the Pilot Working Areas

The PWAs are spatially distributed across six Alpine countries, differing in size, development and vulnerability levels. The Vulnerability Map (Fig. 2), a key component of the project's efforts, integrates factors such as exposure to climate variability, sensitivity of local systems, and adaptive capacity to construct a comprehensive assessment framework for the entire alpine space. The map and the related report with all the details on the vulnerability categories are available online on https://www.alpine-space.eu/wp-content/uploads/2024/03/BeyondSnow-Vulnerability-Map-deliverable-1.1.2.pdf.

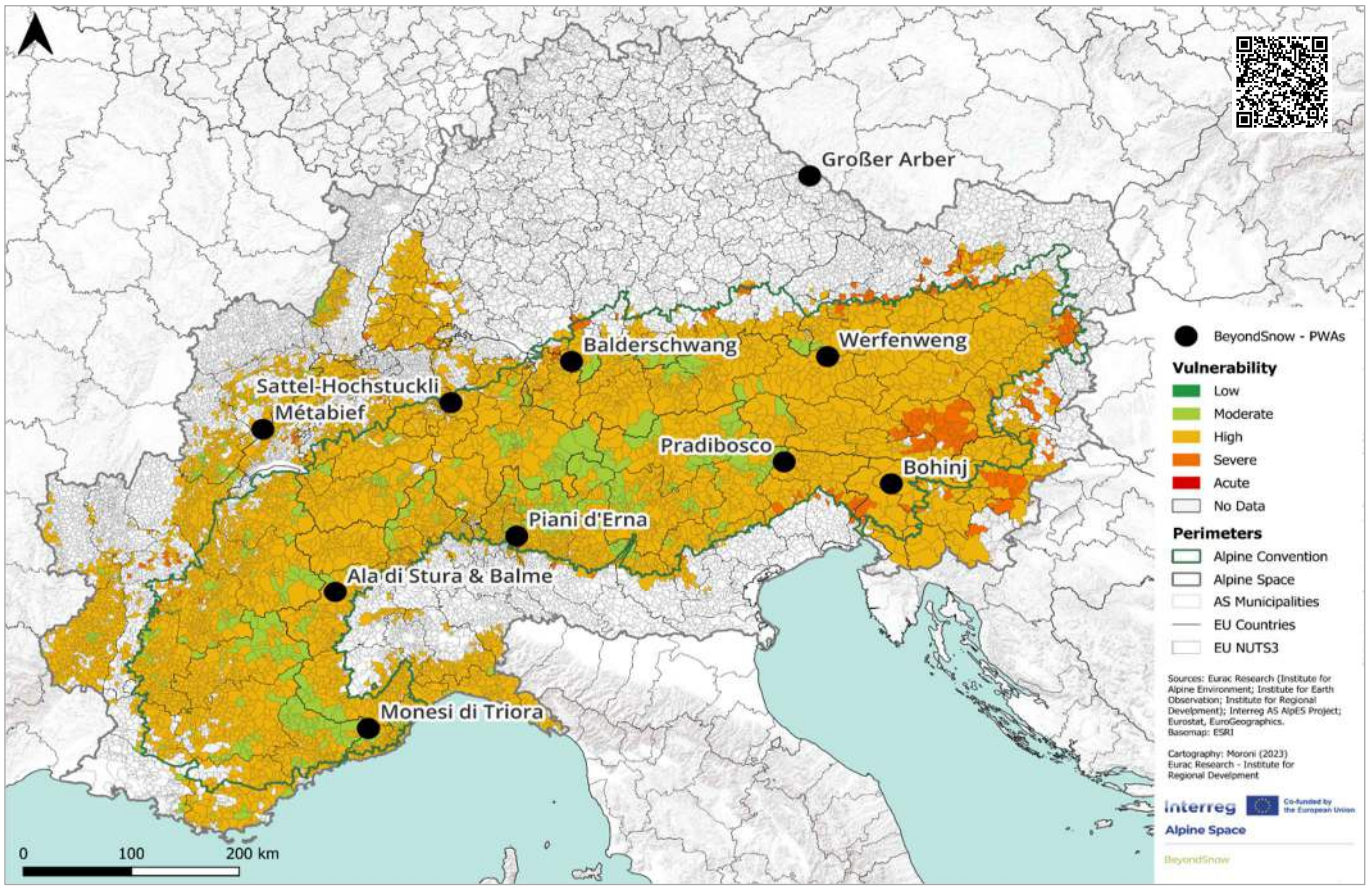

Figure 2. Vulnerability map with test sites (Eurac Research)

The ten PWAs range from those with a strong accommodation sector to day-tourism destinations and from those with many ascent facilities for alpine skiing to those where climate change and natural hazards already put an end to snow related tourism. Hereinafter a brief characterisation of the PWAs. For a more detailed description of the PWAs, please refer to the in-depth analysis document: https://www.alpine-space.eu/wp-content/uploads/2024/03/BeyondSnow-Report-and-database-of-PWAs-tourism-systems-deliverable-1.3.1.pdf

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PP02 - Piani d'Erna (Italy)

The altitude of the PWA extends from 710m a.s.l to 1,435m. The PWA is part of the municipality of Lecco reachable from the city solely through a cable car (57,803 passengers in 2022). The PWA does not feature any skiing infrastructure anymore and can be classified mainly as a day-tourism destination. Besides a small number of apartments, there are no accommodation infrastructures. Piani d'Erna can be categorized as a mono-seasonal destination (Summer), with shoulder seasons.

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Figure 3. Landscape of Piani d'Erna

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PP03 - Monesi (Italy)

Monesi is a small hamlet, administratively shared by two municipalities (Mendatica and Triora) and is located in the Ligurian Alps at the bottom of the mountain Saccarello (altitude 1,376 m). Currently it has no resident inhabitants. Monesi initiated its ski tourism development in the 1950s, during which the first lifts were built. In 2008 the third chairlift opened. In recent years climate change and natural hazards led to the closure of all ski facilities, a process that had a serious impact on the economic viability of the Hamlet. The tourism in the Arroscia Valley can be defined as transit tourism with overnight stays, potentially resulting in short average lengths of stay, mostly linked to the different outdoor activities that can be practiced within the territory.

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Figure 4. Lanscape of Pradibosco

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PP04 - Ala di Stura & Balme (Italy)

The altitude of the PWA extends from 800m a.s.l (Ala di Stura) to 3,676m a.s.l (Uja di Ciamarella). The main existing skiing infrastructure is not operating anymore, also due to a fire in 2019. Currently Ala di Stura & Balme has an overall population of 581 inhabitants. Its number of 2nd homes encompasses 1,700 units. In the last years the overnights fluctuated between 7,000 and 9,000. Relating to the arrivals & overnights, Ala di Stura & Balme exhibit a three times stronger summer season in comparison to the winter season.

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Figure 5. Landscape of Balme (Gianni Castagneri)

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PP05 - Pradibosco (Italy)

The Municipality of Prato Carnico is located in Val Pesarina at 686m a.s.l with 870 inhabitants. This area is one of the eight valleys of Carnia, a region in the northeastern Italian area of Friuli. The small ski facility, called Pradibosco is located within Prato Carnico. It is equipped with 1 ascent facility, for a total of 0.8 slope km that goes from 1,135m a.s.l to 1,245m a.s.l. Prato Carnico relies mainly on the domestic tourism market: In 2022 out of the total of 4,493 overnights, about 78% of Prato Carnico's guests were Italians, while 22% were foreigners. Most of the tourist flows are concentrated in short periods: in winter mostly from December to February and in summer mostly during August, although there is no specific data about seasonal flows. Due to its statistical inclusion in the larger area of Carnia, data related to yearly arrivals & overnight stays are not available specifically for the municipality of Prato Carnico.

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Figure 6. Landscape of Prato Carnico (Franco Casali)

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PP06 - Werfenweng (Austria)

Werfenweng is a municipality in the St. Johann im Pongau district in the province of Salzburg in Austria. The altitude of the PWA extends from 902m a.s.l to 1,834m a.s.l and has a population of 1'099 inhabitants. It offers 10 ascent facilities, 17 slopes and 29 slope km. It features two cable cars, one of which connects the town centre with the skiing area. In terms of overnights, Werfenweng has a slightly stronger summer season compared to the winter season (e.g. 145,927 overnight stays in summer 2024 versus 118,376 overnight stays in winter 2023/24). Being also part of the Alpine Pearls network, Werfenweng has been a pioneer in sustainable mobility for decades, trying to promote travelling to and from the destination by train through on-demand mobility offers and the rental of electric cars on site.

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Figure 7. Landscape of Werfenweng

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PP07 - Bohinj (Slovenia)

The PWA extends from 500m a.s.l to 1,800m a.s.l and is located in the northeastern part of Slovenia. It offers 25 ascent facilities, 33 slopes and 28 slope km. It is structured in 5 separate ski centres. The PWA Bohinj comprises the main municipality Občina Bohinj, which has an overall population of 5,676 inhabitants and is part of Triglav National Park. In 2022 Bohinj has seen an all-time high of arrivals and overnights stays, which were respectively 299,053 (arrivals) and 820,939 (overnights). The average distribution of overnights between winter and summer starting with the summer season 2013 (excluding 2020) amounts to 22.5% in winter and 77.5% in summer (current overnights distribution: winter season 2021/22 24.5%, summer season 2022 75.5%).

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Figure 8. Landscape of Bohinj

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PP09 - Großer Arber (Germany)

The PWA Großer Arber is located in the eastern part of Bavaria, bordering the Czech Republic. It encompasses several municipalities with attractive tourism offerings that complement traditional skiing. The municipality of Bodenmais serves as a key tourism destination with a diverse accommodation infrastructure, while the ski infrastructure is located in Bayerisch Eisenstein. The altitude of Großer Arber ranges from 1,050 m a.s.l to 1,456 m a.s.l. The ski area offers 19 ascent facilities, 11 slopes, and 12 km of slopes. In 2022, the total number of overnight stays is at 739,154. The distribution of arrivals and overnight stays of Großer Arber shows that the summer season is slightly stronger than the winter season.

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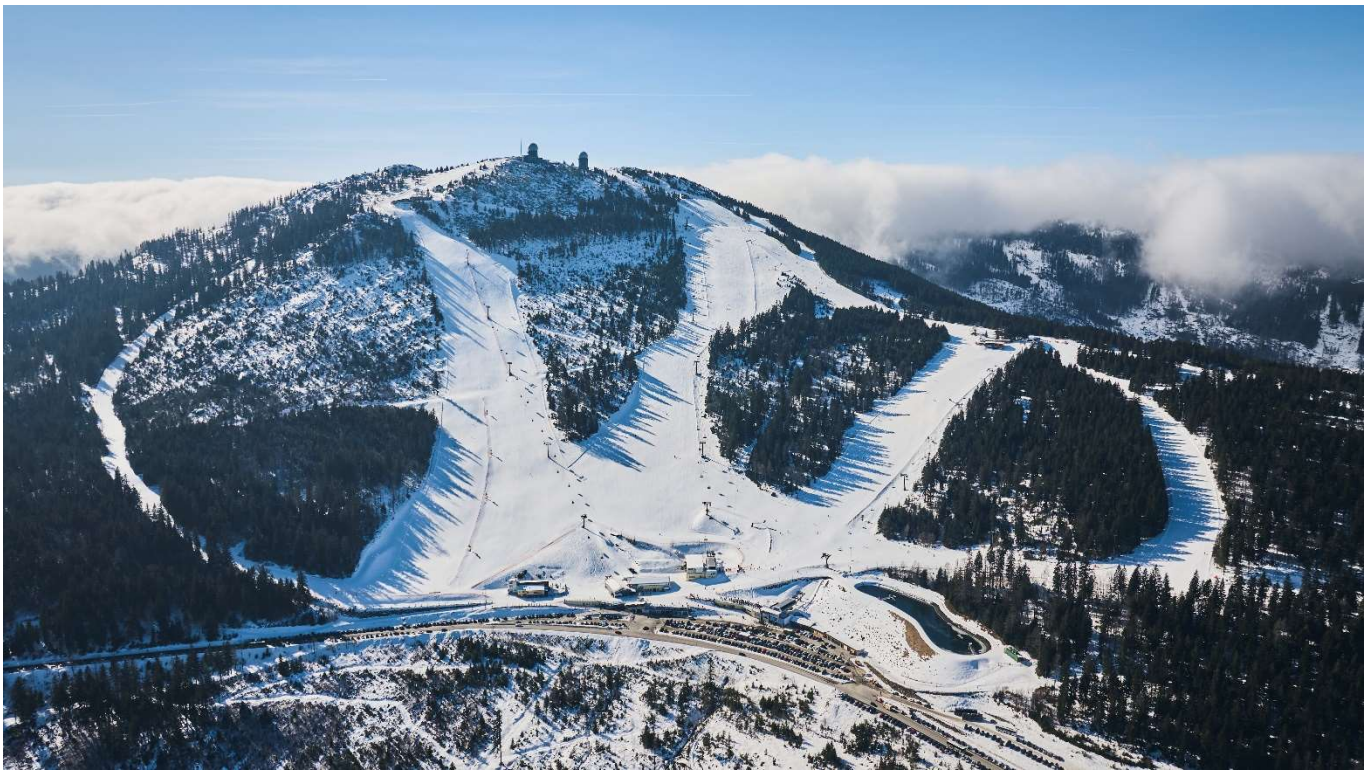

Figure 9. Landscape of Großer Arber. Copyright: Woidlife Marco Felgenhauer (2025)

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PP10 - Métabief (France)

The Métabief resort (perimeter of the alpine skiing area) is located in the Jura Massif, in eastern France, close to the Swiss border and is part of Pays du Haut-Doubs. The municipality of Métabief is with 1,400 inhabitants the main town of the resort. The mid-mountain alpine ski resort extends from 1,000m a.s.l to 1,400m a.s.l and offers year-round activities. It offers 26 km of downhill ski slopes, 14 ski lifts. The Pays du Haut Doubs featured in 2023 816,000 commercial overnight stays, 40% summer (from May to October) and 60% winter (from November to April).

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Figure 10. Landscape of Métabief

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PP11 - Sattel-Hochstuckli (Switzerland)

The altitude of the PWA extends from 779m a.s.l to 1,480m. It offers 4 ascent facilities, 6 slopes for alpine skiing (14 km) and lies in the municipality of Sattel (2,010 inhabitants). Sattel-Hochstuckli presents itself as a day-tourism destination easily accessible from surrounding cities such as Zürich, Zoug and Lucerne. Thats why the accommodation landscape is almost non-existent besides a small number of second homes and very few small hotels. In the tourism year 2022-23 the cable car company Sattel Hoch-stuckli AG (SHAG) counted 148,286 passengers. The distribution of the passages gradually shifted over the years towards the summer season, which in 2019 registered 54% and in 2023 67% of the yearly passages.

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Figure 11. Landscape of Sattel-Hochstuckli (Thomas Egger, SAB).

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PP12 - Balderschwang (Germany)

Balderschwang in the Bavarian region Allgäu, has an overall population of 375 inhabitants. The altitude of the PWA extends from 1,044m a.s.l to 1,437m a.s.l. It offers 13 ascent facilities, 34 slopes and 41 slope km. The municipality is highly dependent on tourism as a source of income. The overall distribution of the overnights between winter and summer for the tourism year 2021/2022 was almost equal, with 48.3% in winter (91,765 overnights) and 51.7% in summer (98,312 overnights).

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Figure 12. Landscape of Balderschwang (TourismusHoernerdoerfer_Frithjof-Kjer)

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4 How the PWAs tackle climate change – Approaches and strategies for transition

4.1 Methodologies for a transition strategy

The BeyondSnow project highlighted that many snow tourism destinations will not be able to maintain their socio-economic status quo, due to geographical restrictions and climate impacts. To ensure future competitiveness, a transition process accompanied by a well-defined strategy is essential. The 10 PWAs developed different transition strategies in order to face the climate endeavours and become more resilient in the future. These strategies were documented in the local languages of the PWAs to facilitate their integration into the PWAs' development plans after the project's conclusion. Each strategy includes details about the project and the specific PWA, along with a summary of the strategy development process, a SWOT analysis, a vision statement, and the proposed adaptation measures.

The strategy development process for each PWA involved a comprehensive participatory approach, divided into four main phases:

Firstly, the initial data analysis involved a thorough evaluation of the tourism systems within the PWAs, utilizing both quantitative and qualitative data collected by the project partners. This data included environmental, social, and economic aspects, providing a comprehensive overview of the current state of each PWA's tourism system. The assessment was vital for understanding the baseline conditions and pinpointing key areas for intervention. In a second step, the method of Sensitive Diagnosis, developed by La Fabrique des Transitions, was employed in the PWA to engage local stakeholders in the BeyondSnow project, enhance the qualitative data analysis of the PWA, and lay the foundation for the codesign laboratories. Moreover, to better understand the impact of climate change on the PWAs' tourism systems, surveys were distributed to tourists during both winter and summer seasons. These surveys aimed to capture the current and future effects of climate change on tourist behaviour and the attractiveness of the PWAs. Finally, the co-design laboratories, held as workshop events in the PWA, facilitated a participatory and implementation-driven approach to developing viable transition strategies for climate change adaptation, with a particular emphasis on winter tourism. This phase was crucial for the collaborative development of the strategies, ensuring they were practical and aligned with the needs and aspirations of the involved communities, while emphasizing the local resources of each PWA.

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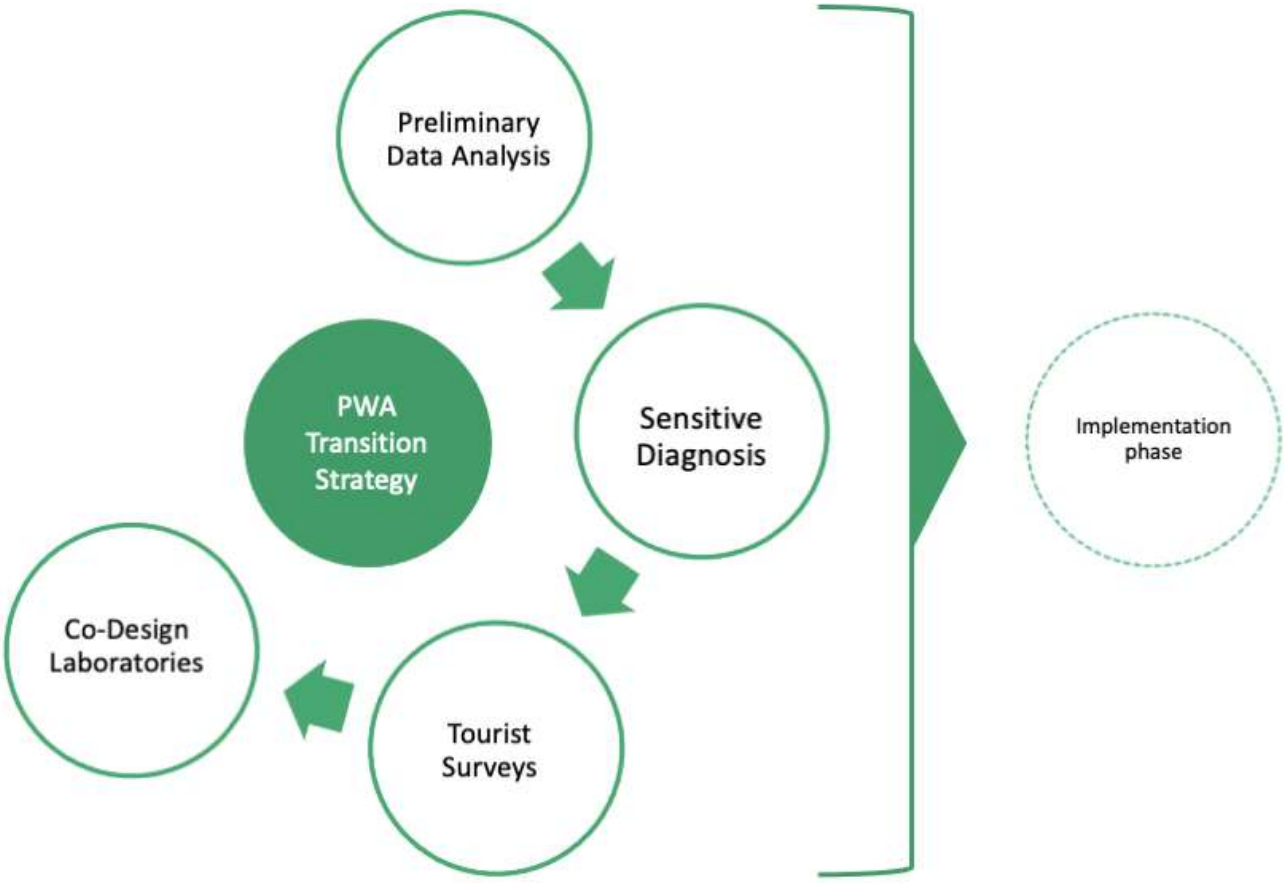

Figure 13. PWA Transition Strategy development process

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Overall, the strategy development process involved raising awareness, transferring knowledge, and integrating a variety of stakeholders and was structured according to Fig 12. Further details on the methods of Sensitive Diagnosis and Co-Design Laboratories can be found in the "Guideline for the Participatory Elaboration of the Climate Change Adaptation Strategy." https://www.alpine-space.eu/wp-content/uploads/2024/11/BeyondSnow-Guideline-for-the-Participatory-Elaboration-of-the-Climate-Change-Adaptation-Strategy.pdf .

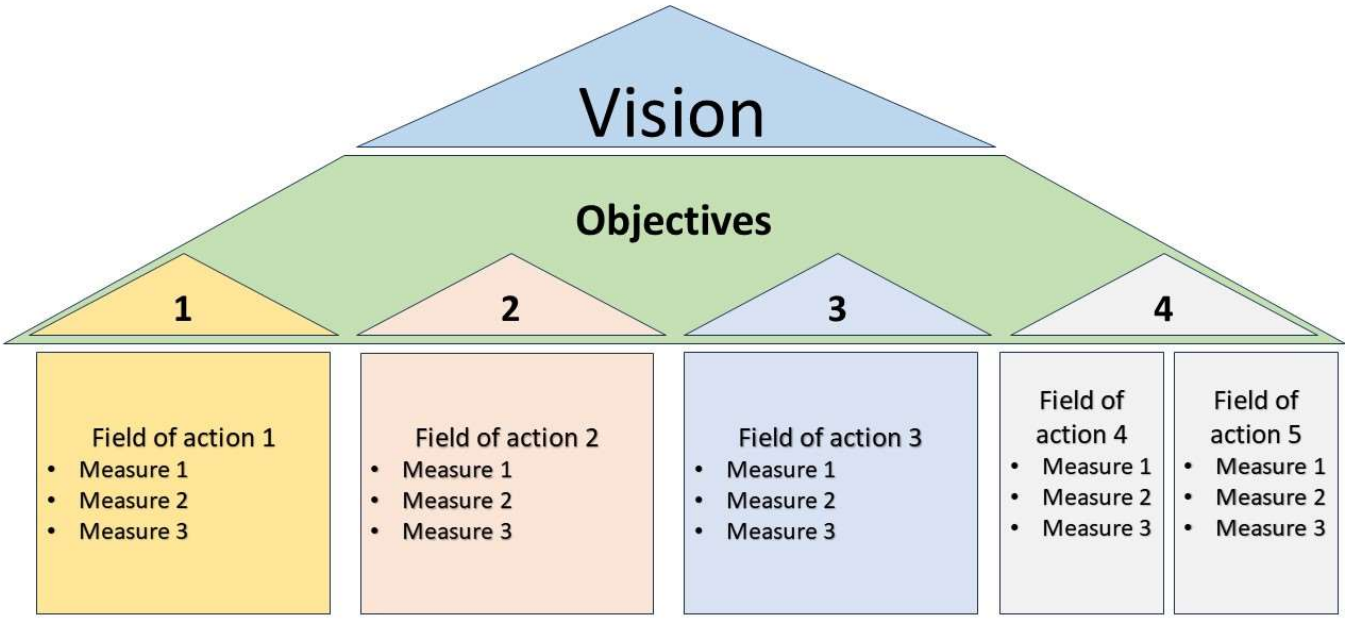

Figure 15. Structure of the transition strategies: vision, objectives, field of actions and measures.

Go to the BeyondSnow Guideline
for the Participatory Elaboration
of the Climate Change Adaptation Strategy

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4.2 Transition strategies

The analysis of the 10 PWA transition strategies revealed that nearly all destinations aim at strengthening the attractiveness of their year-round tourism. Through the additional in-depth analysis of the strategies, several objectives, through which the PWAs aim at increasing their climate change resilience, were identified and generalized in the following way:

1) Securing and optimizing ski operations
2) Expansion of winter offers
3) Expansion of summer offers
4) Development of sustainable tourism
5) Diversification and strengthening of the local and/or regional economy.

Further details on strategies of PWAs and a list of all measures can be found in Output 2.2 (https://www.alpine-space.eu/wp-content/uploads/2025/02/O2.2-PWA-Transition-Strategies.pdf). Hereinafter, the brief description of each objective as well as exemplary objective-related approaches within the PWAs.

Go to the BeyondSnow PWAs Transition Strategies Report

4.2.1 Securing and optimizing ski operations

This objective involves the expansion of snowmaking, the investment in facilities at higher altitudes, the improvement and professionalisation of slope maintenance as well as the decommission of unprofitable ski slopes and focusing the (snowmaking) infrastructure on slopes, which have geographic, climatic and strategic advantages (e.g. north orientation, more appropriate for main target groups etc.).

Großer Arber

Großer Arber benefits from relatively high snow reliability, most of all due to the ski resort's northern slope orientation, exhibiting good snow conditions and being equipped with modern snow-making systems. One of its objectives is the "strategic differentiation through future-proof winter tourism", which follows the optimisation of skiing activities, including: (1) innovative systems for real-time information on weather and snow conditions as well as yield management in ticketing; (2) optimisation of the parking system within the ski resort; (3) optimisation of snowmaking (energy efficiency, water usage, snow farming, etc.) along with improved slope preparation; (4) infrastructure improvements in the cross-country skiing area. These

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optimisations also aim at minimising the ecological footprint of the ski resort, with plans to increasingly integrate the sustainability efforts within the destination's communication strategy in the future.

Sattel Hochstuckli

After several snow-unreliable winters, the situation in Sattel-Hochstuckli looked bleak. In the winter season 2022-23 the financial situation worsened dramatically, and the Board of Directors of Sattel-Hochstuckli AG (SHAG) decided to close two of the three T-bar lifts for economic reasons and to start focusing the strategic endeavours on specific target groups, i.e. to orientate the offer towards beginner skiers. The "BeyondSnow" project team welcomed this decision and updated the overall tourism strategy, including the action plan. The latter encompasses, among others, the development of a new ski touring offer to the top of the Sattel-Hochstuckli, and a package that involves ski rental and ski beginners' courses for families and children. Altogether, the action plan includes 22 participatively designed measures for winter and summer activities, approved by the municipal council (https://www.sattel.ch/leitbilder/284426).

4.2.2 Expansion of winter offers

The expansion of winter offers can be pursued through the development of both snow-dependent and snow-independent activities. This can involve the expansion of traditional winter activities, such as cross-country skiing and winter hiking, the introduction of new activities, such as snow kiting, tubing, winter golf, etc. as well as the organisation of winter events and winter sport competitions, oftentimes based on new intra- and inter-destination cooperation models.

Bohinj

Bohinj, located at a low altitude in the southern Alps, experienced rising winter temperatures, fewer days with snow cover, and decreased snow depth. High temperatures and limited water availability in the Karst highlands, combined with the destination's position within the Triglav National Park, don't allow technical snowmaking. Increasingly, winters feature rainy rather than snowy days, resulting in high management difficulties of snow-based and outdoor activities. Therefore, the PWA focusses on alternative weather-independent products and offers, and sustainable approaches. Developed measures are (a) building of a covered ice rink in Bohinj; (b) creating tourism packages that include indoor and activities provided on a regional level; (c) developing the dark sky niche product; (d) restructuring the existing Kobla outdoor centre. Most of the newly developed products and offers are also designed for year-round viability through their flexible adaptation to the demand and need of tourists and residents.

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Balderschwang

Balderschwang's strategy encompasses a variety of different objectives, one of which is "Balderschwang's winter is attractive with or without snow", including measures for the development and promotion of complementary winter activities and offers next to skiing and cross-country skiing. These encompass the "Hiking Olympics" with stations and games at the different Alpine huts, culinary offers such as cooking courses for regional cuisine, maintenance of winter hiking trails without snow, development of a sledging run for families and a night slope for cross-country skiing, and guided nature tours organised by the nature park "Nagelfluhkette" suitable for families. Further measures are oriented towards the improvement of the PWA's internal and external cooperation, the objective "sustainable tourism destination" as well as better aligning the structure of the tourism system towards the diversification and strengthening of the local and regional economy.

4.2.3 Expansion of summer offers

The expansion of summer tourism can be pursued through the expansion of traditional activities and their correlated infrastructure, such as hiking, biking and thematic trails, the introduction of a broad range additional activities, such as adventure fun sports (paragliding, zipline, mountain cart etc.) and the organization of events.

Piani d'Erna

Featuring abandoned skiing activities, dismantled related facilities, and with the awareness that such activities are now unfeasible, the destination is fully setting to the summer season based on its natural and scenic potentials. Within the co-design laboratories, a series of general objectives were developed. The elaborated strategy encompasses measures to strengthen the summer offer such as the renovation/adaptation of nature trails (Sentiero Natura) and related notice boards (translation into English, digitisation), the improvement of the accommodation infrastructure by increasing the number of beds and restoring existing accommodations, as well as the promotion of hiking trails and outdoor activities targeting specific segments and shoulder seasons. Furthermore, the loss of cultivated landscapes due to the decline in agro-pastoral activities will be addressed by an agricultural revitalisation plan.

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Monesi

The strategy of Monesi and the Arroscia Valley focuses specifically on expansion of summer offers, aiming at enhancing local culture and promoting sustainable tourism by diversifying the tourism offer through the restoration of thematic itineraries and the integration of territorial narratives. It also aims at strengthing tourism services, creating travel packages, introducing innovative and green transport solutions, and maintaining outdoor infrastructures. The goal is to extend average length of stay and improve connections with the local and cross-border tourism networks. Additionally, the strategy promotes cooperation between the local community and institutions to foster participatory processes and joint projects, such as the participation at funding programs and the implementation of shared governance models, supporting the local community's leadership in the development process. The first pilot action, "Construction of the White Cuisine Road," aims to integrate the gastronomic resources of the Arroscia Valley into a sustainable territorial network, enhancing white cuisine as an identity heritage. This thematic route will offer itineraries guiding visitors through local trattorias and restaurants, promoting workshops, markets, and enogastronomic events to foster collaboration among entrepreneurs.

Métabief

Faced with the effects of climate change Métabief closed the Piquemiette sector in 2024, located on the wooded north-eastern slopes of the Mont d'Or. Currently, the PWA features four chairlifts and 8 T-bar lifts, serving 26km of ski slopes at altitudes of between 1,000 and 1,463 metres. Starting from an economic feasibility assessment regarding the replacement of 4 chairlifts including an internal climate projection in 2016, the PWA initiated a transition towards becoming a "four-season mountain resort", backed by the Department of Doubs, anticipating the end of alpine skiing in Métabief in the decade 2030-40. This process is reinforced with the strategy elaborated in the framework of BeyondSnow, focusing on the development of new economic tourism models for the spring and summer periods such as the development of new activities for families & children from the bottom of the resort to the Morond summit and towards the lake and the development and requalification of the Morond summit from a contemplative point of view as well as service offers. Furthermore, the destination is working on foundations for the future mountain station (statutes, development of internal skills, new indicators and monitoring), the identification of new vocations of each sector, limit resource use conflicts as well as the establishment of a marketing plan and identification of new financing models.

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4.2.4 Development of sustainable tourism

Next to the sustainable development in terms of mobility, energy management, use of natural and cultural resources as well as involvement and inclusion of local stakeholders, this objective encompasses also inserting sustainability within the destinations' marketing and communication activities.

Werfenweng

Werfenweng envisions a tourism future with year-round, climate-resilient activities, continuing snow-based activities as long as possible, focusing on families, relaxation-seekers, and gentle tourism, gradually reducing carbon impact and fostering a deep connection with nature. Promoting soft mobility for over 20 years, the PWA invested in measures that allow tourists to reach the destination by public transport and moving around within the destination with a variety of sustainable transport means on the spot (village shuttle, e-car rental, e-fun mobility etc.). All these services are summarized in its Werfenweng Card https://www.werfenweng.eu/urlaub/werfenweng-card/. In the future the card will be further improved as well as becoming the blueprint for a dedicated inhabitant card. Furthermore, sustainable tourism will be enhanced by strengthening marketing efforts towards new target groups, e.g. "health-conscious holidaymakers" and "senior citizens and children", stronger positioning for the target group of train/local public transport travellers, implementing activities in the area of climate protection and climate change mitigation, developing a concept for improved stakeholder cooperation (stakeholder round table), as well as initiating a platform for the promotion of stakeholder communication through structured stakeholder exchange to facilitate meaningful cooperation.

Ala di Stura & Balme

Although being a mountain tourism destination with a high natural and cultural attractiveness, Ala di Stura & Balme exhibits traits of mono-seasonal destinations, with tourism flows that resemble seasonality patterns usually found in "sun & beach" destinations (strong summer season, weak shoulder seasons, almost inexistent winter season). In fact, in 2022 65% of the overnights were registered in the months of June, July and August, making the destination highly dependent on the tourism flows of these three months. Furthermore, Ala di Stura & Balme suffers from high traffic frequencies of individual cars. In order to tackle these challenges, the PWA's transition strategy covers the implementation of new mobility solutions (on demand and public transport) to reduce the inflow of cars to the Pian della Mussa area combined with parking management and traffic regulations. In addition, soft and sustainable tourism offers are proposed, such as the development of hiking tourism, enhancing the natural, landscape, hospitality and human resources of the destination, supporting the PWA to become a sustainable tourism destination.

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4.2.5 Diversification and strengthening of the local/regional economy

The tourism sector is part of and strongly connected to the broader socio-economic system of each tourism destination on a municipal as well as regional level. This objective incorporates this aspect and related measures aim at fostering intra- and inter-destination collaboration between sectors as well as underlining the importance of tourism for the overall socio-economic development and viability of the destination and its surrounding area.

Pradibosco / Val Pesarina

The PWAs vision is “Val Pesarina: a welcoming valley”. In order to enhance services and improve the quality of life, the PWA defined a set of measures specifically targeting the socio-economic system of the valley: Improving economic and public services in the valley, fostering collaboration within local enterprises, increasing local involvement and sense of cooperation in the local community. Furthermore, deseasonalization is seen to be achievable through the expansion of year-round tourism offers as well as through a better valorisation of the ski facility. The success of the proposed initiatives relies on both project funding and the active involvement of local and regional administrations. Community engagement and support are essential to ensure long-term sustainability across all areas of intervention. In this context, public authorities are encouraged to collaborate in the creation and promotion of year-round tourism offerings, distributed throughout the Val Pesarina. This requires effective coordination among all service providers operating in the territory. A key measure is to enhance both the quality and availability of infrastructure and services, particularly in smaller villages. These improvements aim to elevate residents’ quality of life, foster a stronger sense of community and territorial identity, and, as a result, enhance the region’s appeal to visitors. Cooperation among all tourism-related enterprises within the valley is vital. A unified approach will generate added value for local businesses and create conditions conducive to attracting new entrepreneurs and residents to the area. To stimulate tourism across all seasons, new initiatives and facilities must be strategically implemented. Notably, a group of local entrepreneurs has proposed establishing a business network within the valley, and its feasibility is currently under evaluation.

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4.3 Recommendations for the elaboration of transition strategies

For the elaboration of transition strategies several aspects have to be considered. The following list of key actors, success factors and challenges are based on the experiences made in the different PWAs. The level of involvement and the specific roles of actors as well as success factors and challenges varied, but several key patterns emerged and were categorised in four topics:

1) **Who are the key actors to be involved in the elaboration of a transition strategy?**

Local Administration & Government Bodies

- Mayors and municipal councils played a crucial role in nearly all PWAs, often leading the transition efforts. Together with regional administrations they contributed to policymaking and coordination.

Destination Management Organizations (DMOs) & Regional Development Organisations

- Destination management organizations (DMOs) were essential in all areas, providing strategic input and ensuring alignment with regional tourism objectives. Some PWAs, such as Bohinj, Werfenweng, Balderschwang and Grosser Arber highlighted the involvement of broader regional associations like development agencies and nature parks, which contributed with thematic expertise and communication.

Private Sector & Business Community

- The hospitality industry (hotels, restaurants, and accommodation providers) was engaged in PWAs like Großer Arber and Werfenweng and to a lesser extent in day-tourism destinations such as Sattel-Hochstuckli or Piani d'Erna. Representatives from ropeway facilities (director, operations manager, marketing team) were key players especially in Grosser Arber and Sattel-Hochstuckli. Local businesses, particularly small entrepreneurs from different sectors, participated through councils created during the participatory processes, as seen in Pradibosco. Werfenweng emphasized the role of civil society, including trade associations and community groups as well as mobility providers in shaping sustainable tourism transitions, such as cable cars, transport services, and rental companies.

2) **Who takes the lead among key stakeholders?**

- In most cases the leadership of the elaboration of a transition strategy was in the hand of local/regional authorities and/or the destination management organisations as well as cable car companies. Often these actors were intensively interweaved with each other.

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- Consultants, project partners, and funding organizations played a significant supporting role in many PWAs. External partners helped foster the strategy, but the initiative had to come from within the region.
- Some PWAs experienced positively that that leadership was taken by a neutral third party to avoid conflicts.

3) **What are the success factors for the elaboration of a PWA transition strategy?**

Inclusive Stakeholder Engagement & Strategy Development

- Involvement of a broad range of stakeholders from both public and private sectors and organization of regular exchanges with relevant stakeholders, such as monthly meetings.
- Implementation of active participation methods, such as co-design laboratories and structured cooperation methodologies leading to the elaboration of a strategy that can support the community through current and future changes. Incorporation of informal exchanges such as study tours and shared meals.
- Inclusion of external perspectives, which can be valuable in convincing stakeholders, through professional, understanding, and convincing experts.
- Development, continuation and expansion of national-level connections to ensure wider strategic alignment.
- Combination of long-term vision with short-term tangible actions, addressing multiple systemic areas like tourism, water resources, mobility, and environmental policies.

Governance Coordination & Cooperation

- A motivated mayor and good cooperation among stakeholders contribute to success. Facilitation of regular communication and structured follow-ups to maintain engagement and alignment.
- Ensuring a mix of top-down leadership and grassroots involvement helps to develop an effective strategy.

Public Awareness & Climate Considerations

- Early engagement and anticipation of future challenges, including the potential decline of the local ski industry, are necessary among all actors and the local community.
- Acknowledge and address undervalued or historical critical issues that may impact acceptance of the transition strategy
- Raising public awareness about climate impacts on mountain tourism can ensure support from the community.

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Addressing Key Development Themes

- Consideration of human resources, infrastructure (e.g., lifts), governance, and diversification of tourism beyond skiing.
- Understanding different perspectives within the community helps craft an inclusive strategy.

4) **What are risks and hindrances when developing a transition strategy?**

Lack of Stakeholder Engagement & Participation

- Limited stakeholder involvement, particularly from those active in the valley but not residing there.
- Low awareness or interest in the topic, lack of intrinsic motivation, and reluctance to change.
- Active resistance from important players who are against the transition strategy and may obstruct change and/or progress.

Governance & Political Barriers

- Lack of local government support and/or interest in the initiative.
- Political resistance within the municipality, where new ideas and/or change are actively opposed.
- General distrust of decision-makers.
- After successful development of the strategy, failure to adopt it within municipal councils.

Structural & Societal Challenges

- Depopulation and a feeling of abandonment in certain areas make long-term engagement difficult.
- Reluctance to disrupt established balances and systems, leading to inertia in decision-making.

Process & Operational Limitations

- Delays due to competing obligations among key actors.
- Time constraints, where the project requires more time for effective implementation than is available.
- Poor documentation and communication, limiting transparency and feedback integration.

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- Lack of a tailored approach, where the strategy does not fit the specific needs of the destination.

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5 Climate Resilience Tool

The Climate Resilience Tool developed in the framework of the BeyondSnow project is an automatic assessment tool (AAT). It is structured to help destination managers to assess the data available in a destination and to identify what is still missing. After the tool has been fed with the requested qualitative and quantitative data, the status quo of a destination in terms of resilience towards climate change is evaluated and suggestions on next steps and good practices are proposed. The tool can be used to monitor a tourism strategy and helps to adapt measures to a changing environment.

Key points of the Climate Resilience Tool

Assessing Climate Risks & Impacts

- The tool helps destinations evaluate current and future climate risks affecting their tourism systems.

Evaluating Internal Adaptive Capacity

- It allows destinations to analyse their strengths and weaknesses regarding adapting to climate challenges, including infrastructure, governance, and community resilience.

Strategic Decision-Making Support

- The tool provides data-driven insights to help destinations develop long-term adaptation strategies and identify opportunities for sustainable tourism growth.

User-Friendly

- The tool is designed to be intuitive, requiring no advanced technical skills. It offers reports tailored to each destination's specific context, based on the inserted data.

Turning Challenges into Opportunities

- By using the tool, destinations can gain insights to proactively adapt to climate change, diversify their tourism offers, and build resilience, ensuring long-term economic and environmental sustainability.

The Climate Resilience Tool is available at https://climateresilience.aat4.eu/

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Annex: All BeyondSnow deliverables at one glance!

WP	DELIVERABLE	TITLE	DESCRIPTION
1	D.1.1.1	Report on the effects of climate change on the AS STDs	A report from BeyondSnow project that provides an overview on the main effects of climate change on the Alpine Space small Snow Tourism Destinations currently affected or that will be affected in the future by lack of snow coverage.
	D.1.1.2	Vulnerability Map of Alpine Snow Tourism Destinations	Discover the Vulnerability Map, developed within the BeyondSnow project, and how it aims to explore the complexity of vulnerabilities in Alpine territories to climate change and provide a comprehensive overview that integrates both biophysical and socio-ecological and economic dimensions.
	D.1.2.1	Conceptual document on AS STD vulnerability and resilience assessment	A BeyondSnow (activity A1.2) that aims at providing the partnership with a solid knowledge base regarding vulnerability and resilience in the context of tourism destinations. The report encompasses key vulnerability indicators of STDs used in the BeyondSnow project, theoretical definitions, and approaches of resilience of tourism destinations.
	D.1.2.2	STD Adaptation Report	Analysis of models, approaches, and innovations to help STDs adapt to climate change, reducing vulnerability and boosting resilience.
	D.1.3.1	Report and database of PWAs tourism system with a special focus on ecosystem-based solutions	This report offers an in-depth analysis of the tourism systems of the Pilot Working Areas of the Interreg - Alpine Space Project “BeyondSnow”.
	D.1.4.1	Resilience Adaptation Model compendium in reference to STD CC resilience	Compendium illustrating the methodological basis of the RAM, its development, and its potential for positively influencing the socio-ecological CC resilience of Alpine STDs.
	O 1.1	Final version of the Resilience Adaptation Model (RAM)	Based on data collected and results of WP1 actions, specific in-depth analyses of each PWA, and collected scientific literature, the final version of the RAM encompasses the theoretical, methodological, and practice-oriented basis for the assessment, development and strengthening of Alpine STD resilience to CC. Its primary objective is to function as a STD resilience guideline for PWA and AS practitioners, its secondary is to serve as the conceptual basis for the RDMDT in WP2.
2	D.2.1.1	RDMDT long-lasting sustainability agreement & plan	Memorandum of Understanding on long-term use, rights and obligations of RDMDT utilization during and after the project. Plan for implementation activities, fundings, political and technical support.
	D.2.2.1	PWA transition strategies and scenario analysis regarding their potential long-term impacts	Transition strategies created within each PWA based on the activities and outcomes of co-design laboratories. Illustration of pathways their potential long-term impacts, and possible future scenarios.
	D.2.3.1	Capitalisation Report for the post-project sustainability of the pilot implementations	Solid knowledge basis on pilot implementations, making recommendations for maintaining and multiplying the positive results achieved, facilitating their sustainability beyond the project conclusion.

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	O 2.1	Resilience Decision-Making Digital Tool (RDMDT)	The RDMDT is the digitalized version of the RAM. It represents an automated assessment tool for aware decision-making of local and regional authorities, development agencies & local stakeholders. It enables tourism stakeholders to gain an initial understanding of their destination's local characteristics, data and resources in relation to climate change, which are essential for the development of future options and scenarios as well as climate change transition strategies and adaptation measures.
	O 2.2	PWA Transition Strategies	The PWA Transition Strategies serve as blueprints for the initiation and continuation of the transition processes within PWAs for decreasing the snow-dependency of their respective tourism systems, strengthening their resilience regarding CC-induced ecologic & socioeconomic effects. This output includes an overview of the CC adaptation measures developed in each PWA as well as a summary of the processes undertaken for their development.
	O 2.3	Pilot Actions for RDMDT implementation and resilience enhancement of the PWAs	By involving local communities & stakeholders, the PAs aim at field-testing and fine-tuning the RDMDT, as well as developing transition strategies and implementing concrete actions on experimental basis in 10 PWAs. Each PWA is managed by a PP. PAs will be developed and implemented jointly with the aid of all PPs and the supervision of Observers.
3	D.3.1.1	Visual storytelling report on national/regional capacity building events	Using infographics, videos, photos and data visuals, the visual storytelling report will illustrate details and highlights of the in-person capacity building events and recommendations.
	D.3.3.1	Visual storytelling report on the roadshow experience, impacts, and results	Collection of the key milestones of the roadshow, selected to highlight the main experiences, positive impacts, and results of the active involvement of the project's main target groups.
	O 3.1	Resilience-oriented policy guidelines for AS STDs	Based on the theoretical and practical findings (WP1) and experiences gained within the PWAs (WP2), BeyondSnow delivers specific CC adaptation and resilience-oriented policy guidelines for AS STDs, targeting tourism actors and decision-makers such as e.g., DMOs and regional development agencies. The guidelines also consider the introduction and utilization of the RDMDT (WP2 & WP3) within the decision-making processes of these TGs.
	O 3.2	Policy recommendations for Alpine Convention, EUSALP & EU	The policy recommendations meet the Alpine Convention working group results on CC strategies including Alpine Convention ACB working group and Climate Action Plan 2.0. The recommendations guarantee a result transfer towards EUSALP, especially towards AGs 2, 3 and 6, as well as contributing to the further development of the EUSALP action plan. On the EU-level policy recommendations are developed in the light of the EU strategy for Sustainable Tourism.

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BeyondSnow is an Interreg - Alpine Space project co-funded by the European Union. It aims at decreasing the snow-dependency of Alpine Space snow tourism destinations, strengthen their resilience to climate change and retain/increase the viability for residents and their attractiveness for tourists.