

ASP 2021 +: DRAFT

10th template based outline of the programme draft

[2020-06-29, experts from Rosinak & Partner and OIR; including the outcomes of TF 8, the online stakeholder consultation in May 2020 as well as outcomes of TF 4, TF 5, the feedback submitted before TF-6 and the outcomes of the informal TF-6 videoconference-meeting on 26 March 2020 as well as the feedback concerning “related types of action” submitted before TF 7]

ANNEX

TEMPLATE FOR INTERREG PROGRAMMES¹

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¹ Without prejudice to further alignment in relation to the outcome of interinstitutional negotiations on the articles of the CPR and the fund-specific regulations. Alignments on the external Interreg programmes still to follow.

1. Programme strategy: main development challenges and policy responses

1.1. Programme area (not required for Interreg C programmes)

Reference: Article 17(4)(a), Article 17(9)(a)

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Status from TF-meeting 8:

The program area for the Alpine Space Programme 2021-2027 preliminary comprises the following territories:

- Austria: the whole territory
- France – NUTS 2: Alsace*, Franche-Comté, Provence-Alpes-Côte d’Azur, Rhône-Alpes
- Germany – NUTS 2: Oberbayern, Niederbayern**, Oberpfalz**, Oberfranken**, Mittelfranken**, Unterfranken**, Schwaben; Stuttgart**, Karlsruhe**, Freiburg, Tübingen
- Italy – NUTS 2: Lombardia, Friuli Venezia Giulia, Veneto, Provincia Autonoma di Trento, Provincia Autonoma di Bolzano / Bozen, Valle d’Aosta / Vallée d’Aoste, Piemonte, Liguria
- Liechtenstein: the whole territory
- Slovenia: the whole territory
- Switzerland: the whole territory.

* included in ASP 2014-2020, not included in EUSALP

** not included in ASP 2014-2020

In the further document we refer to the programme area as “Alpine Space Programme 2021 – 2027” as well as the “Alpine region”.

1.2. Summary of main joint challenges, taking into account economic, social and territorial disparities as well as inequalities, joint investment needs and complimentary and synergies with other forms of support, lessons-learnt from past experience and macro-regional strategies and sea-basin strategies where the programme area as a whole or partially is covered by one or more strategies.

Reference: Article 17(4)(b), Article 17(9)(b)

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1.2.1 Introduction

The Alpine Space programme area is situated across an area consisting of both: metropolises of global importance as well as remote rural areas. It spreads across the borders of seven countries. The Alpine states share the geographical and environmental characteristics and challenges of the Alps. However, these states differ considerably in terms of economy and culture. Cultural differences contribute to the wealth of the Alpine heritage. They are embraced and celebrated in the macro-regional, cross-border and transnational context and they greatly complement the natural heritage making it a particularly attractive place for tourists to visit. The history of cooperation as well as the establishment of the Alps as a popular touristic destination is an evidence of this.

The Alpine region is affected not only by issues inherent to its mountainous character and its history but also by external forces linked to developments at a wider geographical scale. The former, such as remoteness, accessibility, rich and susceptible biodiversity and environment, economic disparities but also cooperation history are well-known in the region. The latter are emerging developments and mega trends, such as climate change, globalisation and digitalisation. They pose new challenges and impact the existing ones as either threats or opportunities. Both the already established and the relatively new challenges closely interact with each other and have social, economic and environmental dimensions.

Most notably, climate change is a long-term issue that greatly affects society and economy. Climate change and digitalisation pave the way towards the next phase of globalisation. Climate change is a global trend with highly relevant but often uncertain impacts on territories, environment, human health and economy. Mountainous regions, such as the Alps, are more affected by climate change than lowlands. Digitalisation is a global and far reaching technology-driven transition that has been changing daily life, working mode, business, provision of services of general interest (SGIs), mobility as well as social interaction among individuals but also among groups and organisations. This phenomenon offers a considerable range of opportunities in the Alpine region that the programme can exploit. Other relevant trends include urbanisation, demographic change, societal change, focus on knowledge-based economy and increasing energy consumption. Many of these are closely interrelated and make a considerable impact on the development of disparities as well as on the common challenges and opportunities in the Alpine regions. This calls for a holistic approach to tackling these issues.

The Alpine regions are very heterogeneous. This heterogeneity is further intensified by economic and demographic disparities. On the one hand, there are disparities between larger areas as a whole, such as northern and southern Alps, eastern and western Alps. On the other hand there are disparities between different territorial types such as rural and urban areas, alpine and peri-alpine areas or finer socio-economic typologies such as Alpine metropolises, Alpine cities, stable or growing rural areas, declining and shrinking rural areas and tourism areas (Gloersen et al., 2013). Alpine economies are also characterised by different specialisations and economic activities.

Environmental challenges and the related phenomenon of climate change pose globally the most pressing problems. Similar to other parts of the world, they impact already existing in the Alpine region economic, demographic and social characteristics and disparities. This phenomenon is shared by the Alpine regions and challenges us to rethinking of our economies, societies and development strategies. A more holistic approach to these environmental, economic and social challenges can be offered by transnational cooperation at the

scale of the entire Alpine region. In tackling these challenges, it is necessary to acknowledge the underlying and long-term environmental and climate change-related developments as opportunities for a shift to sustainable economies and societies. The Alpine Space Programme aims to exploit these opportunities and fully embrace this innovative and trail-blazing approach which will require commitment and cooperation.

The “mission statement” of the Alpine Space Programme 2021-2027 therefore states the following:

Why are we here?

- We are at the forefront of the transition to a unique, carbon neutral and climate resilient European territory: the Alpine region.

What do we do?

- Through innovative and pioneering ideas, we foster the integration of sustainable economic development, societal wellbeing and the preservation of its outstanding nature.
- We support cooperation projects across borders and facilitate joint trans-national solutions.

How do we do it?

- We bring together stakeholders from different areas, sectors and levels and create benefit for the citizens in the Alpine region.

1.2.2 Summary of main joint challenges, opportunities and relevant territorial, social and economic disparities

Environment, biodiversity and climate change, energy

The Alpine region is a biodiversity hotspot and its territory is more susceptible to climate change. The Alps are the second largest biodiversity reservoir in Europe after the Mediterranean Sea and one of the most important water towers of Europe. The region’s cultural and historic heritage is also one of its strongest assets. These resources are widely used and there is strong competition for land and water for different purposes. Alpine biodiversity and ecological connectivity has been under pressure for many decades especially since the second half of the 20th century. Intensive exploitation of natural resources and the use of land for various purposes like settlements, transport, energy and touristic infrastructure as well as for agriculture and forestry have caused high losses in biodiversity and the fragmentation of ecosystems in the Alpine area. In addition, the rich natural and cultural heritage of the Alps is more and more endangered. Climate change is a new threat for Alpine biodiversity.

The entire programme area is characterized by valuable **biodiversity**, as the share of protected spaces is not necessarily higher in the Alpine Convention area than in lowlands. However, there are clear differences between national protection regimes: For example, national parks are much more frequently enacted in AT, FR and IT, whereas DE and CH have less national parks which are relatively small in size. Another difference between Alpine countries is the varied implementation path of the EU protection directives that display very different average sizes of protection areas within these countries (going up to 37% protection area in SI). Even if a series of cross-border protection initiatives exists (e.g. Naturpark Nagelfluhkette between Austria and Germany), the potential of cross-border formats is certainly not yet exploited (ESPON Alps 2050).

As a result of its rich biodiversity, the Alps have a high potential for **Green Infrastructures (GIs)**, especially in the Eastern Alps. However, the Alpine region is also among those with the lowest contribution of protected areas to the total area of potential GI (ESPON GRETA). An obstacle to potential multi-functionality of GIs is the elevation of areas and presence of bare rock on the surface. This results in low values for most **ecosystem services**. For example, in Austria there is a large network of protected areas but it has a low capacity to provide ecosystem services. In SI and part of FR there is the highest capacity for multi-functionality for policies. Notwithstanding this, there are possibilities for improvement in better integrating ecosystem services and green infrastructures (ESPON GRETA).

At the same time, the more urbanised areas play an important role by demanding and using ecosystem services, in particular with regard to water, leisure supply (including second homes), tourism demand, but also clean air, ecological benefits. This requires a particular focus of use of GIs and ecosystem areas in the urban territories of the Alpine region. In the last decades the Alpine countries together with trans-Alpine organisations and networks have taken high efforts to protect natural hot spots and biodiversity as well as to build up ecological networks in the Alps through numerous activities. It is necessary to continue these efforts in the face of continued environmental threats.

The Alpine region is highly vulnerable to the adverse impacts of climate change, and faces a particularly high risk of floods, landslides and changes in water resources. Tourism, agriculture and forestry are among the most vulnerable sectors, directly impacted by global warming and extreme weather events. Given its morphology, less than one fifth of the territory within the Alpine Convention perimeter is suitable for settlements and therefore most human activities are concentrated in valleys, often densely populated, where natural disasters can cause considerable damage. However, the damage potential is high also in more rural areas, particularly if they are used intensively for tourism. Moreover, risk and hazard evolve dynamically, especially because of changing climate conditions: this may exacerbate the intensity of hazards and contribute to a shift in hazards-prone areas (Alpine Convention 2019, RSA7).

According to ESPON ALPS 2050, the changes of the (air-) temperature in the Alps 2050 perimeter show the following patterns and characteristics: There are higher increases in annual mean temperature in the inner-Alpine areas than in the area of the spaces beyond the mountain topography. This displays a strong correlation with the morphological picture of the Alps: the higher the mountains, the stronger the increase of temperature (even if the relatively lower temperature rise in the pre-Alpine areas means already considerable adaptation challenges). In particular, the Southern side of the Alpine mountain range is characterized by the highest changes in annual mean temperature, in particular in the Western Alps. This observation shows that in particular the French-Italian, Swiss-Italian and Austrian-Italian border regions are those Alpine regions which are most severely affected by climate change.

Considering the responsibility not only for the highly vulnerable Alpine area, but also for the planet as a whole, the task in the years to come is to implement regulations triggering GHG reduction in all sectors and to introduce the next step from a low-carbon” to a post-carbon society (Alpine Convention, RSA 6). On the one hand, this has to do with technical, legal, and organisational measures and instruments in all sectors (mainly energy production, industry, transport, construction and housing, spatial planning and consumption). On the other hand, it requires a paradigm shift that can only be achieved through awareness raising, new narratives. This involves a transition to economic concepts that leave “pure GDP-thinking” behind and make a step forward to integrated economic concepts of societal well-being. In this respect, the Alpine region could play a forward thinking and front-runner role. Making the Alps more resilient with regards to the impacts of climate change is joint effort of key actors in all sectors and across borders. It requires inter-regional and trans-national frameworks and management measures leading to adaptation measures in all sectors and all kinds of regions in the Alps.

The Alpine region is a major European crossroad with several transit corridors. Even though it is largely beyond the possibilities of the programme to provide interventions at the appropriate scale in this regard, the **related environmental consequences should be highlighted.** Various corridors of the road network are close to saturation and cause serious health issues, such as noise and air pollution. Major problems are linked to increasing traffic volumes, the absence of harmonised regulation of transport policies for freight transport and the large proportion of road freight transport. The amount of transported net tons per year has grown at almost all transit corridors, but to a different degree. Corridors of pan-European importance play a major role on all political levels whilst environmental damage is mainly experienced in the transit areas (ESPO ALPS 2050).

Air quality is poor in many areas, it would be useful to bring transport measures into line with regional sustainable mobility plans, regional air quality plans and national air pollution control programmes to improve coherence between them and increase synergies (ESPO ALPS 2050).

Energy consumption

Studies show there is a generally high level of energy consumption and the use of renewable energy varies greatly across Alpine regions (e.g. ESPON LOCATE, 2018). In general, in residential buildings in the Alpine region, there is a high level of final energy consumption for space heating, hot water and cooling although the demand is decreasing. High final electricity consumption for appliances and lightning in the residential sector can be observed in FR, CH, AT, lower in DE, IT, SI. The picture for the service sector is rather differentiated. Final energy consumption for road transport is differentiated but high in Western Austria and SI. Final energy consumption for rail is high in AT, IT, FR and lower in DE; SI. Share of **renewable energy** carriers for heating and hot water is higher in AT, IT, SI and lower in DE, CH. The total share of electricity from renewable sources is high in AT, lower in DE, IT, SI. The solar energy potential is differentiated, with there being some potential for hydropower across alpine regions (ESPON LOCATE).

Support schemes and European, national and regional policies regarding non-financial barriers to renewable energy and energy efficiency differ across countries and need to be better aligned. The efficiency of existing hydropower plants could be increased, and other renewable energy sources could be considered. Energy efficiency offers opportunities for technology and consulting or engineering investments in low carbon services, helping the region to develop a leading position in R&D and renewable energy resources led by the growth in climate protection measures to support a shift to low carbon technology. In order to support low-carbon transformation there is also a need for integrated solutions which create co-benefits. This includes approaches that explore the strategic policy-making in the role of consumption patterns and lifestyles (Lückge, 2018). Furthermore, along the SEA, it should be noted that stronger considerations should be committed to disturbances to ecosystems made by energy-related infrastructure (BOKU, 2014).

Actions that further promote energy efficiency in all sectors are needed at multiple levels, including promoting energy-efficient construction technologies, introduction of innovative solutions into energy-consuming sectors, such as passive solar energy building design etc. There is also a potential to increase efficiency of existing energy infrastructure, which is needed to be exploited with the view to make a step further: from efficiency to more sufficiency-oriented approaches. Measures towards energy efficiency should be identified for specific areas and economic sectors. For example, increasing energy efficiency is possible in the housing and the transport sectors as well as in production processes and the service sector.

The field of energy efficiency is knitted tightly to the need for economic growth and competitiveness of the region, as high levels of energy consumptions are still remaining drivers for such growth. In this way, decoupling economic growth from resource consumption remains a challenge among Alpine countries and hence is needed to be addressed in conjunction with energy efficiency target and further transition to low energy consumption modes of development. However, energy efficiency strategies should consider potential rebound effects (EC 2012b, UBA Germany 2012).

This need is also pressured by increasing energy prices and accumulating negative effects of climate change, that are needed to be addressed urgently. However, awareness-raising among actors in regards to the financial benefits as well as benefits concerning economic competitiveness originating from energy efficiency should be further undertaken in order to encourage them to adopt energy efficient practices.

Finally, it has to be stated that efficiency concepts alone will not be sufficient to manage the transition from a low carbon to a post carbon society, especially when considering rebound effects. Recognizing this, the programme supports actions going beyond efficiency and fosters integrated concepts of well-being, sufficiency and post-carbon lifestyles.

Demography, population and society

The main demographic disparities are linked to territorial types. Metropolises and larger cities are almost always the centre of growth trends, whereas patterns in the rural areas more diverse: There are stable and even growing regions (e.g. in the South-western Alps) whereas decline of population can be observed especially in Eastern Alps e.g. in Lower Austria and Styria (see ESPON Alps 2050). In addition, better employment and GDP trends can be found in Northern Alps. These regional differences have impacts on the

management of settlement growth, on the response to climate change, on the approach to reducing the fragmentation of ecosystems and steering the agricultural transformation (p.2-3, ESPON GRETA).

The complexity of demographic development patterns is further increased by the combination of diverse and overlapping in- and out-flows of migrants. In general, there is a highly diversified situation in all parts of the Alpine region. There are bi-directional (and circuit) migratory flows, negative natural trends, the significance of specific age groups and gender differences in migration movements, length and frequency of movements. Metropolitan places tend to show the most positive values whereas rural patterns are more diverse (see ESPON Alps 2050). Moreover, especially in the Alpine context, the seasonality of tourism leads to season dependent living conditions. In some highly attractive tourist destinations this results in crowding out of local population due to the increase of land- and real estate prices.

Population densities in the Alpine area may be as high as in some of the European capitals due to the concentration of people in valley bottoms with limited space. In these limited areas – the Permanent Settlement Areas – the average population density reaches 414 people/km², which is comparable to densely populated areas outside the Alps. Favourable areas may have even much higher densities such as the regions around Grenoble 6,282 people/km², Lugano 2,097 people/km², and Innsbruck 1,444 people/km². This is comparable to European capitals such as Berlin (3,812 people/km²) and Vienna (4,025 people/km²) (AC 2019, RSA6). The inner-Alpine perimeter shows clearly lower values of accessibility than the pre-Alpine and more urbanised areas (ESPON Alps 2050). At the same time, the growth phenomena in urbanised areas lead to increasing environmental pressure and land use conflicts. While prosperous urban areas face the challenge to manage growth, pollution and increasing competition on land between housing, industry, transport infrastructure, agriculture and free space. Declining rural areas have to manage shrinking processes, the vacancy and decay of buildings and other infrastructure as well as the overgrowing of previously cultivated land.

Even though there are some opposite developments in certain places at a small-scale level, this evidence suggests that **spatial polarisation, which is also linked with an economic polarisation**, is increasing. This calls for a need to counteract the growing gap between urban and rural areas. Often, peripheral rural areas are characterized by difficult geomorphologic conditions and locations, which lower their potential to be connected to larger functional areas. This constitutes a significant obstacle to growth.

Polarisation leads to challenges concerning the **maintenance of services of general interest (SGIs)**, financial systems, and cultural dynamics in peripheral areas. Accessibility is highly relevant for the provision of SGI, which are a key factor for a good quality of life. This is closely linked to the settlement system: In areas with scattered settlements the provision of SGI is more difficult than in densely settled areas (see ESPON Alps 2050). The uneven demographic situation leads to thinning of public services in some places which further perpetuates negative demographic trends leading to departure of youth and brain drain. Accessibility of remote and depopulating areas is also a challenge in many areas where public transport (mainly local railways) needs to be modernised (ESPON Alps 2050).

In the next years particularly remote rural areas with lower grades of SGI-supply/accessibility will have to face demographic ageing-processes along with enhanced needs of SGI-provision – specifically medical and social support services. In other words, there will be a strong need to provide social services that correspond to the demographic change and to ensure their accessibility as a key element of good quality of life. This will be a specific challenge in shrinking regions, where a higher share of elderly people has to be expected. Differentiated strategies for urbanised areas, stable and shrinking rural areas as well as tourism areas should be developed to support accessibility and maintain SGI in remote areas. Place based approaches valorise the potentials of urbanised areas and regional centres as important hubs that spread services at the regional level. In this context digitalisation will offer a broad variety of options, for example medical care via internet, online communication and any other economic, social and cultural ICT-applications. Essential precondition for their wide spread use will be the sound knowledge, acceptance and physical access by the people (ESPON Alps 2050 and Lückge, 2018).

Societal change goes hand in hand with demographic change. These demographic trends are linked with emerging and frequently innovative social and cultural developments such as neo-ecology, low-carbon lifestyles, “counter-movement” trends, health and wellness tourism, as well as cross-cultural, cross-generation and cross-regional learning in the areas of protection of nature and voluntary work, including involvement of tourists (Lückge, 2018). Accelerated by globalisation and digitalisation, societal change leads to more heterogeneous, diverse societies. In the recent years, the variety of life concepts and lifestyles in combination with stronger changes in professional careers, working and living places, changing gender roles and age concepts lead to more and more heterogeneous, pluralistic societies. Single households, patchwork families, mobile teleworkers, people with more than one living place, population shift between day and night in commuter municipalities have changed local societies in urban as well as in rural contexts leading from strong local identities to multiple identities of a multi-local society. This change has impacts also on tackling environmental and economic challenges and asks for integrated strategic approaches.

Given the central location of the Alpine regions, their relative economic wealth and partially above-average ageing population, there is a strong need to support social transformation processes and to cope with increasing social diversity. This includes the organization of social life in the communities and regions as well as social support structures, labour market, transport and commuting and the integration of concepts like the “sharing economy”, “flexicurity” and voluntary initiatives (Horx, 2011 and Lückge, 2018). The consistent use of all possibilities of digitalisation, means of communication and ICT also plays a key role in this context.

Sustainable economic development

The economic performance of the Alpine region is rather strong relative to the EU. Most indicators, including GDP per capita, are above European average (Alps 2050). A North-South divide can be observed: the trends in employment and in GDP (economic strength) have developed more positively on the Northern side of the Alps 2050 space than on the Southern side. This refers to the post 2008 economic crisis that (most regions of) Germany, Switzerland, Liechtenstein and Austria mastered quicker and with less frictions than the Italian and Slovenian regions. A similar North-South divide is given in the field of innovation patterns (European Patent Office data data) (ESPON Alps 2050).

Employment in the Alpine area is generally at a high level compared to the 2012 European employment rates (cf. ESPON & BBSR 2014). A detailed look at the Alpine Convention area reveals lower employment rates for areas such as the south-eastern French and south-western Italian Alps, as well as the Italian-Slovenian border. The unemployment rate ranges from 2.5% in Liechtenstein to 11.2% in the Slovenian Alpine area. With the exception of Slovenia, the average unemployment rate is lower in the Alps than in the country as a whole. In some small inner Alpine areas, unemployment rates exceed 20%. The youth unemployment rate is higher in the southern fringe of the Alpine Convention area (Alpine Convention 2019, RSA 6).

The **GDP** distribution per capita in the Alpine Convention area is available at NUTS 3 level and shows disparities particularly between the central parts of the Alps and the eastern and western parts, even within a single country. The southern parts of the Italian Alps and the central parts of the Austrian and the Swiss Alps have a relatively high GDP per capita (cf. Figure 1.1.3-5) (Alpine Convention 2019, RSA 6). In plain areas the SME patterns show the highest productivity, tourism the lowest. In peri alpine areas, the highest productivity is with large high-tech and traditional SMEs. (ESPON SME, 2018).

The characteristics linked to its territorial specificity pose certain challenges for the economy in some areas of the Alps. For example, due to limited accessibility from and within the Alpine area to urban centres and to small and remote settlements, there are market barriers for small or new companies, limited availability of knowledge or a limited supply for consumers.

Alpine countries differ slightly in terms of shares of economic sectors. Parts of the German, Italian and Slovenian Alpine areas have a high share in manufacturing and agricultural economy whereas in Austria construction and retail dominate. France and Switzerland are close to the EU average with an overrepresentation of public services (Alpine Convention 2019, RSA 6). Share in the agricultural sector is

the highest in the Eastern Austrian and in the Slovenian regions (in both cases relevant for all regions except capital regions). National differences are relevant, at least on the NUTS3 level. Belonging to a specific nation-state determines the economic level and path to a high extent. The question, if a region is situated in the inner-Alpine or pre-Alpine area (i.e. AC or EUSALP) seems much less decisive.

The Alpine region has a relatively strong SMEs and micro enterprises basis. In CH and DE, also a relevant share of large enterprises is present. In CH, DE and FR there is a sectorial focus on knowledge economy and ICT (related to industry and services). CH and IT show diverse sectorial foci. SI has a strong industrial focus and AT a focus on services/tourism (ESPON SME). The employment rate in knowledge-intensive services in the southern part of the Alpine Convention area is lower than in the northern and north-western parts (Alpine Convention 2019, RSA 6, p. 28).

The Alpine region is home to global key players in the field of research and innovation (R&I), offering a strong potential for further global development. There are notable concentrations of small and medium-size enterprises (SMEs) in different parts of the region, and many of them are organised in clusters, building up a territorial economy which offers a solid basis for innovation based on smart specialisation strategies and allows the companies to become more competitive in areas of particular relevance to the region (such as energy and green technologies, mechatronics and engineering; chemistry and new materials, and ICT) (ESPON Alps 2050).

There are few extremely highly innovative regions lacking qualified human capital which are scattered around-synergic knowledge creation could take place from northern/western parts where qualified human capital is present. High tech firms are concentrated in southern Germany and some in northern Italy (e.g. Monza, Brianza) as well as in Upper Austria (e.g. Steyr) and Styria. Based on these characteristics, it was proposed to categorize Alpine economies into industrial specialisations with 4 sub-types: high tech large firms, high tech SMEs, traditional large firms, traditional SMEs, nature based specialisations with 2 sub-types: tourism, agriculture and urban development with a particular prominence of services (Politecnico di Milano, 2018).

It should be noted that the Alpine region faces some limitations relating to inter-Alpine research and innovation cooperation, the uptake of existing research and innovation (R&I) results, spatially fragmented local markets, social disparities in innovation, funding opportunities, information and communication technologies, strong migration from rural areas due to poor infrastructure availability and the capitalisation of applied research results (ESPON Alps 2050).

In general, the evidence shows a relatively strong economic performance and high levels of innovation in many parts of the region. **Coupled with the particular environmental conditions and vulnerability to climate change, this strong economic basis predestines the Alps to be a pilot area for being a leader in green, sustainable economy characterised by carbon neutrality, resource sensitiveness and climate resilience.** Among others, decoupling economic growth from throughput of material and energy resources as well as fostering of environmentally-friendly technologies, favouring integrated approaches to waste and emission reduction rather than end-of-pipe solutions is a particularly would be particularly interesting areas of experimentation for SMEs. Circular economy approaches as well as bio-economy can help to pave the way from low carbon to post-carbon economy, from a general “efficiency” approach to approaches that are more oriented on sufficiency. Alpine SMEs and innovation actors should be encouraged to benefit from the area’s potential in developing green solutions and technologies. Businesses can benefit from resource efficiency and circular economy through cutting input costs and by increasing their corporate responsibility (RSA 6). Opportunities for economic development are also available from typically environment-oriented concepts such as ecosystem services approach (RSA 6). The programme can help strengthen a green economy approach based on key Alpine resources and its rich natural and cultural heritage and fostering integrated approaches in agriculture, forestry, tourism, energy and the water sectors in order to implement sustainable economic development. It should also be emphasised that sustainable economic development needs to be supported by fostering green skills to answer the green jobs market. The development of green jobs constitutes a considerable potential for economic development.

Tourism

The Alpine region is a global key destination for tourism, especially in the winter. The relative importance of the tourism sector is very high, especially in the more inner Alpine areas with high altitudes, which are also more susceptible to environmental threats. Tourists are very unevenly spread across the Alpine region (ESPON Alps 2050). A key asset of Alpine tourism and a source of economic activity is the valorisation of natural and cultural heritage.

Tourism intensity based on overnight stays shows a ‘central-peripheral pattern’: the gradient goes from the (inner-Alpine) centre to the ‘periphery’ of the Alps 2050 space. The relative importance of the tourism economy is very high in the inner Alpine areas (comprising destinations like Graubünden, Tyrol, Southern Tyrol etc.). This shows the role of the Alpine massif as a touristic hot spot with much economic potential and also the potential to threaten. The region is a key destination for tourism, especially in the winter, but tourists are very unevenly spread across the region (ESPON Alps 2050). The economy of only 10% of alpine municipalities is mainly based on tourism (based on AC, 2013).

Climate change and related environmental issues, including natural hazards, threaten the sustainability and competitiveness of tourism in the Alpine area. Tourism strategies and solutions should be particularly attentive to environmental and social impact on natural and cultural heritage in general, climate change, natural hazards, biodiversity and raising environmental awareness in particular. The development of the tourism sector could be improved through a concerted approach to sustainable and accessible tourism, involving in particular R&I, SMEs and suitable training for the labour force. Integrated tourism transport options are especially essential and in need of elaboration. Furthermore, tourism can be developed at the local and small-scale level beyond the touristic hotspots, supporting soft tourism in Alpine villages which is strongly based on the rich natural and cultural heritage. This could help to improve the geographic and seasonal distribution of the tourism market in the region, while creating growth and jobs. The shift to sustainable and place based tourism will be accompanied by digitalisation and possibilities in pursuing new lifestyles, branding/marketing, information exchange it provides.

Products, including mountain products and quality products, and services based on agriculture and forestry offer significant potential (e.g. for the bio-economy) throughout the value chain (including for example the pharmaceutical and wooden building sector). Moving higher up in the value chain provides opportunities for rural and urban parts of the region to work together. Farmers contribute to sustainable land management and provide for ‘ecosystem services’ (see ESPON Alps 2050). Also changing lifestyle and environmental awareness lead to a societal shift and stronger appreciation of agriculture as close-to-nature activity. This offers an opportunity for sustainable and conscious tourism and agro-tourism.

On the one hand, effects of over-tourism have already been observed in Alpine regions in the last years. On the other hand, a stronger societal awareness on health, “deceleration” as well as on environmental aspects, as for example low-carbon lifestyles (“flight-shaming”, veganism), a critical view on industrial agricultural practices and more consciousness towards touristic infrastructures and offers, can be noticed. Apart from that, the demands of a more and more diverse and pluralistic society will also have their effects on tourism. The growing demand of a diverse society for specific offers, health and wellness services as well as sustainable and “low-carbon-offers” can be seen as “counter-movement-trends” of recent developments and megatrends (globalization, acceleration, climate change,...) that should be utilized for the further transformation and positioning of sustainable Alpine tourism and generally Alpine community life (e.g.: stronger integration of secondary home owners etc.) (Lückge, 2018).

There is the strong need to further develop and deepen sustainable Alpine tourism and to deal with changing leisure behaviour. Alpine regions – with their location in the centre of Europe, their outstanding ecological value, their rich natural and cultural heritage and the already high standards in tourism – will propose the unique chance to establish low-carbon or even “zero emission” tourism offers.

Digitalisation

Of particular relevance in the Alpine region is also the emerging phenomenon of digital transformation. Digitalisation is relevant to all actors, not only high-tech SMEs. It affects a range of issues, including business development, SME, innovation as well as education and training of skilled labour force. It can contribute to economic development in the Alps by filling the gap created by remoteness and lack of accessibility, thus reducing spatial polarisation and bridging different territorial types in the Alpine area. This should be seen as a broader approach of social innovation that also shows influences in other sectorial policies (tourism, agriculture, nature conservation, etc.). Social innovation has a large potential to further develop economic and social structures in the Alps. Therefore, taking full advantage of the potentials of digitalisation should also help to reduce the innovation gap between metropolitan innovation hubs and rural areas with low-innovation potentials.

Digitalisation leads to transformation of market structures, new working conditions, new production processes, focus on individualized products and services, project-based and temporary cooperation as well as different work structures. It can lead to higher importance of creativity and innovation in regards to economic development. Digitalisation can serve as an instrument for “future proofing” in a knowledge based Alpine economy. Digitalisation combined with innovation and creativity can help make the Alps more resilient and flexible in adjusting to global trends and shifts from traditional economy and industries to new formats.

Furthermore, sustainable economic development should ensure closing gaps and fostering exchange and synergy potentials between urban and rural areas. Products, including mountain products and quality products, and services based on agriculture and forestry offer significant potential (e.g. for the bio-economy) throughout the value chain (including for example the pharmaceutical and wooden building sector). Moving higher up in the value chain provides opportunities for rural and urban parts of the region to work together. Fostering urban-rural co-operation is a key success factor for Alpine green economy.

The various interactions between urban and rural areas are of special spatial and functional importance in the Alpine area. Similar to migration tendencies from rural to urban areas, they require transnational solutions in order to reduce spatial polarisation and to balance regional development in the Alps. The ageing society, the increase of free time and lifestyle trends lead to multi-localism, which could become a new dimension of urban-rural interrelations. Therefore, links between urban and rural areas have to be further explored and made more sustainable (see ESPON Alps 2050). The potentials between urban centres and Alpine valleys should be explored especially with regards to digital economy which can help establish new development-/digital-axes (Lückge 2018).

1.2.3 Lessons learnt from past experience

The EU transnational cooperation in the Alpine space has begun in 2000. At this time, there was an already a decade-long cooperation history in the area. The three predecessors of the Alpine Space Programme 2021-2027 offer valuable experience upon which the current programme will build in addressing both pertaining and emerging challenges and trends, as described above. There are several learnings that should be highlighted to indicate the areas of particular focus for new programme.

As current developments show, Alpine regions will have to face a multitude of transformation processes in the next years. Megatrends such as digitalisation and climate change, other joint challenges and opportunities such as demographic change and diversification of societies, transformation towards a knowledge and innovation based economy will show their impacts and will call for firm action.

The design of the programme enables a holistic, cross-sectorial focus on topics such as digitalisation, economic and social innovation as well as lifestyle changes, low-carbon and environmental aspects.

Important ways to increase the impact of the programme is to further emphasise sustainability and capitalization of project outcomes, a holistic approach characterized by cross-sectorial topics and the flexibility of measures as well as by a stronger inter-linkage between projects.

In that context the **stronger capitalisation of project results** should increase the impact of projects on the territory, lead towards a stronger involvement of the civil society and possibly a more balanced geographical

and type-related distribution of project partners and observers. **Stronger synergies and the complementarity at the level of projects and programmes** will be sought. Sharing of practices, policy tools and learnings between projects and programmes alike will be encouraged as a principle.

It remains important to further ensure that programmes are designed to produce outcomes which are not only short-term effects. While sustainability of outputs of some projects indeed depends on continued funding and institutional stability, it is possible to achieve sustainability in other ways. For example, this is possible in cases where activities stemming from Interreg projects are mainstreamed in domestic programmes and by other actors than project partners and when Interreg projects were continued and financed from domestic public sources.

At the same time, stronger focus on ensuring a link to policy-making will allow the programme to be more embedded with public policies in order to address the “implementation gap” which characterizes incapacity to implement the solutions into policy-making. The projects will be asked to pay particular attention to linking results to policies.

The ambition to make a stronger impact is not only met in the thematic, cross-sectoral and integrative set-up of the programme’s priorities, but also within the structures of the new Alpine Space Programme. In order to keep up with the changing world the programme will address the call for more openness towards innovative projects and experimental action that are currently often impeded by formal requirements. Reduction of the administrative workload for both programme authorities and applicants, enhancing legal certainty and appropriateness in terms of communication and publicity are in focus. **The administrative set-up of the new programme will reduce the bureaucratic burden** via simplification and harmonization. In order to further explore programme’s potential in addressing different and cross-cutting thematic areas, the programme strives for more **flexibility for experimental approaches**. In particular, flexibility will pave way for more innovative and frontrunner projects.

Involvement of different types of stakeholders from different territories is important for the programme. The programme will aim to strongly engage under-represented actors and stakeholder, according to its target groups. Outreach and communication activities will be better tailored to particular target groups. A particular attention in preparation of the communication strategy should be paid to appropriate selection of indicators and target values, monitoring of communication activities and satisfaction with events and tools as well as better targeting the communication to specific audiences. In addition, the communication strategy will benefit from a risk analysis in regard to internal and external risk factors as well as preparation of mitigation measures. Communication measures will be further elaborated and the programme will experiment with innovative approaches and formats. Such ideas include development of this concept towards an ASP festival, exploring different innovative formats and target groups. Such innovative formats could involve an Alpine tourism “Hackathon”, a marketplace of ideas, Creativity Flash Mob (Lückge, 2018).

1.2.4 The Alpine Space Programme and EUSALP

In the 2014-2020 cooperation period, the programme has welcomed the establishment of the EU Strategy for the Alpine Region, EUSALP. As a macro-regional strategy, EUSALP is an integrated framework for addressing common challenges, among others, through ESIF2. EUSALP is the “youngest” of the four Macro-regional strategies and it has already managed to bring together new stakeholders across different sectors, government levels, and countries. A major achievement of the EUSALP appears to be the increase of the cooperation between the Alpine areas and the surrounding metropolitan areas (Study on Macro-regional Strategies and their links with Cohesion Policy, 2017).

In 2019 the EC published a report on the implementation of the four MRS (COM(2019) 21 final). In that report the EC also states that bridging the gap between the MRS and funding opportunities seems to remain a challenge. The EC highlights that the **Interreg programmes** — despite their limited amounts of funding — have played a significant role in supporting the strategies’ implementation. The other funds at EU-level as well as national and other sources of funding up to now have not been easily available to support the

² https://ec.europa.eu/regional_policy/en/policy/cooperation/macro-regional-strategies/

strategies and its projects. The **EC emphasises the importance of cooperation** as a general cross-cutting feature of cohesion policy. Member states and regions are invited to put a stronger focus on that feature in the next phase of national and regional policy planning and programming.

The **ASP contributes to the EUSALP** considerably and effectively along all EUSALP action groups and alignment takes place at different levels: strategic and operational coordination, information exchange, funding, multi-level governance and capacity building, mobilizing actors, stimulating networks, integration between projects and action groups, coordinated communication and awareness-raising activities (Evaluation of Programme Communication, Effectiveness and Stakeholder Involvement of the Interreg Alpine Space 2014-2020 Programme 2018). Almost all projects from ASP contribute to EUSALP - at different levels and to different action groups. EUSALP benefits from the ASP-funded projects and thereby is getting access to on-the-ground implementing organisations. On the other hand, ASP benefits from a better visibility of its priorities and projects and better access to high political levels through cooperation with EUSALP (Evaluation of Programme Communication, Effectiveness and Stakeholder Involvement of the Interreg Alpine Space 2014-2020 Programme 2018). Indeed, studies indicate that there is a wealth of good examples of constructive collaboration, especially related to climate change, better than in other mountainous regions (ESPON BRIDGES 2019).

While the EUSALP is becoming an established macroregional strategy and programme's relationship with the strategy is maturing, reflection of relationship to date allows further learning. The programme focuses on further clarifying, deepening and improving the concrete cooperation structures (incl. funding resp. financial support) between EUSALP and ASP. This includes the elaboration of the governance and stakeholder structures as well as concrete administrative cooperation structures and their embedding in the programme architecture. These key-points should contribute towards a higher extent of exploiting synergies and rising the effectiveness and efficiency in the cooperation of the EUSALP and the ASP in the next programming period 2021+ as well as a stronger mutual reinforcement of both approaches.

A strong integration between projects and action groups is also needed in order to get direct access to on-the-ground implementing organisations thus preparing the ground for a bundle of innovative projects and to bring them closer to the citizens in Alpine regions. In that respect, capitalisation of project results and stronger involvement of the civil society should help to improve the implementation gap and enhance the impact projects show on the territory. Additionally, means of communication play an important role in the governance context. Even though communication tools have been developed, the new programming period offers the possibility to take stock, reflect and take the opportunity to think about some new aspects in communication in order to make common efforts more visible

1.3. Justification for the selection of policy objectives and the Interreg specific objectives, corresponding priorities, specific objectives and the forms of support, addressing, where appropriate, missing links in cross-border infrastructure

Reference: Article 17(4)(c)

Table 1

Selected policy objective or selected Interreg-specific objective	Selected specific objective (SO)	Priority	Justification for selection [2 000 per objective]
Policy objective 2: A greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management by:			
Policy objective (PO) 2	Specific objective (SO) (i): promoting energy efficiency measures	Priority 2	<p>Characters: 1847</p> <p>Being part of the wealthiest regions of the world, the Alpine countries are affected not only by climate change impacts, they are also highly responsible for the increase of greenhouse gases in the atmosphere. Reducing energy consumption is a key success factor to fight the climate crisis.</p> <p>The Alpine countries are committed to achieving the target of the EU Energy Efficiency Directive and respectively the amending directive until 2030 and beyond. Under the amending directive, EU countries will have to achieve new energy savings of 0.8% each year of final energy consumption for 2021-2030. Alpine regions are among the forerunners of promoting energy efficiency measures, but there is still huge effort needed to achieve these goals. High levels of final energy consumption are still observable by countries in certain areas, as well as in certain sectors such as in transport, building and residential sector or the tourism and leisure sector.</p> <p>Promoting energy efficiency measures additionally helps to tackle climate change and to reduce its impact in the most affected areas. Energy efficiency measures are needed at local, regional but also transnational level in order to be effective and to unfold a high impact.</p> <p>Efficiency concepts alone most probably will not be sufficient to manage the transition to a carbon neutral or even a to a post carbon society. Innovative steps therefore should go beyond efficiency and foster integrated, transnational concepts of well-being and post-carbon lifestyles that go further than mainstream approaches</p> <p>Due to their topography and geography but as well as to their traditions, societal set-up and state of economic development, the Alpine region pose a particularly suitable laboratory for testing and elaborating innovative, transnational approaches in the field of energy efficiency and sufficiency.</p>
PO 2	SO (iv) promoting climate change adaptation, risk prevention and disaster	Priority 1	<p>Characters: 1994</p> <p>Due to its topography, climate change affects the Alpine region more than other areas. The annual average temperature will increase in the Alpine arc. Changes in precipitation patterns are foreseen and the snow line will move higher. As a result, the Alpine region will have to cope with water scarcity and heat waves in</p>

	resilience;		<p>summer and warmer and more humid winters. Both nature and humans are will be directly affected by increasing temperatures.</p> <p>Additionally, climate change will lead to an increase in natural risks that pose a threat to settlements, infrastructure, livelihoods, human lives and nature. Mountainous regions as well as forelands will be highly affected and due to their vulnerability.</p> <p>Key sectors that will have to adapt to climate change and natural risks will be tourism and leisure sector, agriculture, forestry, water management, spatial planning and landscape planning. Apart from that, also the mobility-system and the settlement system will be affected, e.g. by an increase in floods or landslides (e.g. closed or endangered roads and other infrastructures, increase of “red zones”). Climate change will have major impacts on the economic and social system.</p> <p>The consequences of climate change will be manifold and represent a considerable challenge for Alpine nature, economy and society. These challenges will not be limited to national borders. The exact impacts are yet not quite clear and its variety is difficult to predict today. This uncertainty is an additional challenge that experts, administrations and policy makers have to cope with.</p> <p>Making the Alps more resilient with regard to climate change requires a huge joint effort of key actors in all sectors and across borders. It requires inter-regional and trans-national action leading to comprehensive adaptation measures in the Alpine region. Additionally there is no time to waste: the public costs of inaction in the field of climate change adaptation will be significantly higher than the costs invested now.</p>
PO 2	SO(vi): promoting the transition to a circular economy;	Priority 2	<p>Characters: 1987</p> <p>The linear orientation of the mainstream economy leads to an enormous consumption of resources and extensive accumulations of waste. In a world where resources are limited, the transition to new approaches such as the “circular economy³”, green economy⁴ and bio-economy⁵ are highly important and inevitable. These approaches can help reduce the overall resource use and the environmental impacts to a minimum and ensure social inclusion at the same time. Coordinated efforts in this context will be needed also in order to meet the global and European goals, e.g. as mentioned in the “European Green Deal”.</p> <p>The Alpine region shows a specifically high share of natural resources; for instance, wood and other raw materials or renewable energies. The exploitation and further processing of these materials requires innovative and environmentally friendly technologies, on the one hand. On the other hand, the natural and renewable resources provided in the Alpine region pose a wide range of opportunities in a sustainable circular, green economy. Additionally, many Alpine key sectors (e.g. tourism, mobility, ...)</p>

³ In a “circular economy”, the value of products and materials are maintained for as long as possible. Waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value. This can bring major economic benefits, contributing to innovation, growth and job creation (EC 2019: https://ec.europa.eu/growth/industry/sustainability/circular-economy_en).

⁴ UNEP has defined the “green economy” as “one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. It is low carbon, resource-efficient, and socially inclusive” (UNEP, 2011).

⁵ The European Commission defines the “bio-economy” as “the production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products and bioenergy. Its sectors and industries have strong innovation potential due to their use of a wide range of sciences, enabling and industrial technologies, along with local and tacit knowledge.” Source: “Innovating for Sustainable Growth - A Bio-economy for Europe” (2012).

			<p>pose interesting but also challenging sectors for the “circular economy”. Striking the balance in resource use and resource protection will be a key issue with Alpine wide dimensions.</p> <p>Thus the implementation of circular economy approaches together with green economy and bio-economy offer high potentials. They promote sustainable development with regard to Alpine key resources and key sectors, the implementation of new innovative and transnational solutions, fostering of value chains and breaking the linkage between economic growth and resource use in the long run.</p> <p>Given its environmental sensitivity and innovative potential, the Alpine region should build on its successful base and become a leader in developing and implementing circular economy solutions together with green and bio-economy. This can be achieved through transnational cooperation that would involve various types of actors and stakeholders.</p>
PO 2	SO(vii): enhancing biodiversity, green infrastructure in the urban environment, and reducing pollution	Priority 1	<p>Characters: 1944</p> <p>The Alpine region is an important European biodiversity hotspot that defines its environmental sensitivity but also offers significant opportunities for sustainable development.</p> <p>Alpine biodiversity and ecological connectivity have been under pressure for many decades especially since the second half of the last century. Intensive exploitation of natural resources and the use of land e.g. for settlements, transport, energy and touristic infrastructure have caused high losses in biodiversity and the fragmentation of ecosystems in the Alpine area. Additionally air and noise pollution caused by increased transport intensity and the production sector are particularly problematic.</p> <p>Climate change is an additional significant threat for Alpine biodiversity. Not only does climate change have an impact on species and ecosystems, but so do certain climate mitigation and adaptation measures, e.g. in the field of renewable energies (such as wind parks in areas of high biodiversity).</p> <p>Taking into account the outstanding value of Alpine ecosystems, green systems and the current and upcoming threats, a focus must be placed on further strengthening Alpine biodiversity, the connectivity among Alpine ecosystems.</p> <p>In that context multifunctional green and blue infrastructures offer solutions that both can help to protect biodiversity as well as the sustainable use of ecosystem services. Furthermore, Green and Blue Infrastructure can ensure a better functionality of Alpine cultural landscapes and local economy activities (tourism, agriculture,...) and can improve connection between rural and urban areas. The Alpine region has a high potential for multifunctional green infrastructures.</p> <p>The implementation of transnational green infrastructure solutions can greatly contribute to biodiversity, pollution reduction in all territorial types enhancing territorial potential, possibly by linking rural and urban areas and across national borders.</p>
PO 1: A smarter Europe by promoting innovative and smart economic transformation by:			
PO 1	SO(i): enhancing research and	Priority 3	<p>Characters: 1998</p> <p>Transnational cooperation on innovation and uptake of advanced technologies has a particular potential in fostering a climate</p>

	<p>innovation capacities and the uptake of advanced technologies</p>		<p>resilient, green, carbon-neutral and resource sensitive Alpine region, provided that the activities are more precisely tailored to the potentials of the programme and to the needs of the programme area.</p> <p>The Alpine region is heterogeneous with regard to the innovation-based performance. The cooperation on innovation has been taking place in the region for some time; however, the EC Orientation Paper states that “the Alpine Space is not (yet) a functional area for RDI”. Some regions are innovation leaders while others are less advanced with regard to innovation performance. Innovation support services are not evenly distributed in the Alpine region; they are particularly under-represented in rural areas. Cooperation between different types of actors in and between regions could be further strengthened. At the same time, many Alpine actors in private and public sectors are eager and open to benefit from the implementation of innovative solutions.</p> <p>Previous projects of the programme in this field focused on strengthening cooperation between private partners and academia as well as on the exchange of knowledge and practices. Such projects were abundant; however, given the low level of involvement of policy actors, their impact was limited. This calls for activities that more effectively focus on diffusing innovation services, strengthening transnational cooperation between different types of key actors and exploring interregional synergies by establishing a clear link to policy-making.</p> <p>At the same time, interventions under this SO should be targeted at the most pressing needs. They shall contribute to making the area more effective in seeking climate resilience, carbon-neutrality, green and resource sensitive solutions (thus in complementarity of Priority 1 and 2) as well as to addressing other issues of particular relevance in the Alpine region.</p>
<p>PO 1</p>	<p>SO (ii): reaping the benefits of digitisation for citizens, companies and governments</p>	<p>Priority 3</p>	<p>Characters: 1748</p> <p>Digitalisation is an increasingly relevant phenomenon and megatrend which affects a wide range of issues. These include business development and innovation, social innovation, work, education and training of skilled labour force, provision of public services, as well as a more efficient transformation to a carbon neutral and climate resilient territory, with help of better information flows.</p> <p>It is relevant in mountainous contexts such as in the Alps, where many areas are affected by remoteness and lack of accessibility, which are further aggravated by demographic changes and depopulation. Digitalisation in Alpine regions has the potential to contribute to mitigating these problems, leading to a reduced polarisation and bridging different territorial types through provision of new solutions and services for citizens and businesses. As such, it can help mitigate negative demographic trends and brain drain by offering new employment solutions and encouraging skilled and young actors to remain in rural and intermediate Alpine territories instead of moving to urban areas.</p> <p>Digitalisation can serve as an instrument for “future-proofing” the knowledge-based and green, resource-sensitive and carbon-neutral Alpine economy. Digitalisation, combined with innovation and creativity, can help make the Alps more resilient and flexible in adjusting to global trends and shifts in traditional economy, demographic as well as environmental and climate challenges. Such</p>

			solutions can be especially beneficially exploited in complementarity with Priorities 1 and 2 as well as other issues of particular relevance in the Alpine region: availability and access to SGIs, health, sustainable tourism, new working models and mobility and transport planning.
Interreg Specific Objectives - A better Interreg governance by (b) under component 1, 2 and 3 Interreg programmes:			
Interreg specific PO	enhance institutional capacity of public authorities and stakeholders to implement macro-regional strategies and sea-basin strategies	Priority 4	“The text describing Priority 4 “Interreg specific objective” will be drafted as soon as further information (e.g. from the process on governance-support started within EUSALP) will be available. However, the activities foreseen for Priority 4 should focus on supporting the governance-relation between EUSALP and the ASP programme 2021-2027“.

2. Priorities [300]

Reference: Article 17(4)(d) and (e)

Introduction to priorities to be added

2.1. **Priority 1: “Climate resilient and green Alpine region”**

Reference: Article 17(4)(d)

Text field: [300]

This is a priority pursuant to a transfer under Article 17(3)

Introduction to priority 1 to be added

2.1.1- Specific objective: “Promoting climate change adaptation, risk prevention and disaster resilience” (PO 2, Specific objective (iv))

Reference: Article 17(4)(e) (Text field 7000) (now: 6932)

The Alpine region will be highly affected by climate change in the upcoming years. The annual average temperature will increase, changes in precipitation events and patterns are foreseen and the snow line increases. The Alpine region will have to face periods of water scarcity and heat as well as of high precipitation, causing floods, landslides and other natural hazards. The mountainous regions as well as foothills and forelands of the Alps are highly vulnerable zones. Sectors particularly affected would be e.g. tourism and leisure time activities, food production (shift in crops and farm management), forestry and water management but also transport and mobility. The consequences of climate change in the Alpine region are expected to be manifold and represent a considerable challenge for alpine nature, economy and society.

The signs of climate change require urgent action. Adaptation to climate change is one element of a possible reaction, mitigation is another. Within this specific objective (SO), measures that foster the adaptation to climate change – “the process of adjustment to actual or expected climate and its effects.” as the IPCC puts it – should be covered. Mitigation measures will be covered in PO2 SO i, and SO iv.

The following areas seem to be of particular relevance for the implementation of this SO within the Alpine Space Programme 2021 – 2027:

From a transnational Alpine perspective the inter-relations within the natural, economic and societal systems are of special interest. The variety and the extent of the impacts caused by climate change are yet quite unclear (e.g. how will the concrete impacts of an increase in landslides and floods on tourism/leisure activities look like? How can administrations ensure road safety in the case of an increase in landslides? How do we have to deal with further soil consumption?). Additionally, differentiations within regions are still difficult to predict (e.g. “heat islands” in built-up areas). Hence, an increase in knowledge and the development of consultancy and services specifically in this context would contribute to development of tailor made, transnational adaption measures across the Alpine region that would enable preparation and involvement of stakeholders and citizens.

Adaptation measures related to risk prevention and disaster resilience should go hand-in-hand with the above mentioned general adaptation measures covered in this specific objective. Climate change will lead to an increase in natural hazards that pose an explicit threat to settlements, infrastructure, livelihoods and human lives in mountainous regions as well as in the forelands of the Alps. Therefore the Alpine Space Programme 2021-2027 should support the development of inter-regional and transnational frameworks, joint management approaches and services that foster risk prevention and disaster resilience in a comprehensive way.

In the Alpine region, actors can already look back on traditions of cooperation in climate change adaptation and risk management. In order to meet the global (UN Agenda 2030, Paris Agreement) and even more ambitious EU climate strategies and goals (e.g. European Green Deal, European Climate Law), increased efforts and a strong focus are the means of choice. Making the Alpine region more resilient with regard to the impacts of climate change requires a joint effort of the key actors together with citizens and citizen`s

organisations as well as a shift from sectorial to integrated and participatory approaches at transnational, regional and local level and should therefore be a main focus of the Alpine Space Programme 2021-2027.

2.1.1.1 Related types of action, and their expected contribution to those specific objectives and to macro-regional strategies and sea-basis strategies, where appropriate

Reference: Article 17(4)(e)(i), Article 17(9)(c)(ii)

Promote **climate change adaptation-measures** specifically focusing on the inter-relations between the natural, economic and societal systems in the Alpine region by:

- a) Developing strategies, solutions and pilots to rise the preparedness and adaptive capacity of the alpine society, economy and nature to cope with the impacts of climate change and establish climate services⁶ to foster the resilience of the Alpine region (e.g. societal/economic adaptation, health aspects, changes and needs of ecosystem services, financial aspects,...);
- b) Supporting information exchange and knowledge transfer at transnational/regional/local level to adapt to the impacts of climate change and to raise awareness among experts, policy makers and citizens;
- c) Organising solutions and pilot actions to bridge the gap between climate research and practical implementation and to integrate new research results into the adaptation practice at different levels and for different types of territories;
- d) Developing methodologies and tools aiming at measuring and monitoring the specific impacts of climate change to the lithosphere-biosphere-hydrosphere-cryosphere.

Promote risk prevention and disaster resilience that go hand-in-hand with the aforementioned adaptation measures by:

- e) Setting-up of preventive planning measures in the fields of spatial planning and risk management through the joint development of tools, interoperable databases; disaster monitoring-, warning- and response- systems at different territorial levels concerning all kind of natural hazards;
- f) Improving skills and competences for policy makers and stakeholders at different policy levels to make better use of digitalization in the field of risk prevention, risk management and climate change adaptation, e.g. by harmonizing and sharing data (incl. open data) and implementing innovative digital tools;
- g) Developing integrated and participatory concepts and implementing pilot projects in risk management as well as communication measures aiming at raising awareness and preparedness among policy makers at different policy levels as well as among citizens;
- h) Developing concepts and setting up coordination structures for the sustainable management of multifunctional protective forests and the establishment of Nature Based Solutions, taking into account Green and Blue infrastructure, water management and ecosystem services;
- i) Developing solutions and pilots for different types of territories in highly affected and exposed regions (e.g. high altitude environment with glacial mass reduction, permafrost degradation, or regions specifically hit by draught) as well as exposed main communications axes (e.g. roads, railways).

⁶ A “*climate service*” is the provision of climate information to assist decision-making. The service must respond to user needs, must be based on scientifically credible information and expertise, and requires appropriate engagement between the users and providers (www.climateurope.eu/definitions-climate-services/).

2.1.1.2 Indicators

Reference: Article 17(4)(e)(ii), Article 17(9)(c)(iii)

Table 2: Output indicators*

Priority	Specific objective	ID [5]	Indicator	Measurement unit [255]	Milestone (2024) [200]	Final target (2029) [200]
1	SO iv	RCO 83	Strategies and action plans jointly developed or implemented	Number of strategies/ action plans		
1	SO iv	RCO 84	Joint pilot activities implemented in projects	Number of pilot actions		
1	SO iv	RCO 116	Jointly developed solutions	Number of jointly developed solutions		

* indicators RCO 83 and 84 according to Annex 1 of draft regulation COM(2018)372 (29.5.2018), RCO 116 according to HIT-group

Table 3: Result indicators

Priority	Specific objective	ID	Indicator	Measurement unit	Baseline	Reference year	Final target (2029)	Source of data	Comments
1	SO iv	RRC 79	Joint strategies/ action plans taken up by organisations / after project completion	Number of Strategies and action plans	0				
1	SO iv	RRC 85	Participations in joint actions across borders 6-12 months after project completion	Number of participations in joint actions	0				
1	SO iv	RRC 104	Solutions taken up or up-scaled by organization	Number of solutions taken up	0				

* indicators RRC 79 and 85 according to Annex 1 of draft regulation COM(2018)372 (29.5.2018), RRC 116 according to HIT-group

2.1.1.3 The main target groups

Reference: Article 17(4)(e)(iii), Article 17(9)(c)(iv) Text field [7000]

Target groups the programme intends to reach related to the Specific objective: “Promoting climate change adaptation, risk prevention and disaster resilience” (PO 2, Specific objective (iv)):

- National, regional or local public authorities,
- Higher education and research institutions,
- Schools/education and training centres,

- National, regional or local development agencies,
- Interest groups including NGOs and citizen`s associations,
- Sectorial agencies,
- Infrastructure and (public) service providers
- Business support organization, including chambers of commerce, networks and clusters
- General public / citizens
- Other public organisations

Draft

2.1.2. Specific objective: “Enhancing biodiversity, green infrastructure in the urban environment, and reducing pollution” (PO 2, Specific objective (vii)):

Reference: Article 17(4)(e) (Text field 7000) (now: 6385)

The Alpine region marks a transnational biodiversity hotspot, even though situated within one of the most densely inhabited and connected areas in Europe. This particular context calls for urgent action. Alpine biodiversity and ecological connectivity have been under pressure for many decades, especially since the second half of the last century. Human activities, land use, exploitation of natural resources and pollution lead to habitat fragmentation and loss of biodiversity. Additionally, consequences of climate change (e.g. heat, drought,...) as well as certain climate mitigation and adaptation measures (e.g. the reinforced use of wind- or hydropower in sensitive regions) pose threats to Alpine biodiversity. The on-going and predicted reduction of living space and biotope fragmentation causes high losses in biodiversity and reduces ecosystem services.

What particularly distinguishes Alpine biodiversity is the coexistence of zones hardly influenced by humans and zones that have been cultivated for centuries by human beings for their living. Both are characterized by their high importance for Alpine biodiversity: In untouched areas, specific habitats were able to evolve. Valuable habitats however have also developed in areas used for agriculture and forestry, the so-called “cultural landscapes” of the natural and cultural heritage of the Alps. The traditional Alpine landscape is therefore a mosaic of different habitats.

Regarding these the following thrusts seem particularly relevant for the implementation of this SO within the Alpine Space Programme 2021-2027:

As the traditional Alpine landscape is characterized as a mosaic of coexisting habitats, the Alpine Space Programme will put a focus on the joint development of transnational Green and Blue multifunctional infrastructure-networks. Green⁷ and blue multifunctional infrastructures (GBI) offer integrated solutions that protect biodiversity and support the sustainable valorisation of ecosystem services. Networks of GBI also contribute to the provision of recreational areas close to residential homes and the help improve air quality. The latter is of particular importance for touristic and recreational opportunities and strongly supports health aspects (see e.g. “One-health-approach”).

Apart from that, the Alpine region will look more closely at the effects of climate change on biodiversity. Changes in temperature and precipitation have impacts on the phases of growth as well as the composition of the flora and fauna. This implies threats e.g. caused by “invasive species” or diseases but also opportunities for new species. Additionally, certain climate change mitigation and adaptation measures have strong impacts on the Alpine biodiversity and ecosystem services. Therefore, the Alpine Space Programme 2021-2027 will foster transnational cooperation, knowledge-exchange and reinforced research on the concrete impacts of climate change on Alpine biodiversity, in both protected (e.g. Natura 2000 areas, national parks, all further kinds of sanctuaries) and other areas.

The different territorial and transnational effects as well as the interplay of protected and non-protected habitats and the related ecosystem services should be the focus of attention. In addition, investigating “wilderness areas” and their contribution towards ecosystem services and biodiversity will be supported.

The extraordinary diversity of habitats makes the Alpine region one of the most important areas both for the preservation of biodiversity as well as the sustainable valorisation of ecosystem services. Developments in recent years and predicted future developments connected to climate change call for reinforced action. Cooperation at transnational, regional and local level as well as inclusive approaches will strongly support these efforts and therefore pose an important focus of this programme.

⁷ "Green Infrastructure can be broadly defined as a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings." (European Union (2013)).

2.1.2.1. Related types of action, and their expected contribution to those specific objectives and to macro-regional strategies and sea-basis strategies, where appropriate

- a) Implementing pilot projects that support Green and Blue infrastructure-networks (“TEN-G”), Nature Based Solutions (NBS) and innovative planning methodologies in order to strengthen Alpine biodiversity and ecosystem services, taking into account their contribution towards the social, cultural and economic systems (e.g. “One-health-approach”; integrated and sustainable approaches of system integration and valuation);
- b) Developing transnational solutions and implementing pilot projects on sustainable land use management, climate-friendly settlement development, soil protection and the sustainable valorisation of natural and cultural heritage, including cultural landscapes.;
- c) Supporting transnational cooperation, knowledge-exchange and reinforced research on the concrete impacts of climate change on Alpine biodiversity as well as the impacts of mitigation and adaptation measures for different types of territories, as well as in and for urban regions (e.g. to fight urban heat islands,...);
- d) Supporting measures of communication and awareness raising among different political levels and citizens concerning the valorisation of ecosystem services as well as Green and Blue infrastructure strategies across borders and their integration into regional and local planning;
- e) Developing methodologies and tools on transnational biodiversity management and GBI-infrastructure that foster digitalization and new information systems, specifically in the field of data harmonization and data accessibility;
- f) Elaborating policy frameworks and strategies to deal with wilderness areas and macro-regional scale ecological connectivity priority areas in an integrated approach as well as tools to manage these areas and to valorise them in the context of sustainable tourism;
- g) Developing strategies and solutions to cope with the impacts of energy management, hydro power, and energy grids on ecosystems and biodiversity.

2.1.2.2 Indicators

Reference: Article 17(4)(e)(ii), Article 17(9)(c)(iii)

Table 4: Output indicators

Priority	Specific objective	ID [5]	Indicator	Measurement unit [255]	Milestone (2024) [200]	Final (2029) target [200]
1	SO vii	RCO 83	Strategies and action plans jointly developed or implemented	Number of strategies/ action plans		
1	SO vii	RCO 84	Joint pilot activities implemented in projects	Number of pilot actions		
1	SO vii	RCO 116	Jointly developed solutions	Number of jointly developed solutions		

Table 5: Result indicators

Priority	Specific objective	ID	Indicator	Measurement unit	Baseline	Reference year	Final target (2029)	Source of data	Comments
1	SO vii	RCR 79	Joint strategies/ action plans taken up by organisations / after project completion	Number of Strategies and action plans	0				
1	SO vii	RCR 85	Participations in joint actions across borders 6-12 months after project completion	Number of participations in joint actions	0				
1	SO vii	RCR 104	Solutions taken up or up-scaled by organization	Number of solutions taken up	0				

2.1.2.3. The main target groups

Reference: Article 17(4)(e)(iii), Article 17(9)(c)(iv) Text field [7000]

Target groups the programme intends to reach related to the Specific objective: “Enhancing biodiversity, green infrastructure in the urban environment, and reducing pollution” (PO 2, Specific objective (vii)):

- National, regional and local public authorities,
- Higher education and research institutions,
- National, regional or local development agencies,
- Interest groups including NGOs and citizen`s associations,
- Schools/education and training centres,
- Sectorial agencies,
- Business support organisations, including chambers of commerce, networks and clusters,
- Infrastructure and (public) service provider,
- General public/ citizens,
- Other public organisations.

2.2. **Priority 2: “Carbon neutral and resource sensitive Alpine region”**

Text field: [300] This is a priority pursuant to a transfer under Article 17(3)

2.2.1. **Specific objective: “Promoting energy efficiency measures” (PO 2, Specific objective (i)):**

Reference: Article 17(4)(e) (Text field 7000) (now: 5952)

The European Union aims at becoming the first climate-neutral continent by 2050 with no net greenhouse gases in 2050 and economic growth decoupled from resource use. The ambitions with respect to carbon-neutrality have been reflected in undertaking various measures in the Alpine region in the last years. However, in order to reach the global and European targets, the efforts will have to be increased in the next years.

Energy efficiency measures – measures to use less energy but to perform the same tasks or services – are necessary in order to achieve these goals. Energy efficiency measures reduce the amount of energy needed and lower greenhouse gas emissions, thereby contributing to carbon neutrality. Energy efficiency in the long run also lowers costs for households as well as the economy and society due to the total reduction of energy needed for the production of warmth, electricity, transport etc.

The two sectors currently showing the highest per capita end-use of energy in Europe are road transport and the building sector. Road transport is one of the sectors that is highly relevant in the Alpine region. Although progresses towards energy efficiency have been made throughout the Alpine region and in different sectors, high levels of final energy consumption are still observable in certain areas, Road transport, next to the residential or the tourism and leisure sector, remains one of them. Efficiency concepts alone most probably will not be sufficient to manage the transition to a carbon neutral or even a post carbon society. Innovative steps should go beyond efficiency and foster integrated, sufficiency-oriented concepts of well-being and post-carbon lifestyles. This should be coupled with the use of renewable energy sources broadly available within the Alpine region (e.g. water, wind, solar power,...).

The promotion of energy efficiency measures is highly important to tackle climate change, as well as to implement circular economy-approaches. In this context, this SO should be seen as a “supporting objective” to SO iv “Promoting climate change adaptation” and SO vi “Promoting the transition to a circular economy”. The interventions in this SO should be complementary but not overlapping with these SO’s.

The following areas seem to be of particular relevance for the implementation of this SO within the Alpine Space Programme 2021 – 2027:

Due to their topography and geography as well their joint traditions, societal set-up and state of economic development, the Alpine region poses a particularly suitable laboratory for the elaboration and testing of innovative, cooperative approaches in the field of energy efficiency and the road towards sufficiency. Energy efficiency is knitted tightly to the need for economic development and competitiveness. Decoupling economic growth from resource consumption remains a challenge and hence is needed to be addressed in conjunction with energy efficiency targets and the further transition to low energy consumption and circular economy approaches.

To go a step further, the Alpine Space Programme 2021-2027 will contribute to establishing a paradigm shift to focus on developing post-carbon and sufficiency oriented solutions in the transnational context of the Alpine region, e.g. in the following fields:

- Building/housing/residential sector (see connection to the focus of SO vi – circular economy with a focus on existing buildings);
- Green/clean/soft mobility and transport e.g. connected to tourism and leisure time activities as well as specifically public passenger and freight transport (see connection to SO vi – circular economy)

- Land-use-policies and energy-spatial planning solutions to support efficient use of energy (see connection to the focus of SO iv – risk prevention and SO vii – enhancing biodiversity).

2.2.1.1. Related types of action, and their expected contribution to those specific objectives and to macro-regional strategies and sea-basis strategies, where appropriate

- Supporting innovative solutions as well as concrete pilot actions that foster sufficiency-oriented-post-carbon lifestyles as well as cross-sectorial approaches for different types of territories, e.g. in the planning/ building/ housing/ residential/ tourism /mobility & transport/ energy sector(s) that take into account the sustainable implementation of new energy-resources (e.g. GNV, hydrogen, bio GNV, electric mobility);
- Supporting the exchange of knowledge, good practices and R&D activities focusing on the transition from energy efficiency to sufficiency oriented approaches and to support the transition towards a post carbon economy and society in the Alpine region considering Multi-Energy-System-Integration and the sustainable use of renewables;
- Improving skills and competences for policy makers, stakeholders at different policy levels as well as energy communities to support the transition from efficiency to sufficiency and post-carbon oriented approaches, e.g. in the planning/ building/ housing/ residential/ tourism/ mobility & transport/ energy sector(s) also taking into account renewable energy sources;
- Developing cooperative and sustainable solutions to improve energy poverty policies concerning adequate and healthy heating, cooling, lighting and energy-to-power-appliances to enhance social inclusion, social innovation and encourage common policies for the Alpine region;
- Supporting knowledge transfer as well as communication measures in order to raise awareness among different policy levels and the citizens/consumers using approaches like behaviour economics and political framing in order to foster the paradigm shift towards sufficiency- and post-carbon approaches;
- Fostering integrated energy data collection, accounting, energy-management solutions and standard systems with a focus on transnationally connecting existing networks and solutions.

2.2.1.2. Indicators

Reference: Article 17(4)(e)(ii), Article 17(9)(c)(iii)

Table 6: Output indicators

Priority	Specific objective	ID [5]	Indicator	Measurement unit [255]	Milestone (2024) [200]	Final target (2029) [200]
2	SO i	RCO 83	Strategies and action plans jointly developed or implemented	Number of strategies/ action plans		
2	SO i	RCO 84	Joint pilot activities implemented in projects	Number of pilot actions		
2	SO i	RCO 116	Jointly developed solutions	Number of jointly developed solutions		

Table 7: Result indicators

Priority	Specific objective	ID	Indicator	Measurement unit	Baseline	Reference year	Final target (2029)	Source of data	Comments
2	SO i	RCR 79	Joint strategies/ action plans taken up by organisations / after project completion	Number of Strategies and action plans	0				
2	SO i	RCR 85	Participations in joint actions across borders 6-12 months after project completion	Number of participations in joint actions	0				
2	SO i	RCR 104	Solutions taken up or up-scaled by organization	Number of solutions taken up	0				

2.2.1.3. The main target groups

Reference: Article 17(4)(e)(iii), Article 17(9)(c)(iv) Text field [7000]

Target groups the programme intends to reach related to the Specific objective: “Promoting energy efficiency measures” (PO 2, Specific objective (i)):

- National, regional and local public authorities,
- Higher education and research institutions,
- Schools/education and training centres,
- Business support organisations, including chambers of commerce, networks and clusters,
- National, regional or local development agencies,
- Interest groups including NGOs and citizen`s associations,
- Sectorial agencies,
- Enterprises (incl. SME),
- Social organisations,
- Infrastructure and (public) service providers,
- General “public/citizens”,
- Other public organisations.

2.2.2. Specific objective: “Promoting the transition to a circular economy” (PO 2, Specific objective (vi)):

Reference: Article 17(4)(e) (Text field 7000) (now: 6640)

Fostering circular economy is one of the main thrusts of the European Green Deal. Circular economy refers to sustainable systems that treat resources as particularly valuable and attempt to close the resource loop. The principles of avoiding “waste” and trying to keep resources in use for as long as possible are relevant for the entire production-cycle. In this regard, circular economy is a far broader approach than just recycling or waste management. It strongly supports sustainable development, the mindful use of resources, climate-neutrality and both climate change mitigation and adaptation. Concerning the situation with COVID 19, circular economy is also widely assumed to be a suitable approach to tackle the crisis, strengthen resilience and support a “sustainable restart” of the social and economic system.

Regarding the concept of circular economy, the following directions seem particularly relevant for the implementation of this SO within the Alpine Space Programme 2021-2027:

The Alpine region is characterized by a high potential for natural resources. The exploitation and processing is mostly linked to highly material intensive sectors. Circular-economy-approaches will show great impact and foster the reduction of the overall material use as well as the implementation of innovative solutions. The Alpine Space Programme 2021-2027 will take a step further and link the circular economy approach with green economy-concepts as well as bio-economy. Examples of areas supported might be:

- “Cradle to cradle building”-concepts as advance of “sustainable building” (concerning key sectors such as construction and housing, energy, incl. renewable energy);
- (Trans-)regional material cycles and value-chains regarding resource efficient exploitation, processing and production, transport and use, recycling or up-cycling (e.g. production of sustainable materials and goods, sustainable handicraft and manufacturing, sustainable timber processing, building materials processing, recycling of batteries...), also taking into account sharing approaches and renewables (e.g. bioenergy from agricultural and food waste).

Further sectors with great importance for the Alpine region are tourism, leisure time activities and related sectors (e.g. food production, mobility). Here the Alpine Space Programme 2021-2027 will support the development of concepts regarding closed material cycles in Alpine tourism, mobility and related sectors. This might be achieved by:

- Fostering the use of high quality biological, indigenous and regional products (“food to fork-approach”);
- Reducing the total use and consumption of materials and resources in tourism and leisure time activities, including mobility;
- Fostering approaches in waste recycling (e.g. “plastic free” Alpine region, reducing food waste,...) and valorisation of waste (e.g. wood and agri-food chains, urban waste).

Furthermore, consumer- and social innovation oriented processes play an important role. To support the transformation towards circular economy, green economy and bio-economy as well as more eco-sufficiency, consumers and their behaviour have to be addressed. The existing awareness of consumers, stakeholders and citizens should be strengthened and joint solutions towards circular economy-approaches considering behaviour economics should be developed.

Regarding the different territorial types, circular economy-approaches strengthen the economic development in rural as well as in urban regions:

- The concept poses specific opportunities for rural and mountainous regions with high potentials of renewables with regard to their sustainable valorisation as well as the exploration of the opportunities of bio-economy.

- Additionally, regional material cycle solutions are particularly appropriate for mountainous areas with constricted transport routes. These solutions can have additional positive environmental impacts like a reduction of pollution and CO2 emissions due to reduced transport needs.
- Alpine cities and towns might be specifically well suited to embark on innovative waste management solutions, taking into account digitalization (e.g. “smart solutions”).

This SO (PO2, SO vi) will represent a focus of the future Alpine Space Programme 2021-2027. It has strong inter-linkages with PO2, SO i. Further important framework documents that strongly support circular economy are the new “Industrial Strategy and Circular Economy Action Plan”, the “Farm to Fork Strategy for sustainable food” and proposals for a pollution-free Europe prepared by the European Commission.

2.2.2.1 Related types of action, and their expected contribution to those specific objectives and to macro-regional strategies and sea-basis strategies, where appropriate by:

- Setting-up circular/green/ bio-economy-solutions to facilitate the development and implementation of circular and green economy-approaches among different actors with a focus on the Alpine key resources and key sectors above mentioned and implement innovative (pilot)projects;
- Improving skills and competences of stakeholders at all policy levels and in the relevant business sectors to pave the way towards the implementation of circular, green economy- as well as bio-economy approaches including the set-up of indicators and monitoring systems;
- Developing and implementing "transnational value chains"-concepts based on regional assets and resources, competences and needs referring to the EU-key-concept of “strategic value chains”, supporting industrial and innovation stakeholders in the Alpine region;
- Exchanging good practices and implementing pilot projects supporting inter-regional circular economy approaches that promote bio-economy ,the use of indigenous biological and regional products and that support waste reduction specifically in the above mentioned key sectors (including e.g. refurbishment activities, enhancing supply chains, ...);
- Supporting measures of communication, capacity building and awareness raising for stakeholders at different policy and implementation levels (e.g. including SMEs etc.)as well as citizens/consumers using approaches like behaviour economics and political framing concerning the concept of “circular economy”, “green economy” as well as “bio-economy” to support a better understanding for the needed transformation processes.
- Supporting the development of clusters specialized in circular and green economy-approaches as well as circular bio-economy fostering research, innovation, implementation and cooperation particularly in the in the above mentioned key sectors.

2.2.2.2. Indicators

Reference: Article 17(4)(e)(ii), Article 17(9)(c)(iii)

Table 8: Output indicators

Priority	Specific objective	ID [5]	Indicator	Measurement unit [255]	Milestone (2024) [200]	Final target (2029) [200]
2	SO vi	RCO 83	Strategies and action plans jointly developed or implemented	Number of strategies/ action plans		
2	SO vi	RCO 84	Joint pilot activities implemented in projects	Number of pilot actions		
2	SO vi	RCO	Jointly developed solutions	Number of jointly		

		116		developed solutions		
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Table 9: Result indicators

Priority	Specific objective	ID	Indicator	Measurement unit	Baseline	Reference year	Final target (2029)	Source of data	Comments
2	SO vi	RCR 79	Joint strategies/ action plans taken up by organisations / after project completion	Number of Strategies and action plans	0				
2	SO vi	RCR 85	Participations in joint actions across borders 6-12 months after project completion	Number of participations in joint actions	0				
2	SO vi	RCR 104	Solutions taken up or up-scaled by organization	Number of solutions taken up	0				

2.2.2.3. The main target groups

Reference: Article 17(4)(e)(iii), Article 17(9)(c)(iv) Text field [7000]

Target groups the programme intends to reach related to the “Promoting the transition to a circular economy” (PO 2, Specific objective (vi)):

- National, regional and local public authorities,
- Higher education and research institutions,
- Schools/education and training centres,
- Business support organisations, including chambers of commerce, networks and clusters,
- National, regional or local development agency,
- Interest groups including NGOs and citizen`s associations,
- Enterprises (incl. SME),
- Sectorial agencies,
- Infrastructure and (public) service provider,
- Social organisations,
- General public/ citizens,
- Other public.

2.3. Priority 3: “Innovation and digitalisation supporting green Alpine region”

2.3.1. Specific objective: “Enhancing research and innovation capacities and the uptake of advanced technologies” (PO 1, specific objective (i))

Reference: Article 17(4)(e) (Text field 7000), characters: 7268

Cooperation on innovation capacities is a transversal activity that can strengthen programme’s impact in particular thematic fields by increasing innovation potential of Alpine actors. Enhancing research and innovation capacities in the Alpine region should effectively be fostered by cooperation between actors and stakeholders in different regions.

However, it should be ensured that its implementation takes place according to the present needs and lessons learnt from the past. Traditional approaches that focus on cooperation between private actors and academia can have even stronger impact with embedment of policy-makers. Creating a stronger link to innovation policies can safeguard provision of policy solutions to strengthen actors’ capacity to innovate and jointly develop and implement innovative solutions. Better alignment and coordination of policy-making in the transnational context is necessary in order to help regions overcome barriers in cooperation on innovation and uptake of advanced technologies. This will lead to establishing and strengthening existing synergies and functional links, reducing polarisation between urban and rural regions, for example by diffusing innovation services, capacities and linking key actors.

At the same time, the programme should further ensure involvement of diverse actors from research, innovation, academia, private sectors and civil society. Its focus should be not only result-oriented innovation seeking particular solutions, but also innovation with regards to processes. This can be done not in the least by encouraging an open and inclusive culture, contributing to bottom-up development of joint solutions by involving wide a range of actors (including also citizens, students of all ages next to academic and economic actors). Next to innovation in particular fields, this approach should also support social innovation and its application in relevant fields, such as SGIs. Clusters and innovation hubs can continue to benefit from transnational cooperation leading to internationalisation, exchange and sharing of good practices and better diffusion of innovation support services in all Alpine regions.

It is important to observe that the innovativeness of solutions sought in the programme refers not only to the objective of making business actors more competitive, or even to making other actors, such as public bodies and other organisations, more capable of applying innovative solutions and technologies. In the context of Priorities 1 and 2, innovation also means the “green” character of activities, impacts of projects as well as methods and practices of project management. Project partners are strongly encouraged to consider expected and unexpected impacts of their projects on the environment and sustainability, to seek mitigation of possible adverse effects of the implementation of innovations and technologies, to strengthen any possible positive effects and, whenever possible, to incorporate mechanisms or practices that will unleash such positive effects.

Regarding these considerations the following thrusts seem particularly relevant for the implementation of this SO within the Alpine Space Programme 2021-2027:

Activities can address a range joint challenges which are either persistent or emerging, such as those linked to the COVID-19 health crisis. The interventions under this SO should be complementary but not overlapping with activities in other SOs. Thus, an effective implementation of joint policy solutions shall directly and indirectly, with relation not just to their objective but also the process, lead to an improved transnational framework condition for innovation and uptake of advanced technologies. Pursuing these topics should consider above-mentioned principles such as creating links with the policy level, fostering process innovations and greening practices, open and inclusive culture and social innovation and links to policy level and greening aspects.

From this perspective, activities under this SO should be thematically focused on the topics of Priorities 1 and 2. Next to these priorities, if deemed relevant in the mountainous Alpine context, other topics (such as

access and provision to SGIs, including health care and medical innovations, sustainable tourism and social innovation) have particular relevance and can be addressed. These thematic fields have also increased relevance due to dangers of health crises, such as the COVID-19 pandemic.

At the same time, cooperation should focus on reducing innovation disparities between different regions and diffusing innovation support services, including clusters and innovation hubs and linking relevant actors.

2.3.1.1. Related types of action, and their expected contribution to those specific objectives and to macro-regional strategies and sea-basis strategies, where appropriate by

- a) Developing or supporting **common strategies, actions plans and other solutions** (e.g. policy instruments and management tools) as well as **pilot projects or activities** to support innovation and uptake of advanced technologies considering involvement of policy-level and open and inclusive culture, and place particular focus on thematic foci such as Priorities 1 and 2, SGI, health and medicine, and sustainable tourism that can be addressed through social innovation. For example:
 - i. Shaping an innovation ecosystem that builds on the natural resources of the area, and supporting the development of new sustainable value chains (or better integration of existing ones) with involvement of all relevant actors, including individuals and social stakeholders, promoting and exploring solutions for eco-innovation and green economy as a trigger for regional development;
 - ii. Addressing innovation gaps in non-urban areas, reinforcing urban-rural linkages in the field of innovation, support access of rural businesses to the urban innovation support services and diffusion of innovation support services;
 - iii. Supporting clusters and innovation hubs cooperation in different territories, focusing particularly on urban-rural links;
 - iv. Supporting innovation models which better address topics of highest relevance in the Alpine region and involve greening practices; ideas for “greening” of transnational innovation activities and entrepreneurship in all sectors, processes and ecosystems in the Alpine region, solutions for identifying and mitigating adverse environmental impacts;
 - v. Promoting and exploring application of social innovation to SGIs, health and medical innovations, sustainable tourism with particular consideration of bottom-up and open and inclusive approaches such as co-creation and living labs;
- b) Supporting the **coordination between innovation activities and policies and other policy domains** of highest relevance in the Alpine region P1 and P2 as well as other topics of particular relevance;
- c) Implementing **networking activities, networking tools, advisory services and exchange platforms** to support the innovation potential in areas of highest relevance in the Alpine region;
- d) Develop common data collection, indicators and monitoring systems harmonized across borders, ensure the update and sustainability of data collection and monitoring systems.

2.3.1.2. Indicators

Reference: Article 17(4)(e)(ii), Article 17(9)(c)(iii)

Table 10: Output indicators

Priority	Specific objective	ID [5]	Indicator	Measurement unit [255]	Milestone (2024) [200]	Final target (2029) [200]
3	SO i	RCO 83	Strategies and action plans jointly developed or implemented	Number of strategies/ action plans		

3	SO i	RCO 84	Joint pilot activities implemented in projects	Number of pilot actions		
3	SO i	RCO 116	Jointly developed solutions	Number of jointly developed solutions		

Table 11: Result indicators

Priority	Specific objective	ID	Indicator	Measurement unit	Baseline	Reference year	Final target (2029)	Source of data	Comments
3	SO i	RCR 79	Joint strategies/ action plans taken up by organisations / after project completion	Number of Strategies and action plans	0				
3	SO i	RCR 85	Participations in joint actions across borders 6-12 months after project completion	Number of participations in joint actions	0				
3	SO i	RCR 104	Solutions taken up or up-scaled by organization	Number of solutions taken up	0				

2.3.1.3. The main target groups

Reference: Article 17(4)(e)(iii), Article 17(9)(c)(iv) Text field [7000]

- National, regional, local national authorities,
- Sectorial agencies
- Business support organisations, including chambers of commerce, networks and clusters,
- Higher education and research institutions,
- Enterprises including SMEs,
- Infrastructure and (public) service providers,
- General public / citizens,
- Interest groups including NGOs and citizen`s associations.

2.3.2. Specific objective: “Reaping the benefits of digitisation for citizens, companies and governments” (PO 1, specific objective (ii)):

Reference: Article 17(4)(e) (Text field 7000) (7223)

Digitalisation offers opportunities to address joint challenges which are particularly prominent in mountainous areas such as the Alpine region. New digital tools can be developed to mitigate the impacts of accessibility problems and remoteness coupled with negative demographic situations in many regions. Such increased flexibility can be particularly attractive in the context of territorial specificity of the Alps as well as its ambition to become climate resilient, carbon neutral, green and resource sensitive. Due to the emergence of COVID-19, the need to support digital transition in these fields in all regions is even more pronounced.

Application of digital solutions can pave a way to a more open, inclusive and participative society and citizen-empowerment that is based on cooperation between different actors such as authorities, citizens and businesses. Digitalisation can be used to support social changes and behaviour, lifestyle and leisure shifts that support more sustainable communities. However, in order to fully unlock its potential, cyber-security and privacy risks need to be appropriately addressed along implementation of digital solutions. Active role of policy makers in developing standards and raising awareness of citizens, as well as responsibility of economic actors should be emphasised in this regard.

Next to increased social sustainability and social innovation, digitalisation also provides opportunities for businesses. Strengthening sustainable economic development in terms of new working structures, product and service provision, innovativeness as well as improved information flows are only a few examples. Digitalisation also facilitates implementation of greening practices by businesses. Principles that should be pursued in these activities are the inclusion of appropriate groups, such as policy-makers or civil society, as well as safeguarding that any activities have a positive environmental impact.

Regarding these considerations the following thrusts seem particularly relevant for the implementation of this SO within the Alpine Space Programme 2021-2027:

There are diverse ways in which territorial cooperation can bring about the benefits of digitalisation which are relevant to the Alpine region. Projects can explore new and flexible opportunities for working and provision of products and services, new working conditions and working structures, new production-processes, focus on individualised products and services. Activities can also focus on customised solutions and services, focus on production processes and services with low material input and high service component, or the sharing and creative economy. The programme can empower different actors to develop, experiment and implement such solutions in various contexts via transnational cooperation. Sharing of practices and joint experimentation with new approaches can inspire and be applied. This can also involve advanced innovative digital solutions such as AI, machine learning, IoT, Alpine-wide interoperability of data for private and public purposes. This requires involvement of different actors as well as, importantly, presence of civil society as well as policy-making in order to ensure the uptake of solutions.

A particular focus on digital divide and regions that are lagging in terms of digital innovation in territorial cooperation will ensure the cohesion of the Alpine region. It is particularly important that activities tackle the digital divide between less and more advanced regions as well as between fluent users and people without sufficient knowledge and/or physical access to information and communication technologies. This constitutes a general policy challenge to digital transformation that affects all age and social groups as well as urban, intermediate or rural regions. It is essential to ensure that policy actors are well-equipped to address these joint needs. In order to ensure ultimate effectiveness in implementing digital solutions, the involvement of policy-level in such activities should also be geared towards ensuring their safety in cyberspace and protection of privacy.

2.3.2.1. Related types of action, and their expected contribution to those specific objectives and to macro-regional strategies and sea-basis strategies, where appropriate by:

- a) Developing or supporting **pilot projects or activities** as well as **common strategies, actions plans and other solutions** (e.g. policy instruments and management tools) to support reaping the benefits of digitalisation in different fields to bring about socially and environmentally sustainable change. For example:
- Developing and testing solutions that better address the response to sustainable development efforts, and to contribute to solutions for climate resilience, resource sensitivity, green and carbon neutrality;
 - Developing and testing solutions to support flexible SGI provision in all types of areas and for all types of users with regards to e-health/smart health, e-government as well as telemedicine, to be applicable in general and not only in times of health crises;
 - Developing and testing solutions to support e-learning, new working structures (home-office and other forms of flexible working) in order to provide more attractive living possibilities in remote areas;
 - Developing and testing solutions to support business development opportunities, product and service development, strengthening of regional value chains and regional marketing;
 - Contributing to elaboration and implementation of Smart Villages and Smart Cities concepts;
 - Implementing pilot projects or other activities to accompany SMEs in their digital transformation, with the overarching aim to increase environmental sustainability (e.g. using digitalisation to showcase carbon positive integrated solutions that reduce their carbon footprint and increase competitiveness).
- b) Promoting integration of digitalisation as a transversal policy issue: supporting **coordination between digitalisation activities and policies and other policy domains** of highest relevance in the Alpine regions and in response to sustainable development efforts, demographic trends and increase in well-being, particularly focusing in the following policy issues
- Developing and testing solutions and policies to mitigate digitalisation-related security risks such as cyber security, privacy, data-protection;
 - Developing and testing solutions and policies to closing the digital divide between regions (including explore synergies between rural and urban areas through digital solutions), as well as between more and less fluent users.
- c) Implement activities to facilitate **networking activities, networking tools, advisory services and exchange platforms:**
- Setting up or supporting transnational network structures and platforms for sharing exchange of good practices and knowledge with regards to policy solutions supporting digitalisation;
 - Setting up or supporting Digital Innovation Hubs.
- d) Developing common data collection, indicators and monitoring systems harmonized across borders, ensure the update and sustainability of data collection and monitoring systems.

2.3.2.2. Indicators

Reference: Article 17(4)(e)(ii), Article 17(9)(c)(iii)

Table 10: Output indicators

Priority	Specific objective	ID [5]	Indicator	Measurement unit [255]	Milestone (2024) [200]	Final target (2029) [200]
3	SO ii	RCO 83	Strategies and action plans jointly developed or implemented	Number of strategies/ action plans		
3	SO ii	RCO 84	Joint pilot activities implemented in projects	Number of pilot actions		
3	SO ii	RCO 116	Jointly developed solutions	Number of jointly developed solutions		

Table 11: Result indicators

Priority	Specific objective	ID	Indicator	Measurement unit	Baseline	Reference year	Final target (2029)	Source of data	Comments
3	SO ii	RCR 79	Joint strategies/ action plans taken up by organisations / after project completion	Number of Strategies and action plans	0				
3	SO ii	RCR 85	Participations in joint actions across borders 6-12 months after project completion	Number of participations in joint actions	0				
3	SO ii	RCR 104	Solutions taken up or up-scaled by organization	Number of solutions taken up	0				

2.3.2.3. The main target groups

Reference: Article 17(4)(e)(iii), Article 17(9)(c)(iv) Text field [7000]

- National, regional and local authorities,
- Sectorial agencies,
- Higher education and research institutions,
- National, regional or local development agencies,
- Other public organisations,
- General public / citizens
- Social organisations,
- Business support organisations, including chambers of commerce, networks and clusters,
- Enterprises including SMEs
- Interest groups including NGOs and citizen`s associations.