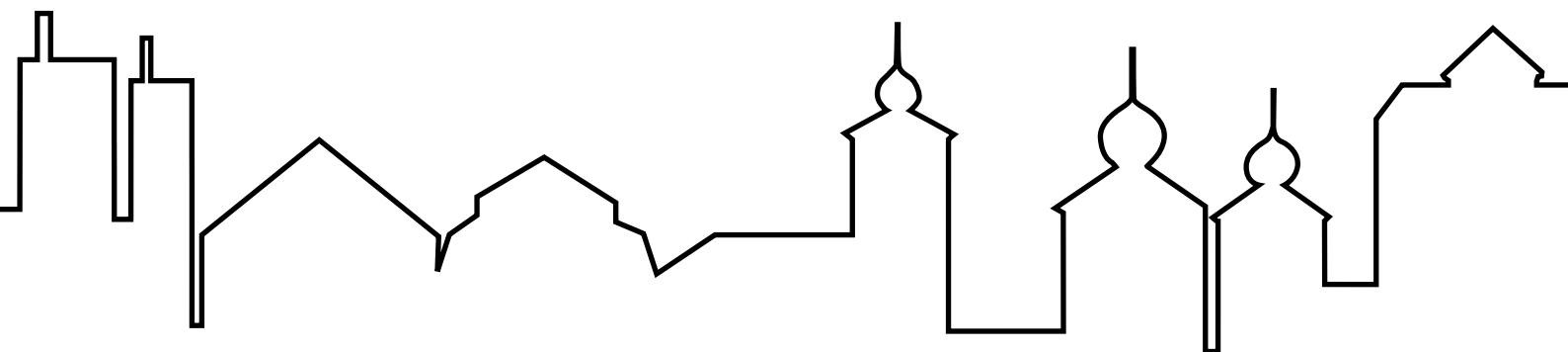


# ALPINE TOWNS

Key to sustainable development in the Alpine region

## Annex II: Thematic Scenario Background



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This Annex is part of the 9th Report of the State of the Alps RSA9:  
'Alpine Towns: Key to sustainable development in the Alpine region'

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## A) Factsheet collection: key factors and future projections

The following factsheets were developed during the scenario process and provide some basic information for each key factor. They were developed to support the discussions in the group and thus need to be seen as part of the RSA9 toolbox.

The factsheets also include the future projections for each key factor, as developed in a co-creative process with the RSA9 working group and invited experts during the workshop on future projections in September 2021 (see *Annex I: Technical Background* for further information on the process).

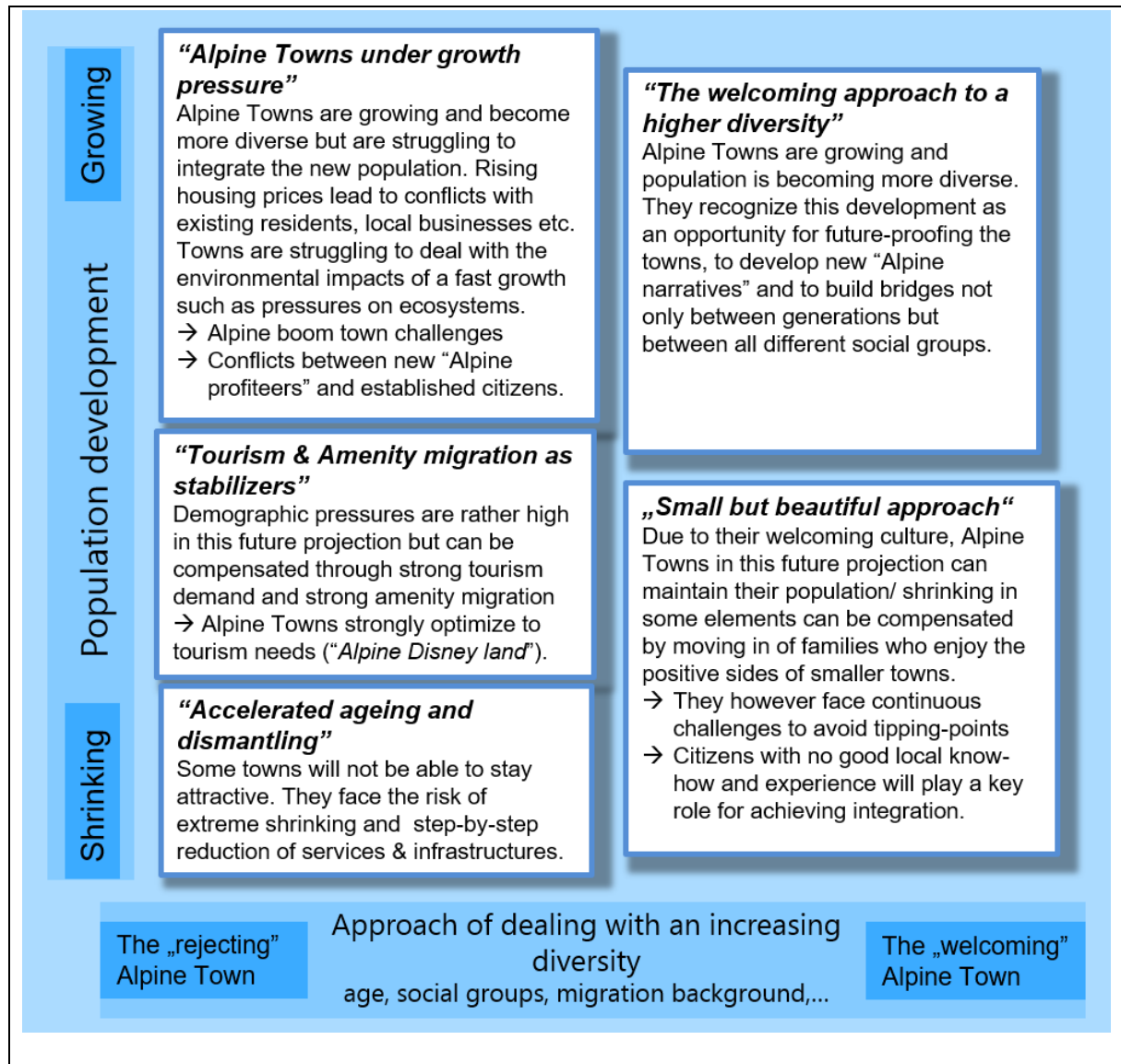
# 1. Driver 1: Demography, urbanisation and spatial development

## 1.1 Factsheet Key factor 0: Demography and migration

<i>General description</i>	
<b>Short description of the key factor</b>	<p>In order to describe Alpine cities' and towns' characteristics and their future development it is necessary to take a closer look at their population and how it changes over time.</p> <p>In our scenario process we therefore focus on demographic indicators that refer to population size and its composition. Also the factor migration is highly relevant and can be extended to the migration of highly skilled labor force, tourists as well as the permanent migration of seasonal workers or commuters.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Demographic indicators (population size, fertility rates, mortality rates, working age population/labor force, young population, elderly population, migration rates)</li> <li>- Social mix</li> <li>- Cross-border and international migration of highly skilled workers</li> <li>- Amenity migration</li> <li>- Seasonal workers</li> <li>- Commuters</li> </ul>
<b>Alpine specific character</b>	<p>"The Alpine Region is characterized by large demographic disparities which are linked to territorial types. Metropolises and larger cities are almost always the centre of growth trends, whereas patterns in the rural areas are more diverse: there are stable and even growing regions (e.g. in the South-western Alps) whereas a decline of population can be observed especially in Eastern Alps, e.g. in Lower Austria and Styria. In addition, better employment and GDP trends can be found in the Northern Alps.</p> <p>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 areas tend to show the most positive values whereas rural patterns are more diverse. 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." (Source: Alpine Space Programme 2021)</p> <p>In the context of tourism there is an ongoing trend of amenity migration. It is characterized by globalisation and in some areas of the Alpine Region it compensates out-migration from mountain areas. (see LÖFFLER et. al. (2016), p. 484).</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- <a href="#">Demographic Scenarios for the EU – Migration, Population and Education   EU Science Hub (europa.eu)</a></li> </ul>

	<ul style="list-style-type: none"> <li>- <a href="#">Amenity Migration in the Alps: Applying Models of Motivations and Effects to 2 Case Studies in Italy (researchgate.net)</a></li> <li>- <a href="https://data.oecd.org/pop/population.htm">https://data.oecd.org/pop/population.htm</a></li> <li>- <a href="#">New Highlanders in Traditional Out-migration Areas in the Alps (openedition.org)</a></li> <li>- LÖFFLER et.al. (2016): Amenity Migration in the Alps: Applying Models of Motivations and Effects to 2 Case Studies in Italy. In: Mountain Research and Development (MRD). p.484-493).</li> </ul>
<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- Eurostat: <a href="#">City Statistics</a></li> <li>- Including data on Population structure – functional urban areas</li> <li>- CHILLA, HEUGEL et. al. (2018): The Alps 2050 Atlas – common spatial perspectives for the alpine area. Towards a common vision. (p.19-31). Download: <a href="#">Alps2050 – Common Spatial Perspectives for the Alpine Area. Towards a Common Vision   ESPON</a></li> </ul>
<b><i>Future projections: brainstorming results and future portfolios</i></b>	
<b>Brainstorming results on potential future developments</b>	<ul style="list-style-type: none"> <li>- Growing vs. shrinking population: demographic development of Alpine towns, younger and older generations: some towns might be growing and are attractive for young people and families, others are 'dying out'</li> <li>- Potential developments crucially depend on location, environmental and economic conditions, developments in other areas (e.g. digitalisation) → not 'one' future picture for Alpine towns but different development pathways are possible</li> <li>- Some general uncertainties also need to be considered: life expectancy in general, fertility rates, future pandemics...</li> </ul> <p><b>Factors for in-migration:</b></p> <ul style="list-style-type: none"> <li>- Amenity migration: Alpine region becomes more attractive with climate change: provides moderate climate, ...(+ 'Alps as playground of Europe') → '<i>Alpine profiteers</i>' → This could rather profit smaller towns at higher altitude vs. larger towns in the valleys (but could be limited as only available for the rich)</li> <li>- Increasing demand from families as living in smaller towns becomes attractive again with the opportunity of remote work ('urbanisation beyond the large cities')</li> <li>- New lifestyles could lead to new residents in Alpine towns: 'Nomad' lifestyle, 'new highlanders'</li> <li>- [Degree of international migration, especially role of international refugees in Alpine town]</li> </ul> <p><b>Factors for out-migration:</b></p> <ul style="list-style-type: none"> <li>- Potential tipping points need to be considered: when economic and/or environmental conditions are worsening and SGIs cannot be provided, some towns are losing attractiveness → Risk of 'dying out' / 'senior citizen villages' → authorities might decide to abandon certain areas (or even whole towns?) → 'Exodus' of larger towns in the valleys with people moving to more rural areas with better environmental condition</li> </ul> <p><b>Challenges and impacts coming along with demography and migration:</b></p> <ul style="list-style-type: none"> <li>- Segregation between Alpine towns: beneficiaries vs. losers</li> <li>- increase in living costs in attractive Alpine town, increasing land and housing costs</li> <li>- Role of tourists and second-home residents within Alpine towns: some towns could be fully optimized to meet the needs of 'second-homers'. But</li> </ul>

	<p>also need to integrate these new needs into original image of the relevant town</p> <ul style="list-style-type: none"> <li>→ growth is mostly based on 'foreign' immigration</li> <li>- In-migration of families: infrastructure development needs to keep pace</li> <li>- New traditions and new 'Alpine narratives' that derive from new social mix             <ul style="list-style-type: none"> <li>→ social diversity as opportunity for Alpine towns</li> </ul> </li> <li>- How to ensure involvement and taking-over of responsibilities from new inhabitants? → The 'welcoming city' vs. the 'rejecting city'</li> </ul>
<p><b>Main future uncertainties and future portfolio</b></p>	<ol style="list-style-type: none"> <li>1. <b>Growing vs. shrinking population:</b> Demographic development of Alpine towns, younger and older generations, in- and out-migration, amenity migration... → all challenges and impact related to growing or shrinking can be subsumed here</li> <li>2. <b>Dealing with diversity: 'The welcoming' vs. 'rejecting' Alpine town:</b> Degree of dealing with the challenges related to in-migration and a higher diversity, transforming challenges into opportunities → specific consideration on how to deal with amenity migration and 'new lifestyle' residents: how much will Alpine towns adopt to their needs vs. how strong can they stick to their traditional 'roots' and original images</li> </ol>

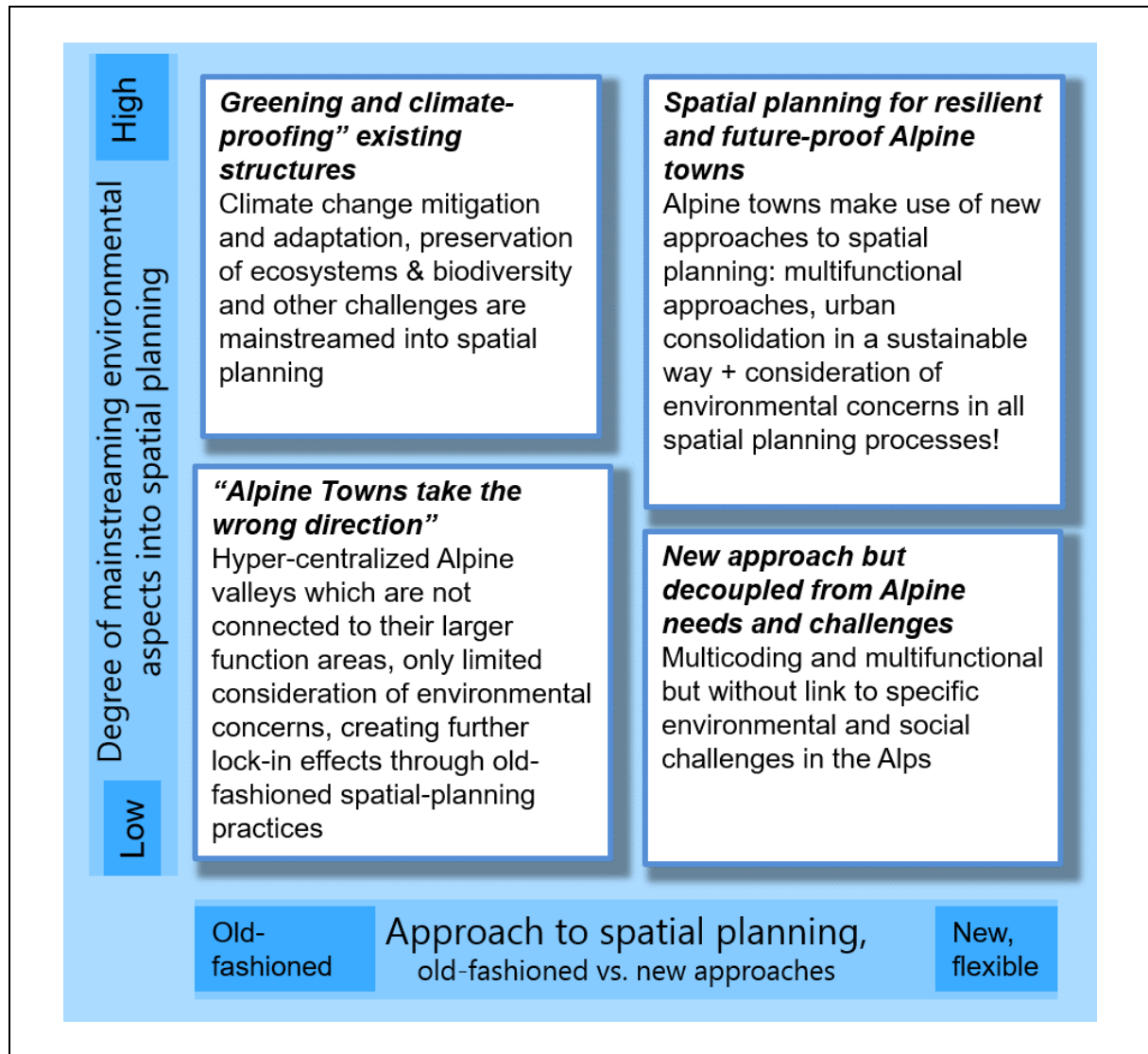




## Factsheet Key factor 1: Spatial structures and development

<i>General description</i>	
<b>Short description of the key factor</b>	<p>This key factor describes how Alpine towns are embedded in the broader spatial context and how they are connected to their agglomerations but also to rural areas, e.g. in the context of functional areas. Spatial planning instruments and frameworks have been adjusted to deal with strategic planning of such functional areas.</p> <p>'Urbanisation' as a megatrend is still relevant also in the Alps but taking on more diverse characteristics. Due to new work concepts and modern lifestyles but also to new transport infrastructures and services urban lifestyles are no longer only possible within larger cities but also in smaller towns that are well connected. The COVID-19 pandemic has accelerated this countertrend.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Spatial structures (settlement system, urban and rural areas etc.)</li> <li>- Spatial planning instruments and frameworks and their differences</li> <li>- Integrated urban rural development strategies</li> <li>- Local and regional cooperation between authorities</li> </ul>
<b>Alpine specific character</b>	<p>The spatial development within the Alpine Region is diverse and complex and depends on morphological structures as well as political decisions and strategies. (s. CHILLA, HEUGEL et. al. (2019): 10.). Due to the different countries with their respective legal, political and planning schemes there is a lack of common understanding. For example there is no common understanding of municipality sizes (ebd.).</p> <p>"The Alpine region is a specific geographical space, embodying spectacular landscape features, a precious cultural heritage, a touristic destination of global importance, being simultaneously an overall prosperous region and an ecological hot spot – diverse, unique, and vulnerable. At the same time, the Alpine area is a space of important internal linkages and characterised by an increasing embeddedness in global networks: Being located in the heart of Europe, the region is hence part of the dynamic development of a globally integrated economy." (<a href="https://www.espon.eu/Alps2050">https://www.espon.eu/Alps2050</a>)</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Alps 2050 Atlas and further documentation: <a href="https://www.espon.eu/Alps2050">https://www.espon.eu/Alps2050</a></li> <li>- Joint Research Centre (2019): The Future of Cities – Opportunities, challenges and the way forward (chapter on Urbanisation)</li> </ul>
<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- CHILLA, HEUGEL et. al. (2018): Alps2050 – Common spatial perspectives for the Alpine area. Towards a common vision. Download: <a href="#">Alps2050 – Common Spatial Perspectives for the Alpine Area. Towards a Common Vision   ESPON</a></li> <li>- CHILLA, HEUGEL et. al. (2019): The Alps 2050 Atlas – common spatial perspectives for the alpine area. Towards a common vision. (p.9-18). Download: <a href="#">Alps2050 – Common Spatial Perspectives for the Alpine Area. Towards a Common Vision   ESPON</a></li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	

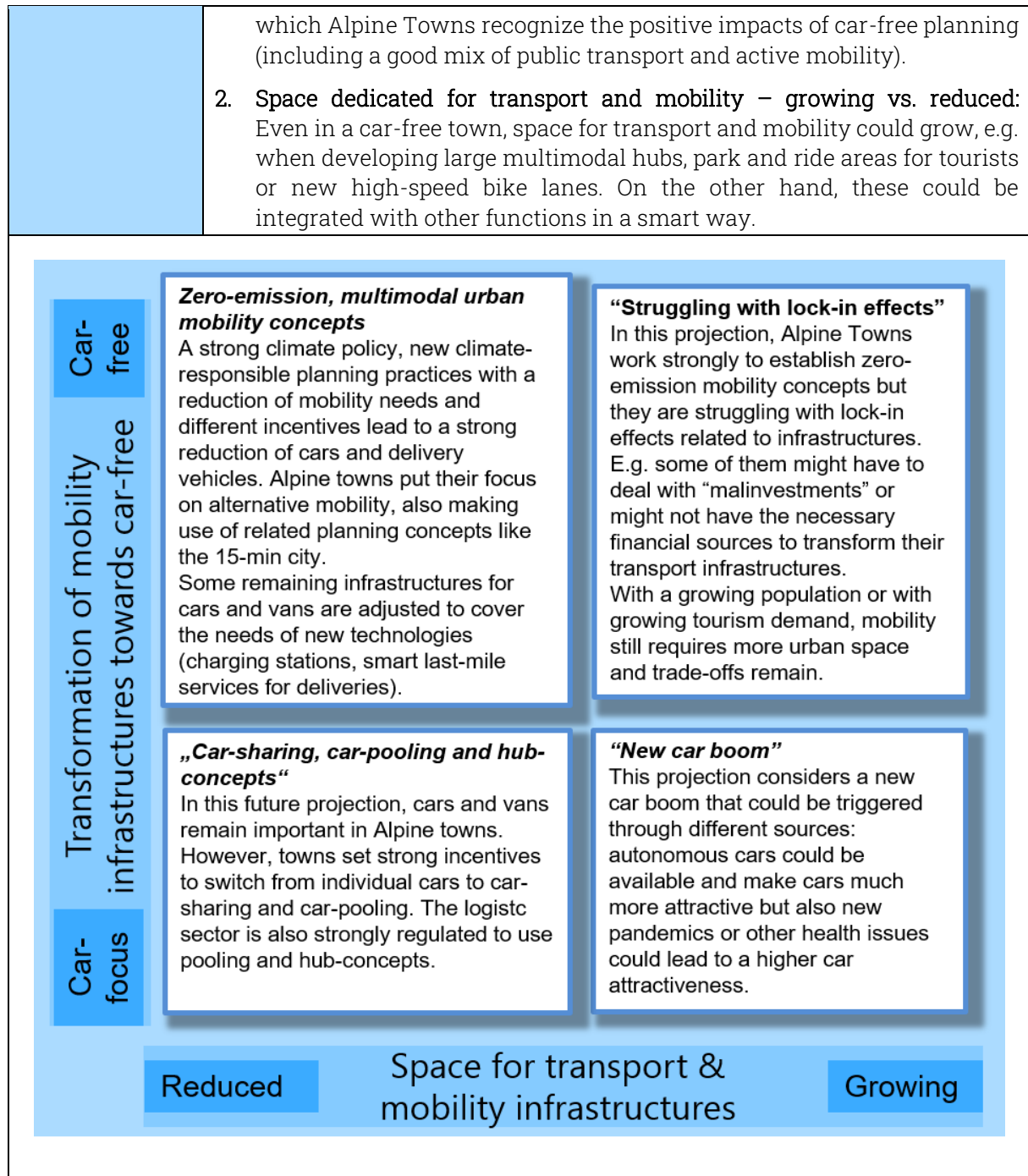
<p><b>Brainstorming results on potential future developments</b></p>	<ul style="list-style-type: none"> <li>- Growth leads to pressures on urban sprawl: uncertainty on how urban areas will be able to deal with this challenge and if they find smart approaches to developing larger urban areas</li> <li>- Acceptance of urban consolidation (Nachverdichtung): how much consolidation is possible to capture growth and new housing needs?</li> <li>- Functional areas: how to deal with trade-offs between more urban and more rural areas within a functional area</li> </ul> <p><b>Coordination of functional areas:</b></p> <ul style="list-style-type: none"> <li>- Coordination of spatial planning on major challenges will highly affect how Alpine Towns and their surrounding area will be able to future-proof their spatial structures: coordination of shared visions and drawing the boundaries where necessary! Focusing on the challenges that really need to be tackled in a coordinated approach (<i>'Alpine settlement system beyond settlement size'</i>)             <ul style="list-style-type: none"> <li>→ develop toolboxes on such approaches, however considering the different legal frameworks in the Alpine countries</li> <li>→ building on the experiences of rural planning</li> </ul> </li> <li>- Incentivize coordinated planning: which incentives can be implemented to ensure a higher degree of coordination: financial support only for coordinated approaches, dedicated funding,...</li> </ul> <p><b>Future-proofing spatial planning:</b></p> <ul style="list-style-type: none"> <li>- Degree of how spatial planning will consider new challenges and needs: climate-proofing of spatial planning, integrating the circular economy approach in spatial planning, integrating ecosystems protection (<i>'Urban Jungle'</i>), zero soil sealing → Coordinated spatial planning as framework with links also to other key factors.</li> <li>- Inclusive spatial planning: spatial planning also needs to better involve the citizens to capture their 'real-life' needs → transparent spatial planning structures, build on citizens involvement (→ link to KF15)</li> <li>- Giving higher flexibility to spatial planning to improve resilience: multicoding of land-use, multifunctional city, retrofitting at much larger scale</li> </ul>
<p><b>Main future uncertainties and future portfolio</b></p>	<ol style="list-style-type: none"> <li>1. <b>Degree of implementing new and flexible approaches to spatial planning vs. 'old-fashioned' planning processes</b>              New approaches: multicoding to improve resilience, multifunctional cities with short distances, urban consolidation in a sustainable way,...              Old approaches: risk of creating 'donut towns', further lock-in effects</li> <li>2. <b>Developing new structures (e.g. new houses for families/tourists) vs. 'recycling urbanism' based on the existing building infrastructure</b></li> <li>3. <b>Degree of mainstreaming environmental aspects into spatial planning:</b> unsealing and greening, climate-proofing, ecosystems protection,...</li> <li>4. <b>Degree of coordination:</b> common visions and coordinated approach vs. no common strategies (<i>'Tyrol City', 'hyper-centralized Alpine valley'</i>)</li> </ol>



## 1.2 Factsheet Key factor 2: Mobility and logistics infrastructures and space

<i>General description</i>	
<b>Short description of the key factor</b>	<p>This key factor includes the ‘hardware’ of the mobility and logistic system in Alpine towns, thus both infrastructures and the available transport spaces. The development of mobility and logistic infrastructures and the dedicated space for transport predetermines the functioning of the overall mobility system both within Alpine towns but also within their broader functional areas and beyond. The availability of infrastructures influences the accessibility of Alpine towns and the connectivity within the broader region. Major challenges currently include the alignment of transport infrastructures and transport space to low-carbon/alternative technologies and fuels to support the decarbonisation of the transport sector but also to consider the rising demand for active mobility, shared mobility and new further new mobility patterns. Also, transport infrastructures and spaces need to be further developed with respect to digital solutions to support a more efficient and multimodal mobility and logistic system.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Public transport infrastructure</li> <li>- Local and regional trains</li> <li>- Connection to TEN-T network (motorways, high-speed rail, airports)</li> <li>- Infrastructures for active mobility</li> <li>- Specific solutions for challenging topographic conditions: e.g. cable cars</li> <li>- Sharing systems</li> <li>- Regional and local mobility and logistic hubs</li> <li>- Parking solutions</li> </ul>
<b>Alpine specific character</b>	<p>Alpine towns face specific challenges when developing mobility and logistics infrastructures and their related space:</p> <ul style="list-style-type: none"> <li>- Overall limited settlement area in the narrow valleys leads to specific challenges in transport planning and land designation for mobility and logistic infrastructures</li> <li>- The needs to deal with the large volume of transalpine freight transport has led to the development of specific infrastructures, which put pressures on the Alpine environment but also have positive impacts with respect to accessibility</li> <li>- The extension of functional areas across borders requires integrated infrastructure planning (e.g. to deal with commuter flows)</li> <li>- Topographic conditions also lead to multiple burdens for towns if they are located close to highly frequented transport corridors</li> <li>- Cross-border commuting is of growing importance due to the ongoing efforts of political liberalisation and because of the growing cross-border integration of economic activities (see ARPAF project CrossBorder)</li> </ul>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Mc Kinsey (2020): <a href="#">Building the infrastructure for the future of mobility</a></li> <li>- Heinrich Böll Foundation: European Mobility Atlas 2021</li> <li>- EUSALP AG4, e.g. <a href="#">Labelling of 14 infrastructure projects with macroregional added value for the fostering of sustainable mobility solutions</a></li> <li>- <a href="#">More Alpine protection against transit traffic – CIPRA (e)</a></li> <li>- <a href="#">Tourismus in den Alpen: Eine Medaille mit zwei Seiten (bund-naturschutz.de)</a> (german)</li> </ul>

<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- <a href="#">Alpine Platform of Knowledge for Mobility and Transport</a></li> <li>- <a href="#">ARPAF Project CrossBorder-- Cross-border mobility in the Alpine Region WP 2: Analysis of existing cross-border mobility networks</a></li> <li>- <a href="#">The Alpine region – Transport, Climate change and Tourism – European Environment Agency (europa.eu)</a></li> <li>- Additional information on transalpine freight transport: <a href="#">Alpenobservatorium EU-CH</a></li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>Infrastructures for passenger mobility – several challenges need to be considered to avoid lock-in effects:</b></p> <ul style="list-style-type: none"> <li>- Infrastructures need to adjust to new technologies: new charging infrastructures for alternative fuels</li> <li>- Car-focused vs. car-free towns: provision of multimodal infrastructures, including infrastructures for active mobility (integrated concepts but also e.g. high-speed bike lanes between neighbouring towns). New infrastructures for active mobility: cable cars, conveyor belts for step passages...</li> <li>- Consideration of autonomous driving: until 2050 there will be an increase in autonomous vehicles but probably less prominent in towns than on highways due to safety considerations</li> <li>- Infrastructures related to car-sharing and car-pooling: car-sharing stations, 'hop on – hop off' car-pooling areas</li> </ul> <p><b>Logistics infrastructures:</b></p> <ul style="list-style-type: none"> <li>- The logistics sector faces re-organisation challenges and will use all opportunities to become more efficient: pooling of services, establishment of warehouse concepts that are jointly used for deliveries and distribution, logistics hubs ('hop on – hop off' concepts for small deliveries)</li> <li>- Consideration of new technologies when planning these logistics infrastructures: higher degree of automation, drones for specific deliveries</li> <li>- Multimodal solutions also for the logistics sector with good last-mile services</li> <li>- General reduction in demand for logistics services due to circular economy approaches</li> </ul> <p><b>Re-organisation of transport space:</b></p> <ul style="list-style-type: none"> <li>- Incentives and broad policy mix will lead to reduction of car usage → reorganisation of transport space with much smaller focus on cars. Parking areas can be removed and used for other purposes or they will become shared spaces (e.g. parking during the day, outdoor area for restaurants in the evenings...)</li> <li>- But this could also lead to segregation of transport space and maybe even overall public space: possibility that cars will only remain attractive for the rich</li> </ul> <p>Challenges: long planning cycle for adjustment of transport infrastructures!</p>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Degree of transforming mobility and logistics infrastructures:</b> Focus on car vs. transformation towards car-free towns. On the one hand, cars remain to play a strong role in Alpine towns. New technologies and autonomous driving will make cars more attractive compared to alternative mobility options. On the other hand, one future projection could look at a development in which cars lose their relevance and in</li> </ol>

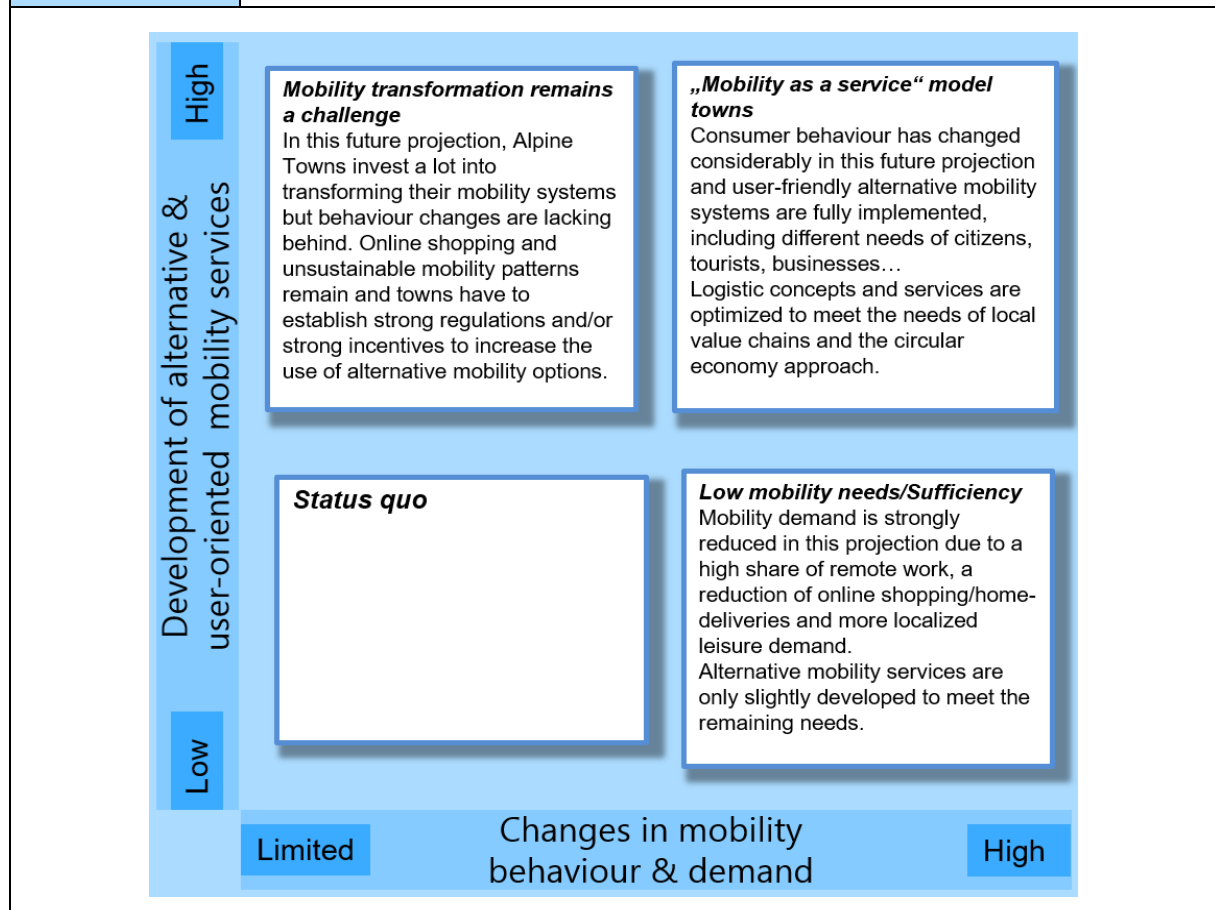




### 1.3 Factsheet Key factor 3: Mobility and logistics services in Alpine towns

<i>General description</i>	
<b>Short description of the key factor</b>	This key factor includes the 'software' of the mobility and logistic system, thus all mobility services related to individual, public and alternative transport. Both the private sector and cities and towns themselves can incentivise the use of multimodal transport and new alternative modes of transport (shared electric bikes, scooters and walking) by introducing and operating new mobility services and making them easier to use ('mobility on demand', 'mobility as a service'). Mobile navigation apps help users to find the best way of getting from place to place, while bicycle-sharing systems are becoming increasingly popular in cities of all sizes.
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Innovative mobility concepts (corporate mobility concepts, mobility as a service, Integrated and combined ticketing solutions, last mile concepts)</li> <li>- Mobility-as-a-service/mobility on demand</li> <li>- Last-mile solutions</li> <li>- Promotion of active mobility</li> <li>- Public transport services</li> <li>- Mobility pricing and costs</li> </ul>
<b>Alpine specific character</b>	<ul style="list-style-type: none"> <li>- [see key factor 2]</li> </ul>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- ARAGHI et al. (2020): <a href="#">Drivers and Barriers of Mobility-as-a-Service in urban areas</a></li> <li>- Joint Research Centre (2019): The Future of Cities – Opportunities, challenges and the way forward (chapter on Mobility)</li> <li>- <a href="#">Transport sufficiency: Towards a new sustainable mobility culture – CIPRA (e)</a></li> <li>- Herbert Simon Society to the Piedmont Region in the SaMBA Project (2019): NUDGE: behavioral changes in public transport. Download: <a href="#">Home – Alpine Space (alpine-space.eu)</a></li> <li>- EEA (2019): <a href="#">The first and last mile – the key to sustainable urban transport</a></li> <li>- Alpine Pearls network: <a href="https://www.alpine-pearls.com/ueber-uns/alpine-pearls/">https://www.alpine-pearls.com/ueber-uns/alpine-pearls/</a></li> </ul>
<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- [see references for key factor 2]</li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>General changes in mobility demand will lead to changing mobility services:</b></p> <ul style="list-style-type: none"> <li>- Reduction in commuter traffic due to remote work/new work (→ KF17)</li> <li>- Changing lifestyles also have strong influence but with ambivalent outlook for the future: e.g. higher share of active mobility vs. strong technology-focus that could make autonomous cars very attractive; consumption patterns with stronger focus on local products vs. increase in online shopping and general increase in freight transport</li> <li>- Acceptance of sharing systems: how many people will accept car-sharing and will abandon their own car</li> <li>- + Demographic development plays a role!</li> </ul>

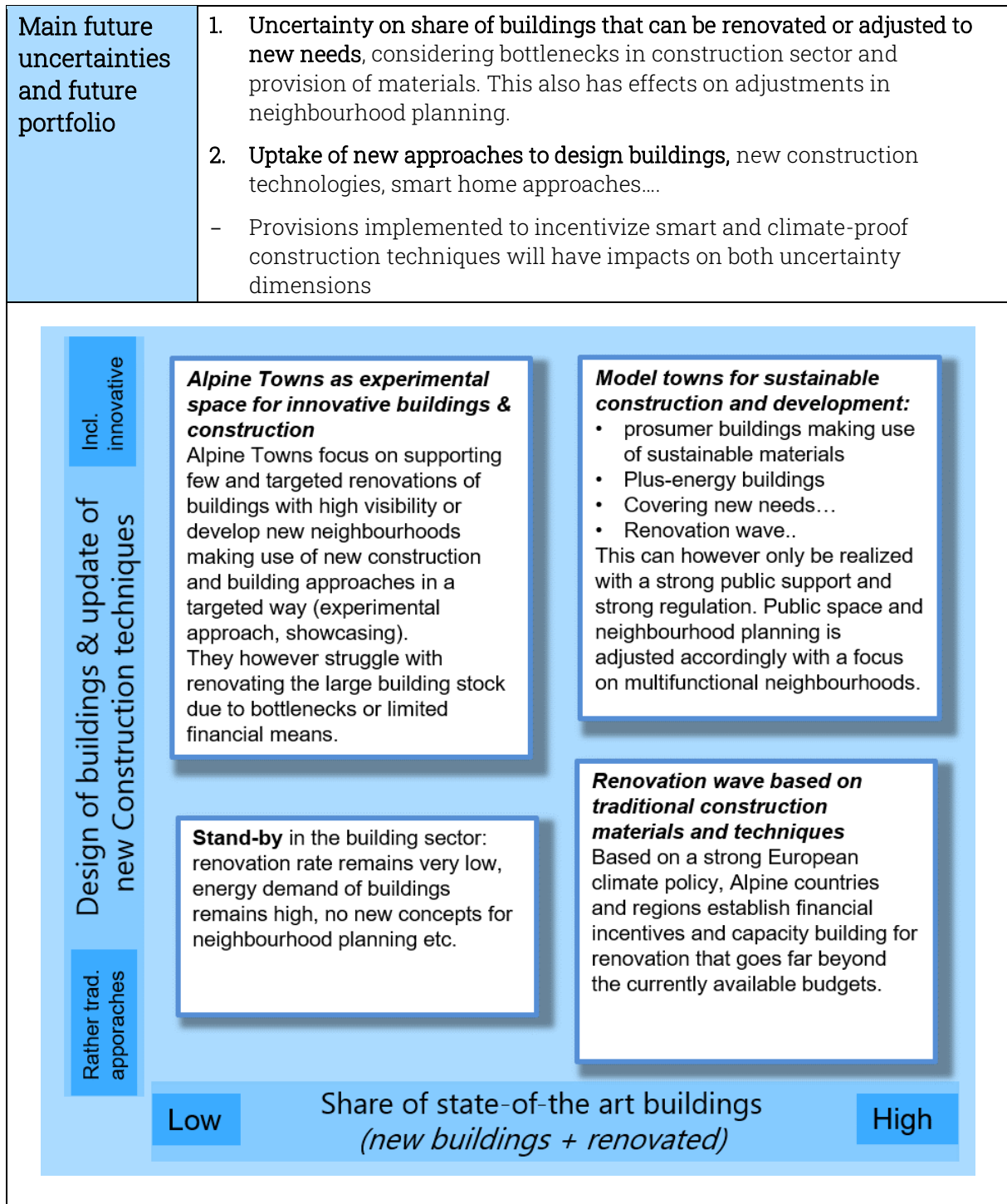
	<p><b>New services:</b></p> <ul style="list-style-type: none"> <li>- User-oriented: mobility on demand, integration of active mobility... based on integrated information and ticketing services (→ this could involve new technologies/blockchain)</li> <li>- Last-mile services: these will be crucial to increase attractiveness of public transport solutions, strong integration in sustainable mobility systems is needed</li> <li>- New logistic services and solutions, closely linked to circular economy concepts, local supply chains and 'direct marketing' approaches</li> </ul> <p><b>Information and ticketing:</b></p> <ul style="list-style-type: none"> <li>- Integrated information and ticketing services across borders (including real-time information for passengers and tracking-services for goods/deliveries)</li> <li>- Improved ticketing solutions, including free or low-cost public transport across borders</li> </ul>
Main future uncertainties and future portfolio	<ol style="list-style-type: none"> <li>1. <b>Changes in mobility behaviour and demand:</b> growing mobility needs and general increase in demand (online shopping...) vs. reduced mobility demand and higher awareness on circular economy/local value chains</li> <li>2. <b>Development of alternative mobility services:</b> stagnating development in which Alpine Towns struggle to integrate their services vs. a development in which alternative mobility services as well as sharing options are fully integrated (including last mile solutions)</li> <li>3. <b>User-oriented:</b> degree of user-friendliness of new solutions: integrated information and ticketing services (also across borders) and smart ticketing solutions</li> </ol>





## Factsheet Key factor 4: Buildings, construction and neighbourhood planning in Alpine Towns

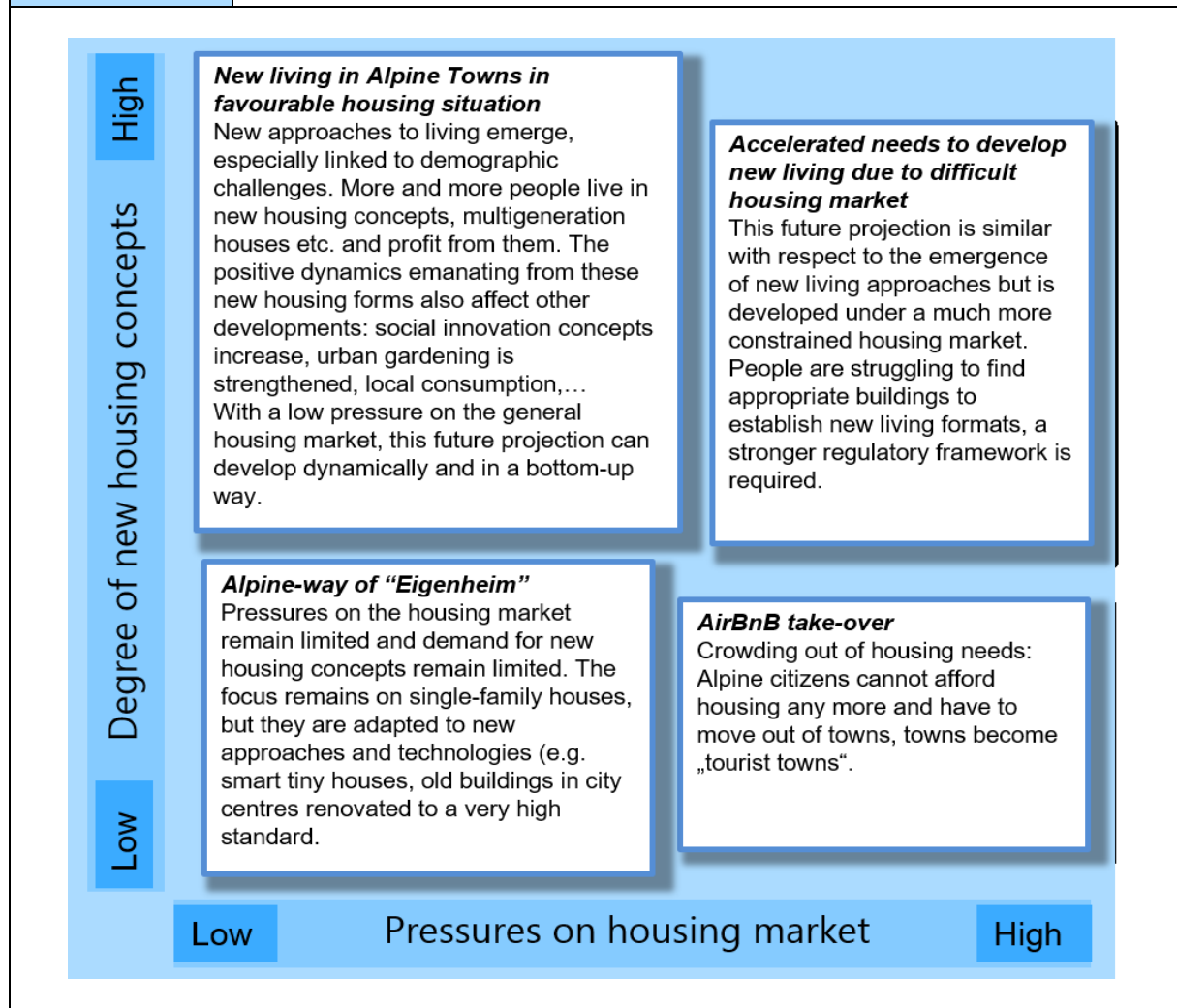
<i>General description</i>	
<b>Short description of the key factor</b>	<p>The set-up of neighbourhoods ('Quartiersplanung') as well as the building infrastructure has a strong influence on quality of life, attractiveness with respect to economic development and tourism. Also, the set-up of neighbourhoods and buildings have an impact on CO<sub>2</sub>-emissions (induced mobility, heating) and smart approaches to build climate-friendly neighbourhoods and to decarbonise the building sector are crucial towards reaching the vision of climate-neutral Alps.</p> <p>This includes the planning of neighbourhoods, the planning of the build-up area (density, height, utilization ratios, etc.) but also with respect to the quality of new buildings or the renovation of buildings (low-energy standard, passive buildings, plus-energy houses, cradle-to-cradle).</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Neighbourhood planning</li> <li>- Guiding principles for local development, e.g. city-of-the-short-route, 15-minutes-city, etc.</li> <li>- New trends within the construction sector (smart buildings, energy concepts, materials, automatization, BIM, CIM etc.)</li> <li>- Building standards</li> <li>- Innovative and conscious buildings</li> <li>- Alpine architecture: traditional construction techniques and materials</li> <li>- Multifunctional buildings</li> <li>- Management of unoccupied buildings</li> </ul>
<b>Alpine specific character</b>	Alpine-specific building standards, buildings with heritage status etc.
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- C40 Knowledge: <a href="#">How to build back better with a 15-minute city Implementation Guides</a>, July 2020</li> <li>- EUSALP AG9: <a href="#">EUSALP Performance Indicators for buildings</a></li> <li>- Website Constructive Alps <a href="https://www.constructivealps.net/">https://www.constructivealps.net/</a></li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>Buildings and construction:</b></p> <ul style="list-style-type: none"> <li>- New building concepts: functional, multipurpose houses, flexible and 'permeable' houses that adjust to different needs</li> <li>- Alternative ways of 'Eigenheim'/family homes/'my home is my castle': tiny houses, renovation of old buildings instead of building new houses</li> <li>- New trends within the construction sector (smart buildings, energy concepts, materials, automatization, BIM, CIM etc.)</li> <li>- Strong regulation of building standards leads to renovation wave, making use of innovative and conscious buildings</li> <li>- Alpine architecture: traditional construction techniques and materials</li> </ul> <p><b>Neighbourhood planning:</b></p> <ul style="list-style-type: none"> <li>- 'Centre-based housing' vs. 'donut towns'</li> <li>- Guiding principles for local development, e.g. city-of-the-short-route, 15-minutes-city, etc.</li> <li>- Integration of building concepts with recreational areas</li> <li>- 'Consumption-free' zones</li> </ul>



## 1.4 Factsheet Key factor 5: Living in Alpine towns

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Several pressures crucially affect the housing conditions in European urban areas but especially in Alpine towns. A growing demand with rising population and changes in investment structures with a strong domination by the private sector and thus a low relevance for social housing puts pressure on affordable housing. The trend towards multilocal lifestyles as well as new patterns in the tourism sector (AirBnB effect) accelerates this development.</p> <p>These pressures, but also megatrends related to lifestyles and demography have led to changes in the form of housing: multigenerational housing, mixed structures, etc. have become more attractive again and many new approaches are currently tested in Alpine towns.</p> <p>While cities are often characterised by high standards of living, they are also places of high income inequality, the polarisation of wealth is most concentrated in urban areas. This leads to risks of socio-spatial segregation with negative effects on social stability, quality of life, urban health, etc. Migration brings along additional challenges for social inclusion.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Real estate prices</li> <li>- Innovative formats of living</li> <li>- Second homes/apartments transformed into tourism accommodations</li> <li>- Social mix and mix of use (gentrification, touristification, ageing society, young families, seasonal workers)</li> <li>- Amenity migration</li> </ul>
<b>Alpine specific character</b>	<p>Specific challenges arise from the different demands of tourists and regular inhabitants of Alpine Towns. Especially, towns and cities with a high touristic demand have to deal with these challenges, e.g. by regulating the sale of second homes, the transformation of apartments in AirBnB rentals.</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Joint Research Centre (2019): The Future of Cities – Opportunities, challenges and the way forward (chapter on Affordable Housing)</li> <li>- OECD (2021): <a href="#">The state of Housing: Trends and Challenges for the Future</a></li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>General developments:</b></p> <ul style="list-style-type: none"> <li>- Pressures on housing market can further grow, e.g. from growing trend towards amenity migration, multilocal lifestyles etc. vs. on the other hand more living space could be available in towns with shrinking population (→ link to KF0) <ul style="list-style-type: none"> <li>→ growing risk of gentrification, hyper-gentrification</li> <li>→ risk to lose families as rents become simply unpayable for them</li> <li>→ risk that city centres become 'dead and expensive' tourist centres/touristic towns ('Disneyfication')</li> </ul> </li> <li>- Degree of privatization of the housing sector vs. recognition of social housing, student homes etc. and a stronger role of municipal ownership of housing (or non-profit oriented cooperations)</li> <li>- Housing remains focused on individual needs: 'classical' family homes, student homes etc. vs. mixed housing/co-housing, multigenerational</li> </ul>

	<p>housing, 'cluster housing' etc. that are also linked to attractive recreational areas within towns</p> <ul style="list-style-type: none"> <li>- Use of empty houses and buildings to strengthen urban consolidation: free for re-use, space for experimentation...</li> </ul> <p><b>Tourist homes:</b></p> <ul style="list-style-type: none"> <li>- Regulation of tourist homes and construction of new hotels in the city centres</li> <li>- Collective management of tourist homes</li> </ul>
<p><b>Main future uncertainties and future portfolio</b></p>	<ol style="list-style-type: none"> <li><b>1. Development on housing market:</b> Pressures on housing market can further grow, e.g. from growing trend towards amenity migration, multilocal lifestyles, etc. vs. housing market becomes more affordable again. → degree of gentrification and its impacts are linked to this</li> <li><b>2. Degree of privatization of the housing sector vs. recognition of social housing</b></li> <li><b>3. Degree of implementing new housing concepts vs. 'my home is my castle':</b> On the one hand, housing remains focused on individual needs: 'classical' family homes, student homes, etc. remain and are planned independently from each other. On the other hand, there could be a development towards mixed/co-housing concepts, multigenerational living and a stronger sharing approach.</li> </ol>



## 2. Driver 2: Environment and Resources

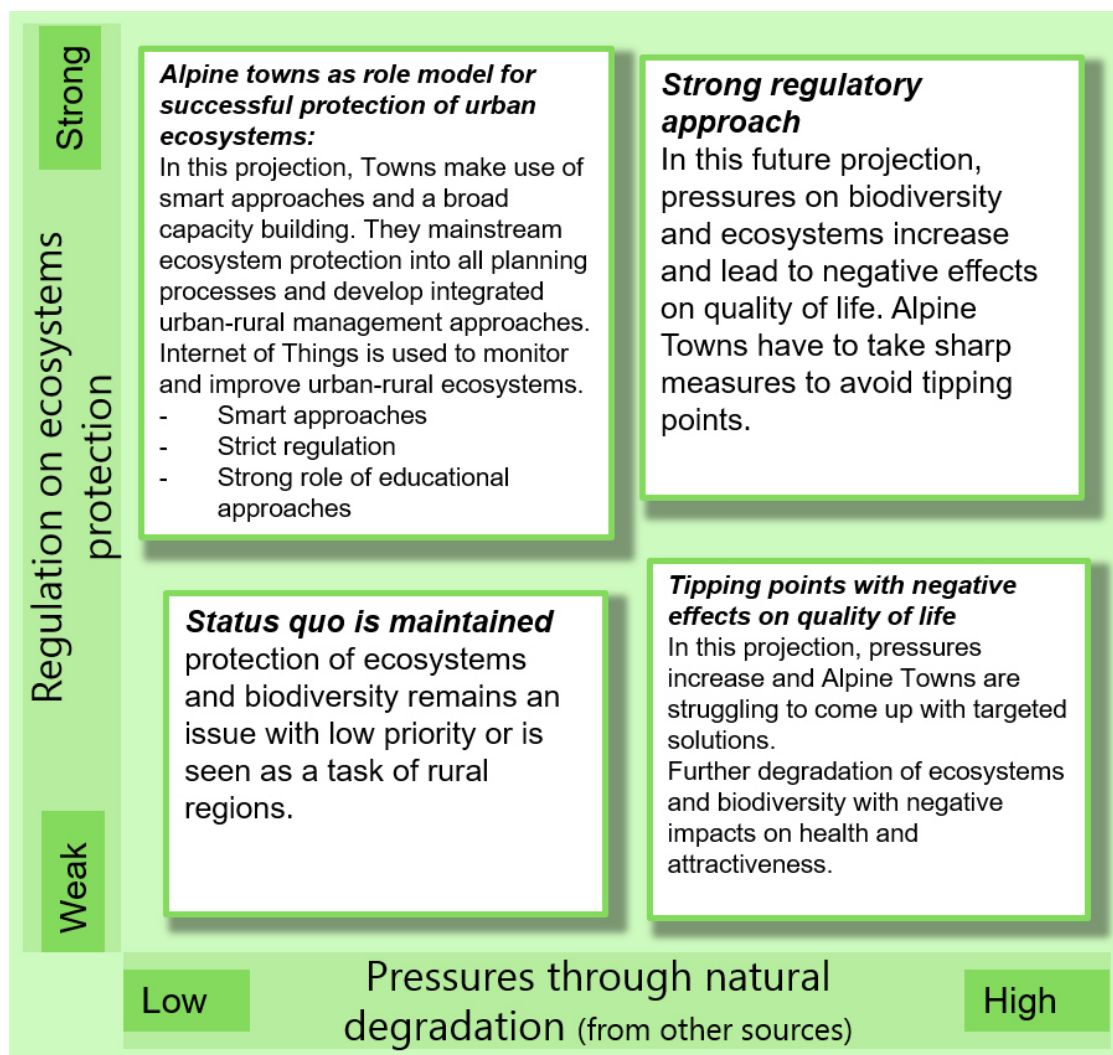
### 2.1 Factsheet Key factor 6: Urban-rural ecosystems and biodiversity

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Cities and towns can host a high richness of plants and animals and this urban-rural biodiversity supports multiple regulating, provisioning and cultural ecosystem services. With proceeding land consumption for traffic, settlement and industrial areas (in recent years land consumption is growing faster in relation to population growth) natural habitats and thus biodiversity are however under great pressure. In the Alps, urbanization is one of the major threats to native species, reducing biodiversity and altering ecosystems (AlpBionet 2030 Atlas).</p> <p>The degradation of habitat and species will lead to severe problems such as loss of fertile soil, decline of water resources, enforcement of climate change, reduction of recreation space, etc. In urban areas, a degradation of ecosystems also has negative impacts on quality of life and public health as green and blue spaces are areas for recreation, for improving urban air quality and for reconnecting with nature.</p> <p>Climate change is closely interlinked with the challenges related to ecosystems and biodiversity: on the one hand, it is reinforcing the degradation of urban-rural ecosystems and biodiversity, on the other hand intact ecosystems improve the resilience to deal with negative CC impact and to deal with natural risks.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Share of sealed natural soil</li> <li>- Availability and share of green and blue spaces (parks, forests, rivers,...), including micro-reserves</li> <li>- Ecosystem services in cities and towns</li> <li>- Urban-rural ecological connectivity</li> <li>- Nature-based solutions to Climate Change adaptation and disaster risk prevention</li> <li>- Urban-rural strategies for protection of ecosystems and biodiversity, incl. 'mainstreaming' approaches</li> <li>- Monitoring of ecosystem services and protection measures</li> </ul>
<b>Alpine specific character</b>	<p>Due to the topographical situation and the specific settlement systems, pressures on ecosystems and biodiversity in urban-rural areas are specifically pronounced in the Alps (high settlement pressures in low-land areas). Also, tourism leads to specific challenges when it comes to the protection of ecosystems and biodiversity.</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- ICLEI Initiative 'Cities with Nature' <a href="https://www.citieswithnature.org/">https://www.citieswithnature.org/</a></li> <li>- <u>LUIGI project</u>: Linking Urban and Inner-Alpine Green Infrastructure – Multifunctional Ecosystem Services for more liveable territories</li> </ul>

Facts and Figures	<a href="#">ALPBIONET2030 Alpatlas</a> : Spatial analysis and perspectives of [ecological] connectivity in the wider Alpine areas, including for example maps illustrating the effects of landuse on ecological connectivity (map 5) or barriers to ecological connectivity resulting from large-scale populationa and infrastructure pressures (map 37).
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*Future projections: brainstorming results and future portfolios*

Brainstorming results on potential future developments + Main future uncertainties and future portfolio	<ul style="list-style-type: none"> <li>- Degree of giving space to ecosystems and biodiversity: from small-scale micro-reserves to larger areas within towns</li> <li>- Mainstreaming ecosystems protection into all public and private activities</li> <li>- Degree of awareness of citizens on urban-rural ecosystems and their role</li> <li>- Application of 'Internet of things' to develop and monitor urban-rural ecosystems</li> </ul>
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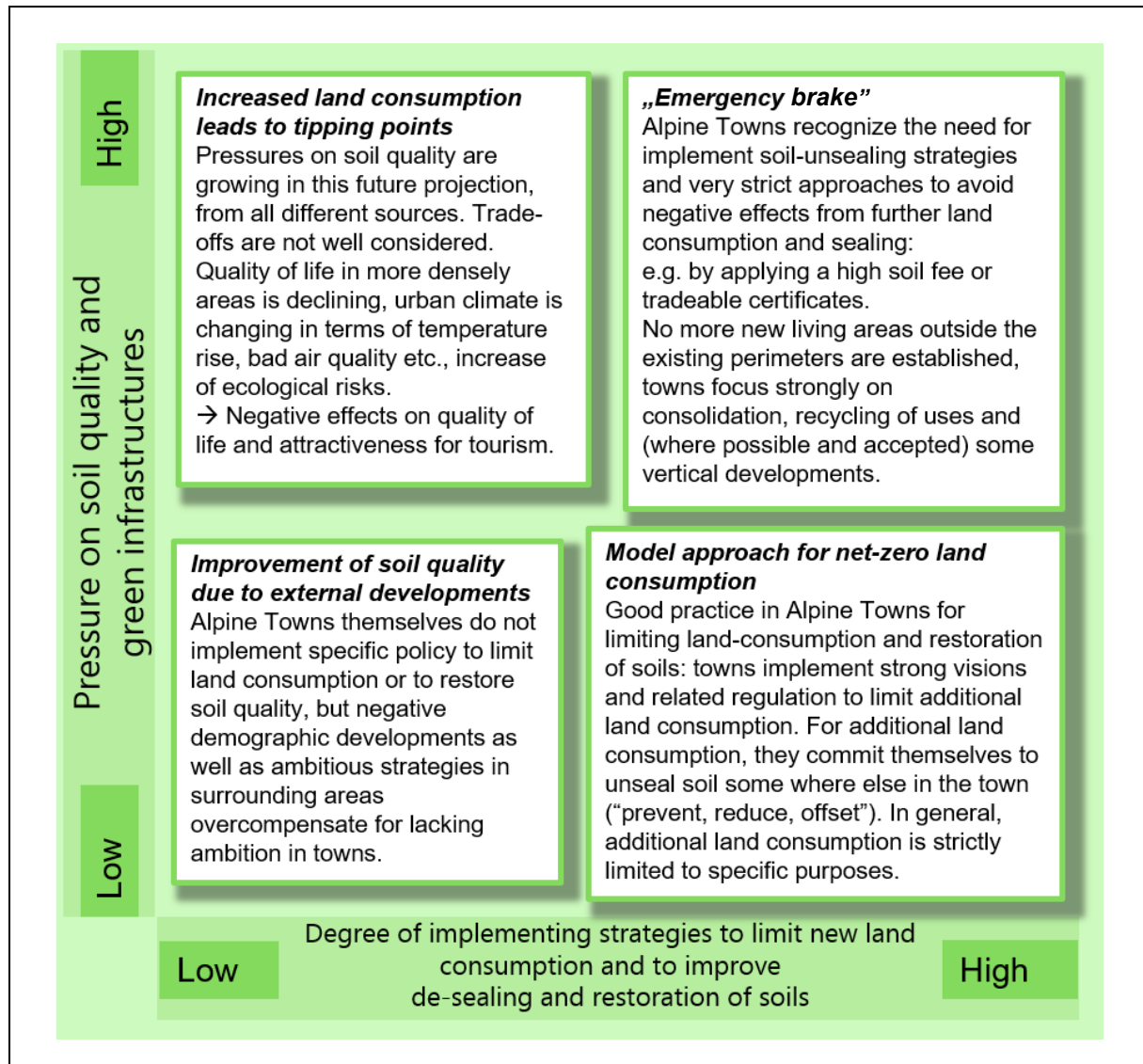


## 2.2 Factsheet Key factor 7: Land consumption and sealing

<i>General description</i>	
<b>Short description of the key factor</b>	Land consumption often goes along with the sealing of natural ground. The consequences are risk of flood waters, loss of soil fertility, decrease of air quality and endangerment of the flora and fauna (cut of natural corridors). Increasing land consumption furthermore leads to conflicting uses (Nutzungskonflikten).
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Sealed natural ground for settlement, transport, industrial areas</li> <li>- Growth of settlement area: re-densification vs. urban sprawl</li> <li>- Population density and growth</li> <li>- Land-use planning systems incl. conflict/negotiation systems</li> <li>- Agreements/strategies on reducing land-take and land-sealing, promoting of (re-)densification</li> <li>- Approaches for un-sealing and revegetation</li> <li>- Brownfield redevelopment</li> </ul>
<b>Alpine specific character</b>	The core Alpine area and the towns and cities situated in its perimeter have to deal with the very limited permanent settlement area, with highly productive soils, combined with an increasing demand for space for transport, housing, economic activities and leisure. This is implicating land take and often soil sealing leading to loss of those soils and considerable pressure on sensitive ecosystems etc.
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- <a href="#">Alpine Soils Platform</a></li> <li>- Activities and reports of the Soil Conservation Working Group of the Alpine Convention (incl. information on prudent use of soil) <a href="https://www.alpconv.org/en/home/topics/soil-conservation/">https://www.alpconv.org/en/home/topics/soil-conservation/</a></li> <li>- Interreg Alpine Space projects : AlpES (ecosystemic services), Links4Soils (Soil Ecosystem Services in the Alps), trAILS Transformation of Alpine Industrial Landscapes (about brownfields), ...</li> </ul>
<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- Espon, 2018. Alps 2050</li> <li>- EEA Indicator Assessment 'Land take in Europe' at <a href="https://www.eea.europa.eu/data-and-maps/indicators/land-take-3/assessment">https://www.eea.europa.eu/data-and-maps/indicators/land-take-3/assessment</a></li> <li>- Alpine Convention Atlas on Land and Soil: <a href="https://www.atlas.alpconv.org/search/?limit=100andoffset=0andcategory__identifier__in=soilandland">https://www.atlas.alpconv.org/search/?limit=100andoffset=0andcategory__identifier__in=soilandland</a></li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>General pressures that affect soil quality, land consumption and sealing:</b></p> <ul style="list-style-type: none"> <li>- Different demands: housing, agriculture, energy production, leisure activities, mobility,... (→ link to different other KFs)</li> <li>- General approach to invest in green infrastructures in Alpine towns: high focus to extend green infrastructures vs. low priority</li> <li>- Mobility demand and development of transport and mobility space will also highly affect soil sealing: e.g. when parking spaces are removed their will be more green space in the cities</li> <li>- Link between soil sealing and water: more green space improves absorption of strong rainfalls ('sponge city')</li> </ul>

	<p><b>Planning and steering:</b></p> <ul style="list-style-type: none"> <li>- New land consumption can be limited through consolidation (Verdichtung) of building areas and by developing towns in a more vertical way</li> <li>- Approaches to de-sealing and restoration of soils: industrial sites, brownfield re-development, sealed areas within city centres for parking/pedestrian zones</li> <li>- Using regulatory approaches and incentives: tradeable land use certificates, soil fees,...</li> <li>- Planning processes that affect land consumption and sealing: depend on how conflicts can be solved in the relevant towns and their surrounding (→ KF14a, KF15) and on how visions on land-consumption are integrated in spatial planning (Zero-sealing)</li> <li>- Testing new approaches with multifunctional uses of land: 'green' streets used by trams and pedestrians</li> </ul>
<p><b>Main future uncertainties and future portfolio</b></p>	<ol style="list-style-type: none"> <li>1. <b>Degree of limiting additional land consumption:</b> new land consumption can be limited through consolidation (Verdichtung) of building areas and by developing towns in a more vertical way vs. on the other hand land consumption is growing rather unregulated (also linked to new demands, e.g. plants for biofuels...).</li> <li>2. <b>Degree of implementing de-sealing approaches and restoration of soils:</b> industrial sites, brownfield re-development, sealed areas within city centres for parking/pedestrian zones, ...</li> <li>3. <b>General development of soil quality:</b> climate change and pressures from other sources (agriculture, energy production,...) lead to degradation of soil and puts additional pressures on soil restoration.</li> </ol>

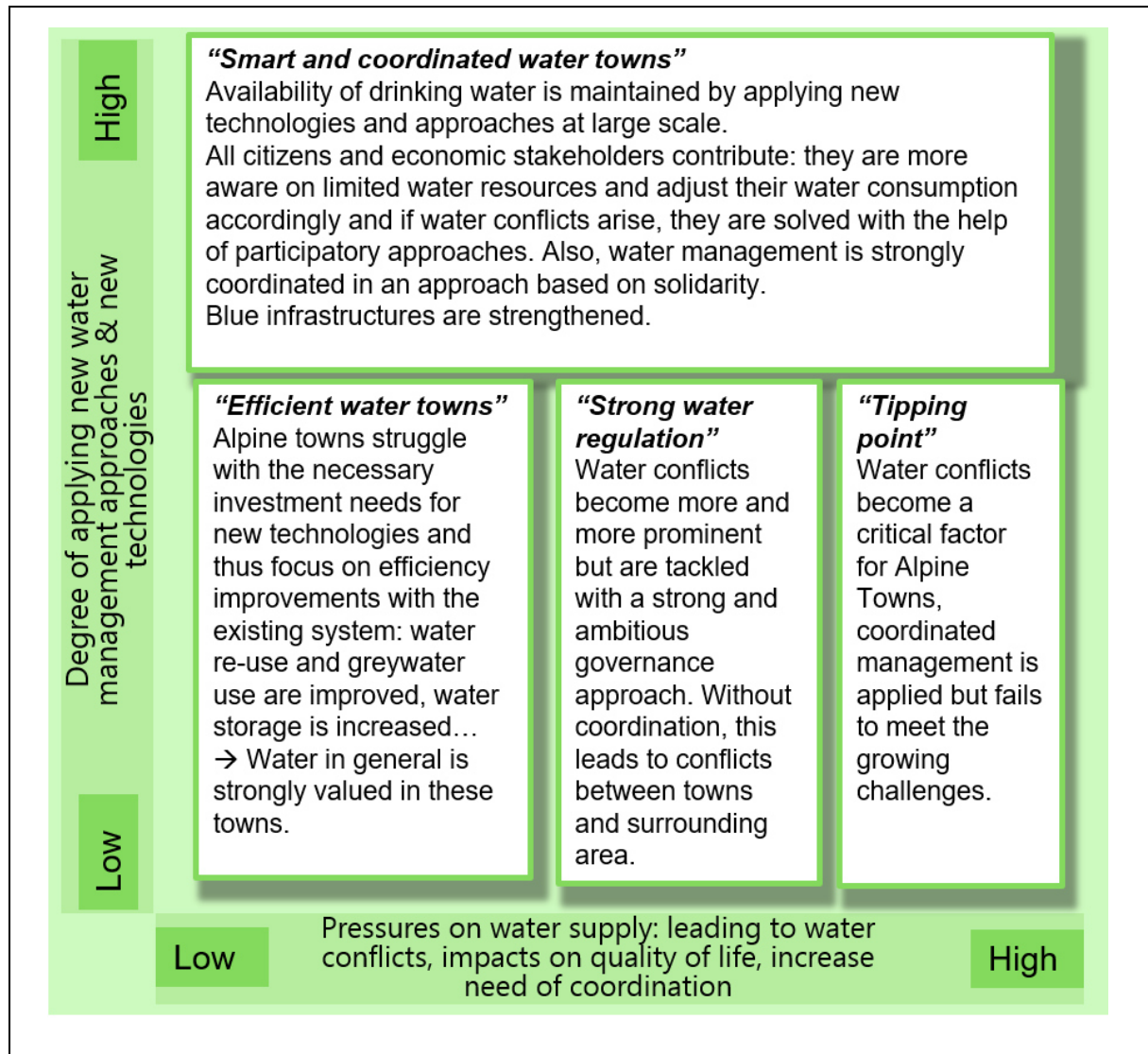




## 2.3 Factsheet Key factor 8: Water – water demand, water supply, water management

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Water availability characterises urban areas in an essential way: rivers often are key elements in urban structures, they provide recreational functions and blue spaces. At the same time, well-functioning urban-rural areas are highly dependent on water resources: water demand in urban areas influences broader regional water management as many large-scale water uses are situated in urban areas (private households, industrial sector, ..).</p> <p>With increasing scarcity of water, also in the Alps, urban-rural areas need to develop new approaches to water management – taking into account the larger area. Smart approaches to water management, water recycling and water re-use as well as the set-up of early warning and emergency planning will be necessary to avoid future water conflicts and to ensure water availability, making use of digital technologies. This could include a shift from grid-dominated water management to more hybrid systems in which specific areas or even buildings have independent water cycles.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Smart water management with a view to different water demands and potential water conflicts</li> <li>- Hybrid approaches to water management between grid-dominated and non-grid solutions</li> <li>- Water treatment systems for drinking water and 'grey' water</li> <li>- Early warning and emergency planning with respect to water scarcity</li> <li>- Integrated and intersectoral water management (drinking and 'grey' water, including monitoring of water demand and supply)</li> <li>- Water-efficient spatial design and buildings (e.g. water-independent buildings)</li> </ul>
<b>Alpine specific character</b>	<p>Rivers and lakes in the Alpine River Basins are closely interlinked and pressures on water resources have effects beyond regional and national borders. With over-proportional impacts of climate change in the Alps, Alpine Water Management also shifts more and more towards managing fluctuations in water resources: Changing patterns in temperatures and precipitations increase the frequency and volumes of floods. Simultaneously, droughts are an increasing threat. At the same time, climate change increases the users' demands (for irrigation, cooling, artificial snowmaking and other recreation activities, hydropower etc.).</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- <a href="#">Water Governance in Cities: Current Trends and Future Challenges</a> (OECD working paper, 2019)</li> <li>- <a href="#">Urban Water Atlas for Europe</a> (EU Joint Research Centre, 2017)</li> </ul>
<b>Facts and Figures</b>	<p><a href="#">ADO Alpine Drought Observatory</a> (however not yet completed)</p>
<i>Future projections: brainstorming results and future portfolios</i>	

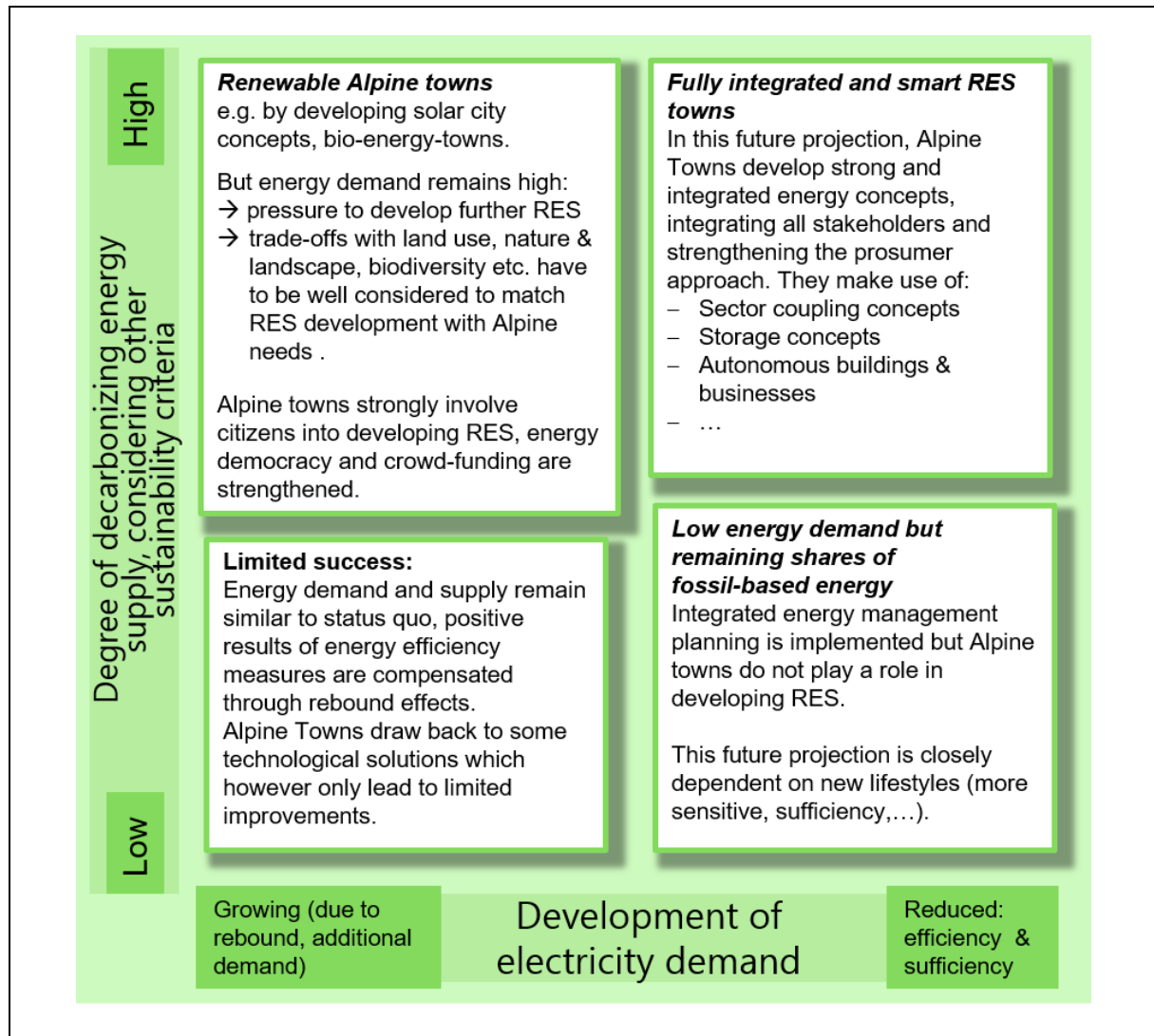
<p><b>Brainstorming results on potential future developments</b></p>	<p><b>Role of water for Alpine Towns:</b></p> <ul style="list-style-type: none"> <li>- In the Alps, water is also an issue of identity and heritage (energy for industry, energy production, resource for ski, urbanism in valleys, history of disasters, ...) and a part of tourism offer. Water can be part of territorial brands</li> <li>- Water availability, rivers and lakes are one important factor for high quality of life. But water is also a risk factor!</li> </ul> <p><b>Future developments with impact on water:</b></p> <ul style="list-style-type: none"> <li>- Climate change: Water becomes scarce in more and more Alpine Towns: water conflicts emerge more often with negative effects for different economic sectors (tourism, agriculture, production...)</li> <li>- Changing lifestyles that give a higher value to environmental resources: more space for water, water is highly valued within urban set-ups and urban planning, blue infrastructures play an important role</li> <li>- Demand patterns will change: need for decarbonising energy supply will put additional pressures on water, additional demand from agriculture...</li> </ul> <p><b>Coordinated and integrated water management:</b></p> <ul style="list-style-type: none"> <li>- Integrated water management which is linked to other policies</li> <li>- Solidarity between upstream and downstream locations, learning from 'traditional' Alpine water governance</li> <li>- Keeping in mind also water demand outside the Alpine perimeter ('Alps as watercastle of Europe')</li> </ul> <p><b>Application of new and smart technologies:</b></p> <ul style="list-style-type: none"> <li>- Approach to applying new technologies for smart water management: new water management systems, use of digital solutions to deal with water conflicts, smart irrigation and water recycling technologies...</li> <li>- Approach to improve efficiency of water use: efficiency can also be improved on the basis of existing technologies: extension of water storage systems, water re-use,...</li> </ul>
<p><b>Main future uncertainties and future portfolio</b></p>	<ol style="list-style-type: none"> <li>1. <b>Development of water conflicts:</b> Water becomes scarce in more and more Alpine Towns: water conflicts emerge more often with negative effects for different economic sectors (tourism, agriculture, production...) vs. on the other hand additional pressures due to climate change remain limited.</li> <li>2. <b>Application of new and smart technologies vs. optimisation based on existing infrastructures:</b> Depending on the available financial means and the priorities of Alpine towns, they can strongly invest in smart water technologies. On the other hand, they might not have sufficient financial means and can optimise the existing system with a strong focus on efficiency improvements.</li> <li>3. <b>Coordinated water management:</b> Strong coordination based on solidarity vs. limited coordination which could lead to conflicts between towns and surrounding areas.</li> </ol>



## 2.4 Factsheet Key factor 9: Energy – energy demand, use of Renewable Energy Systems (RES), energy efficiency and sufficiency

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Urban and urban-rural areas dominate energy demand as large shares of economic activity as well as population are concentrated there. With a growing population, energy demand is rising in urban-rural areas and with the energy transformation and the electrification of transport and buildings, especially electricity demand will rise considerably in the years to come.</p> <p>However, due to their high density and their mixed uses, urban-rural areas have at hand a multitude of options to reduce energy demand through energy efficiency measures which are developed in the frame of local energy management systems. In many cases, these are linked to regional, national and European energy planning schemes ranging from the European Energy Award to national schemes (e.g. Austrian E5 programme, Italian ComuneClima, Energie Stadt Schweiz, Energie Kommunen Germany). Also, concepts of climate-responsible lifestyles building on sufficiency and sharing can be tested at municipal level.</p> <p>At the same time, cities and towns can strengthen the production of renewable energy systems ('Solar-City') and, due to the close interfaces to industry and transport they can optimize energy use through sector coupling concepts.</p> <p>Public administrations play an important interface in the energy transformation, as they can develop demonstration and model approaches within their own premises, in public buildings, street lightning, etc. Recently, urban energy transformation has extended from public management to social innovation concepts, including e.g. energy cooperatives, energy prosumers.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Energy planning schemes/local energy roadmaps/energy visions</li> <li>- Energy efficiency solutions</li> <li>- Low-energy lifestyles/sufficiency/education</li> <li>- Renewable energy systems</li> <li>- Energy autonomous towns/cities</li> <li>- Electrification based on renewable electricity, storage, and sector-coupling strategies</li> <li>- Local energy cooperatives</li> <li>- Energy management of public buildings</li> </ul>
<b>Alpine specific character</b>	<p>Energy provision and especially the shift to a more sustainable energy system entails specific challenges in Alpine towns: e.g. regarding the development of renewable energy system and potential conflicts with land-use and nature conversation, challenges with restoring historical buildings.</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Proceedings of PEACE_Alps project</li> <li>- <a href="#">ENERGY CITIES</a>: The European association of cities in energy transition (with Best Practices from Alpine towns and metropolitan areas)</li> </ul>
<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- <a href="#">EUSALP Energy Survey 2017</a> (with information on regional and local energy strategies and the involvement of the local level)</li> </ul>

<i>Future projections: brainstorming results and future portfolios</i>	
Brainstorming results on potential future developments	<ul style="list-style-type: none"> <li>- Involvement of Alpine Towns into RES development: Towns develop their own energy systems and become more less energy-independent vs. Alpine Towns don't develop own solutions and depend on general energy supply (including nuclear?) → but: can the Alpine region develop enough energy to become self-sufficient?</li> <li>- General energy supply: high dependency on fossil fuels leads to need for energy transmission grids</li> <li>- Energy democracy: degree of involving citizens into energy supply (+ storage)</li> </ul> <p><b>Alpine-specific planning needs for RES development:</b></p> <ul style="list-style-type: none"> <li>- Consider trade-offs that come along with RES development and integrate them in energy planning: additional land use, trade-offs with nature and landscape and biodiversity</li> <li>- Energy governance: ensure that space for RES is used in smart approaches (e.g. focus on rooftops for solar panels before developing open space)</li> </ul> <p><b>Energy demand and efficiency:</b></p> <ul style="list-style-type: none"> <li>- Development of electricity demand: could be reduced or increased (e.g. with increased electrification of cars and heating)</li> <li>- Degree of tackling energy efficiency: high efficiency, minimal energy consumption only</li> <li>- Acceptance of bringing forward measures on 'sufficiency'</li> </ul>
Main future uncertainties and future portfolio	<ol style="list-style-type: none"> <li>1. <b>Involvement of Alpine Towns into RES development:</b> Towns develop their own energy systems and become more less energy-independent (or even 'plus-energy-cities' vs. Alpine Towns don't develop own solutions and depend on general energy supply. Including: Energy democracy: degree of involving citizens into energy supply (+ storage)</li> <li>2. <b>Development of electricity demand:</b> Growing due to additional demand and rebound effects vs. successful energy efficiency measures and approaches. Including: Acceptance of bringing forward measures on 'sufficiency'</li> </ol>





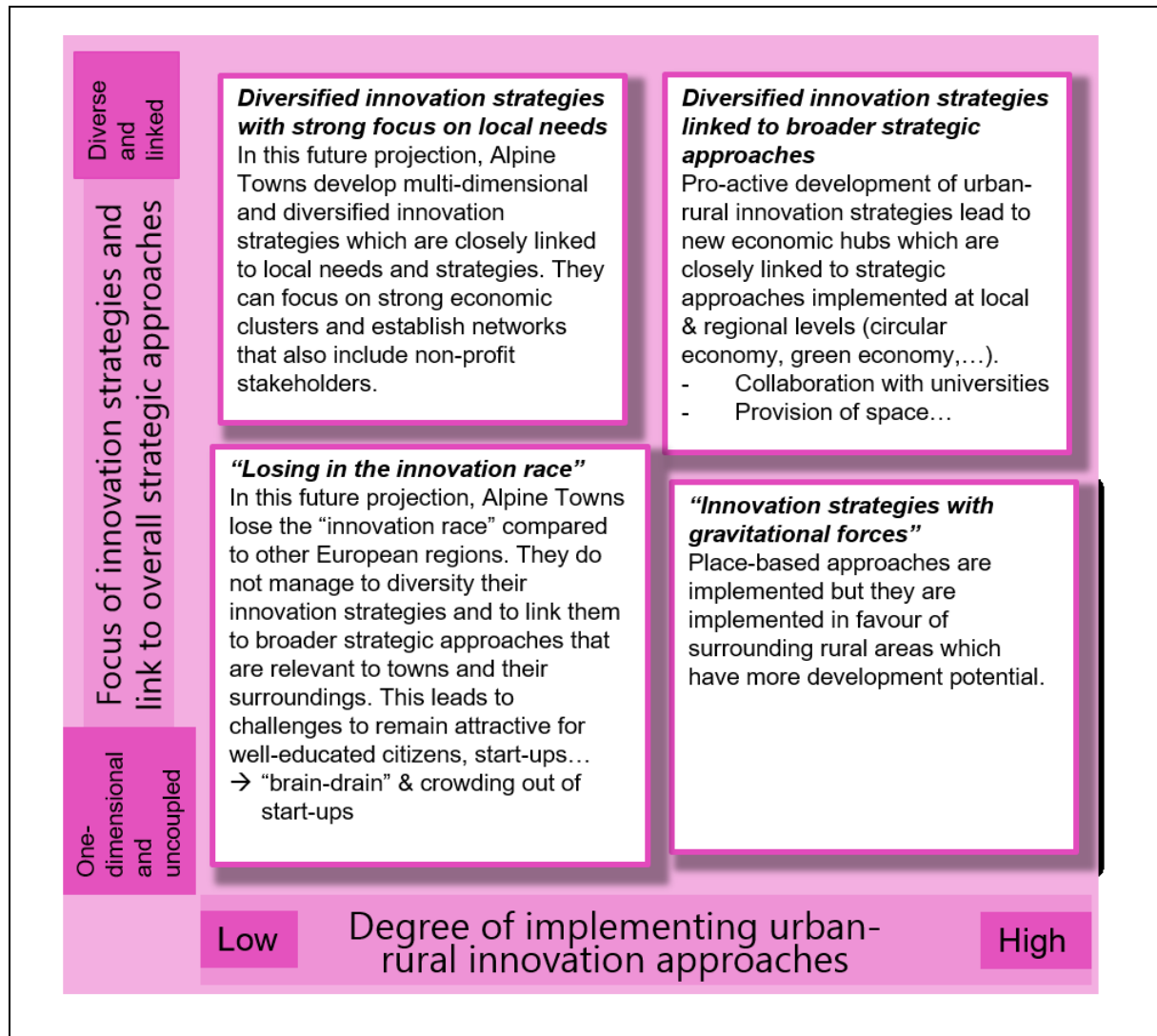
### 3. Driver 3: Economy, labour market, innovation

#### 3.1 Factsheet Key factor 10: Innovation strategies – Alpine towns as innovation hubs

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Towns and urban areas are generally seen as innovation hubs: they play a central role in innovation dynamics due to the geographical proximity of stakeholders and diverse interactions. Although capital cities and metropolitan areas remain major drivers of creativity and innovation, favourable conditions can also be found in smaller cities.</p> <p>To support innovation in urban areas, different strategies and approaches are currently implemented throughout Europe and also in Alpine towns:</p> <ul style="list-style-type: none"> <li>- The concept of place-based innovation links to the uniqueness of a territory: innovation is successful when local conditions and resources are actively taken into account.</li> <li>- Innovation strategies can be either developed at municipal level, or in a broader regional context (agglomeration economies, urban-rural innovation axis) making use of the different and often complementary innovation assets of urban and rural areas.</li> <li>- New approaches to accelerate innovation are tested, e.g. urban living labs which represent sites in cities that allow stakeholders to design, test and learn from socio-technical innovations in real time. Participation, experimentation and learning are put center stage.</li> </ul>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Creation of Urban living labs, business labs, tech-parks</li> <li>- Location of Research institutions</li> <li>- Usage of agglomeration economies (cost saving through close location and networks of people and companies)</li> <li>- Management of urban-rural innovation axis/urban-rural innovation linkages</li> <li>- Place based innovation</li> </ul>
<b>Alpine specific character</b>	<p>Additional challenges due to Cross-border cooperation on innovation: if functional areas extend beyond national boundaries, innovation policies need to be coordinated to become fully effective (→ see A-RING project Alpine Research and INnovation capacity Governance)</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Interreg EUROPE (2021): Policy Learning Platform <a href="#">Urban-rural innovation linkages</a></li> <li>- Ersoy, A. and van Bueren, E. (2020): <a href="#">Challenges of Urban Living Labs towards the Future of Local Innovation</a></li> <li>- Information provided by project '<a href="#">A-RING</a>' <a href="#">Alpine Research and INnovation Capacity</a> (e.g. including an Alpine Seed Lab approach and virtual e-learning room with good practices and information on specific innovation topics).</li> </ul>



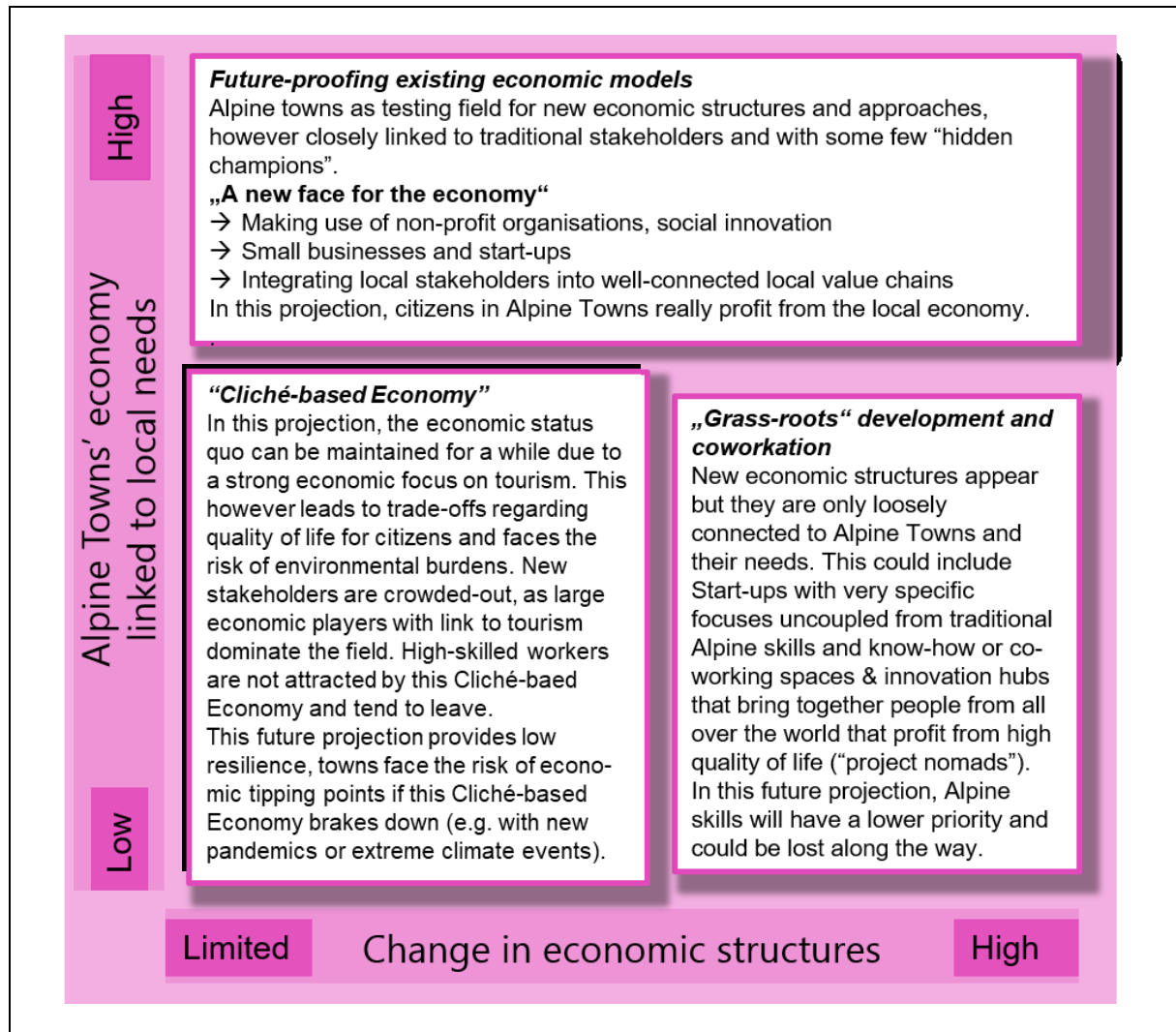
<i>Future projections: brainstorming results and future portfolio</i>	
<b>Brainstorming results on potential future developments</b>	<ul style="list-style-type: none"> <li>- Degree of cooperation on urban-rural innovation approaches: developing innovation strategies for Alpine towns and their surrounding rural areas in a place-based approach</li> <li>- Cooperation with universities, RandD sector to support innovation strategies</li> <li>- Focus of innovation strategies: one-dimensional focused on one sector vs. multi-dimensional, diversified innovation strategies (different sectors, sizes, types)</li> </ul> <p><b>Focus of innovation strategies:</b></p> <ul style="list-style-type: none"> <li>- Link of innovation strategies to overall strategic approaches: innovation strategies linked to circular economy approach and local value chains, linked to digitalisation strategies, green economy (incl. benchmarking approach)</li> <li>- Active development of innovation strategies: pro-active development vs. low focus</li> </ul> <p><b>Challenges/risks:</b></p> <ul style="list-style-type: none"> <li>- Innovation cycles will gain dynamic, this will require a creative and open-minded mindset, staying connected to the world and global megatrends</li> <li>- Brain drain: lack of innovation and start-ups when innovation strategies are not implemented or are too much focused on one priority</li> <li>- Limited space: innovation requires space, if this cannot be provided start-ups will move to other areas</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Degree of cooperation on urban-rural innovation approaches:</b> Developing innovation strategies for Alpine towns and their surrounding rural areas in a place-based approach vs. uncoordinated innovation strategies</li> <li>2. <b>Focus of innovation strategies:</b> One-dimensional focus on one sector and/or some strong economic players vs. multi-dimensional/diversified innovation strategies that keep up with the fast dynamics in the innovation cycle</li> <li>3. <b>Integration of innovation strategies into overall strategic approaches:</b> Linking innovation strategies to green economy, local value chains, circular economy,... vs. innovation strategies that are uncoupled from other strategies</li> </ol>



### 3.2 Factsheet Key factor 11: Alpine Towns' Economy – economic models, structures and players

<i>General description</i>	
<b>Short description of the key factor</b>	The different ongoing transformation processes are currently also changing the structures and stakeholders in urban economies. 'Classical' private-sector players like craftsmen, small manufacturing businesses, tourism/gastronomy sector still play a crucial role but new economic models and with it new private stakeholders are becoming more important. For example, a stronger focus on local value chains and circular economy approaches profits small-scale economic structures (e.g. in the frame of urban manufacturing) in which the private sector is opened-up to new economic models. Also, the socio-economic transformation will lead to more social businesses and to a culture of sustainable entrepreneurship. While new economic models are not only relevant for the urban level, cities and towns provide a testing field for alternative economic structures and approaches.
<b>Topics that describe the key factor</b>	<p>Inovative and sustainable economy Models</p> <ul style="list-style-type: none"> <li>- Local value chains, circular economy (incl. zero-waste)</li> <li>- Green Economy, Bio-Economy</li> <li>- Sharing cities/collaborative economy</li> <li>- Impact hubs</li> </ul> <p>Existing and new stakeholders:</p> <ul style="list-style-type: none"> <li>- Urban and rural manufacturing, tourism/gastronomy sector</li> <li>- Craftsmanship with traditional and new crafts</li> <li>- Industry, large-scale enterprises</li> <li>- Social businesses, sustainable and social entrepreneurship</li> <li>- Cooperative models (Genossenschaftsmodell)</li> </ul> <p>Incentive and support mechanisms (taxes, provision of space, support, ...)</p>
<b>Alpine specific character</b>	The Alpine Space region can already be described by a high level of innovation and the particular environmental conditions and vulnerability to climate change gives additional dynamics to develop Alpine towns into models for green, sustainable economy. As local value chains, local products, local manufacturing already today play a considerable role in Alpine towns, it can also be assumed that alternative economic models will develop at a faster pace than in other European regions – integrating the know-how of existing and traditional stakeholders. Especially the Circular Economy approach has a great potential for Alpine urban-rural areas.
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	- EU Project TRANSIT: <a href="#">New economic logics and urban sustainability transitions</a> – Working Paper #8, March 2017
<b>Facts and Figures</b>	- ASP Project 'Green Cycle': Circular Economy Platform <a href="https://www.greencycle.si/#project">https://www.greencycle.si/#project</a>

<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>Potential economic models:</b></p> <ul style="list-style-type: none"> <li>- Link of economic development to overall strategic approaches: economic stakeholders linked to circular economy approach and local value chains, linked to digitalisation strategies, green economy</li> <li>- 'Place-based' companies and businesses which are closely linked to local needs and local value chains: regional value creation by promoting producer networks and knowledge creation of specialist Alpine products</li> <li>- Circular economy economic models with a stronger connection between regional companies (also new companies/start-ups and existing/traditional companies)</li> <li>- Green Economy approach as a role-model: Alpine region as model region for the world</li> <li>- 'Cliché-based-Economy' with a strong focus on tourists and high-skilled workforce without connection to the Alps ('Alpine profiteers')</li> </ul> <p><b>Economic players:</b></p> <ul style="list-style-type: none"> <li>- New economic stakeholders, also very small ones: 'project nomads'</li> <li>- Small production, small manufacturing will play a stronger role ('hidden champions')</li> <li><b>vs.</b> bigger companies/businesses with strong power position ('crowding-out')</li> <li>- Potential of collectives: social innovation, non-profit orientation</li> <li>- Remote workers as revitalising source for Alpine Towns</li> </ul> <p><b>Products:</b></p> <ul style="list-style-type: none"> <li>- Alpine high-quality products with benchmark character to compete on world markets/with recognition in a global perspective</li> <li>- Products that link old and new: advantages of the Alps: merging culture and traditions in modern production (food, architecture, culture..)</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Change in economic structures:</b> existing and traditional structures, new players, non-profit...a good mix of both types.</li> <li>2. <b>Degree of how economic structures and players are linked to local needs and experiences:</b> producer networks and knowledge creation of specialist Alpine products that profit local value chains vs. 'Cliché-based' economy that profit only tourists.</li> <li>3. <b>Preservation</b> of traditional stakeholders and their skills and knowledge.</li> </ol>

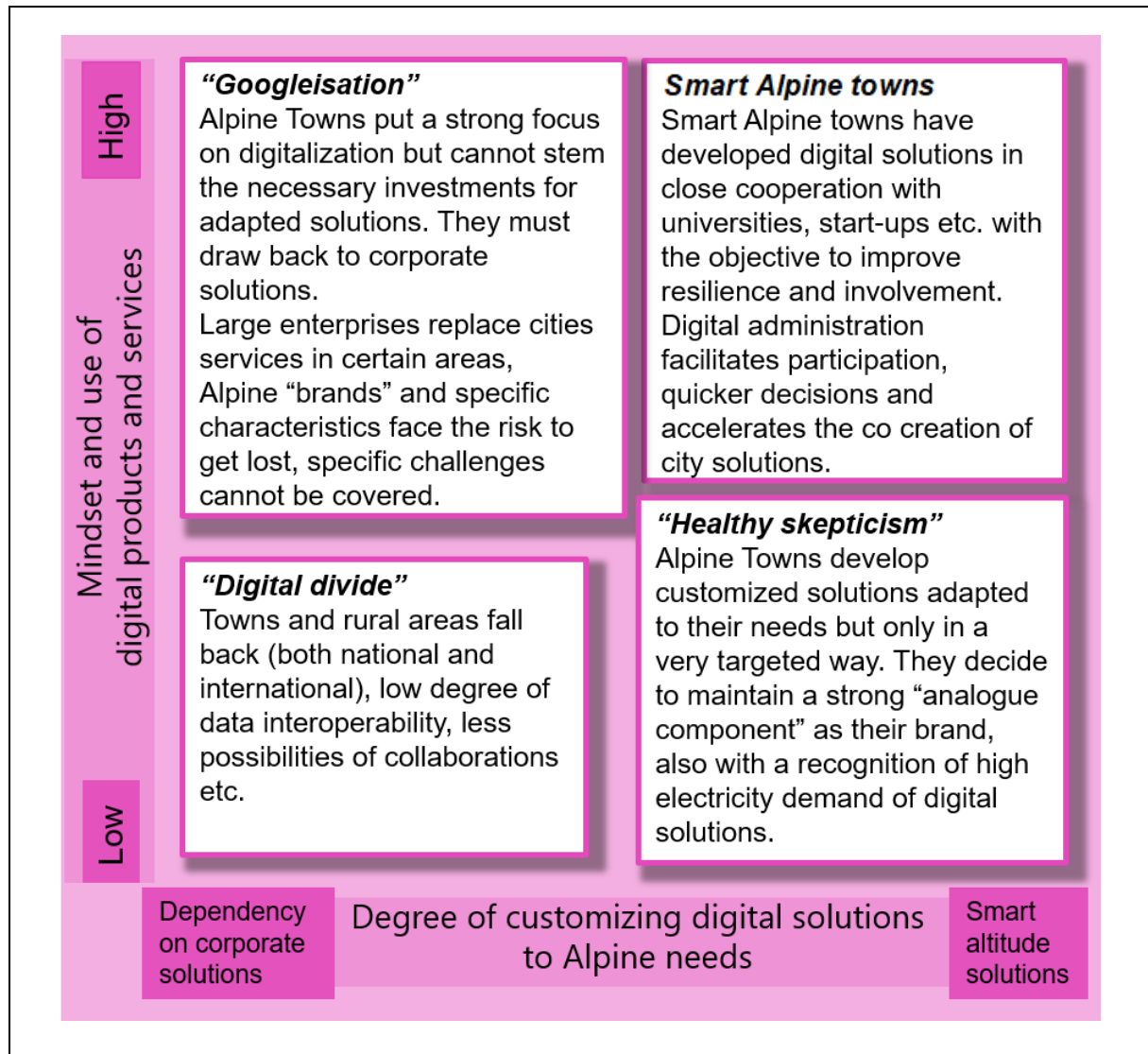


### 3.3 Factsheet Key factor 12: Digitalisation of Alpine towns – connected, smart, responsive

<i>General description</i>	
<b>Short description of the key factor</b>	<p>A smart city/smart village is a place where traditional networks and services are made more efficient with the use of digital and telecommunication technologies for the benefit of its inhabitants and business. It goes beyond the use of ICT for better resource use and less emissions. It means smarter urban-rural transport networks, upgraded water supply and waste disposal facilities ... It also means a more interactive and responsive administration (e.g. digital citizen services, faster decision-making of different administrative levels/authorities, etc.), safer public spaces and meeting the needs of an ageing population.</p> <p>Going beyond the concept of 'smart cities/smart villages' is the concept of responsive cities/villages. This concept builds on Smart City/smart village technology, but places the human in the centre of decision-making, design, and municipal management. Within the responsive city, the civil society becomes an active partner in urban-rural governance and development.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Urban data platforms that integrate public and private sector input and data, sharing information, incentives and risks</li> <li>- Digital Public Services</li> <li>- City-as-a-platform: synchronized and connected systems and databases</li> <li>- ICT solutions and smart sensors to support public participation, monitoring of municipal actions</li> <li>- Digital inclusion and education: approaches to manage the digital divide/digitalism</li> <li>- Infrastructure needs/high-speed internet as basic condition</li> </ul>
<b>Alpine specific character</b>	<p>In the Alps, the digital divide between rural and urban areas is more prominent than in other European areas and especially the concept of 'smart villages' has been developed to increase attractiveness of smaller towns in mountain areas and to create linkages between urban and rural areas.</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Joint Research Centre (2019): The Future of Cities – Opportunities, challenges and the way forward (chapter on Tech and the city)</li> <li>- Platform of Smart Villages Project (including 'smartness assessment and good practices): <a href="https://smart-villages.eu/language/en/home/">https://smart-villages.eu/language/en/home/</a></li> <li>- Project Start Alp, Alliance in the Alps (in German only): <a href="https://alpenallianz.org/de/projekte/start-alp/">https://alpenallianz.org/de/projekte/start-alp/</a></li> </ul>
<b>Facts and Figures</b>	<ul style="list-style-type: none"> <li>- European Commission: Smart Cities Marketplace <a href="https://smart-cities-marketplace.ec.europa.eu/">https://smart-cities-marketplace.ec.europa.eu/</a></li> </ul>

<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<ul style="list-style-type: none"> <li>- Digitalisation: how to ensure that citizens benefit and not only large international companies?</li> <li>- Degree of digitalisation to involve citizens in city planning: one-way or two-way development (digitalisation only as information source/efficiency improvement for citizens or rather as communication tool for an active involvement)</li> </ul> <p><b>Customizing digitalisation to Alpine needs and specific characteristics:</b></p> <ul style="list-style-type: none"> <li>- Develop smart alpine cities in order to find a solution to specific alpine constraints (mobility, lack of resources...): this requires specific alpine knowledge (e.g. by involving universities) to develop smart solutions adapted to the Alpine territory</li> <li>- Smart altitude: customized digital solutions can also profit the Alpine economy and especially the tourism sector: accessibility, information, routing, smart services...</li> <li>- Specific technologies to deal with alpine challenges: supporting mountain agriculture, monitoring of glaciers/permafrost, delivery services ...</li> <li>- But also possible: Alpine Towns take a more balanced approach to digital solutions, maintain a healthier balance between digital and analogue solutions than other European cities</li> </ul> <p><b>Overcoming barriers and challenges with digital solutions:</b></p> <ul style="list-style-type: none"> <li>- Digital solutions to overcome barriers between urban places and periphery → no more periphery</li> <li>- E-services to meet challenges with provision of SGIs</li> </ul> <p><b>Challenges related to digitalization → which could lead to tipping points:</b></p> <ul style="list-style-type: none"> <li>- Investment challenges: will Alpine towns be able to provide the necessary investments for both infrastructures (cables, sensors,...) and adapted services? Or will they have to draw back to large companies and their rather general services</li> <li>- Acceptance of digital solutions needs to be ensured: education plays a crucial role, avoiding digital divide, ensuring personal security and data protection, ...</li> <li>- Energy provision: digital solutions will increase electricity demand; this must be kept in mind in energy planning (KF9)</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Customizing digital solutions to Alpine needs vs. high dependence on corporate solutions:</b> Alpine Towns (in close collaboration with universities, start-ups,...) developed smart solutions that profit the Alpine region vs. on the other hand they cannot stem these investments and have to draw back to corporate solutions to keep-up with digitalisation ('Googleisation')</li> <li>2. <b>Overall mindset related to digitalisation: Alpine towns as forerunners or rather with a healthy scepticism:</b> Smart altitude (with its positive and negative impacts) and on the other hand a more balanced approach which could also be attractive for tourists, second homers,... (digital detox)</li> </ol>





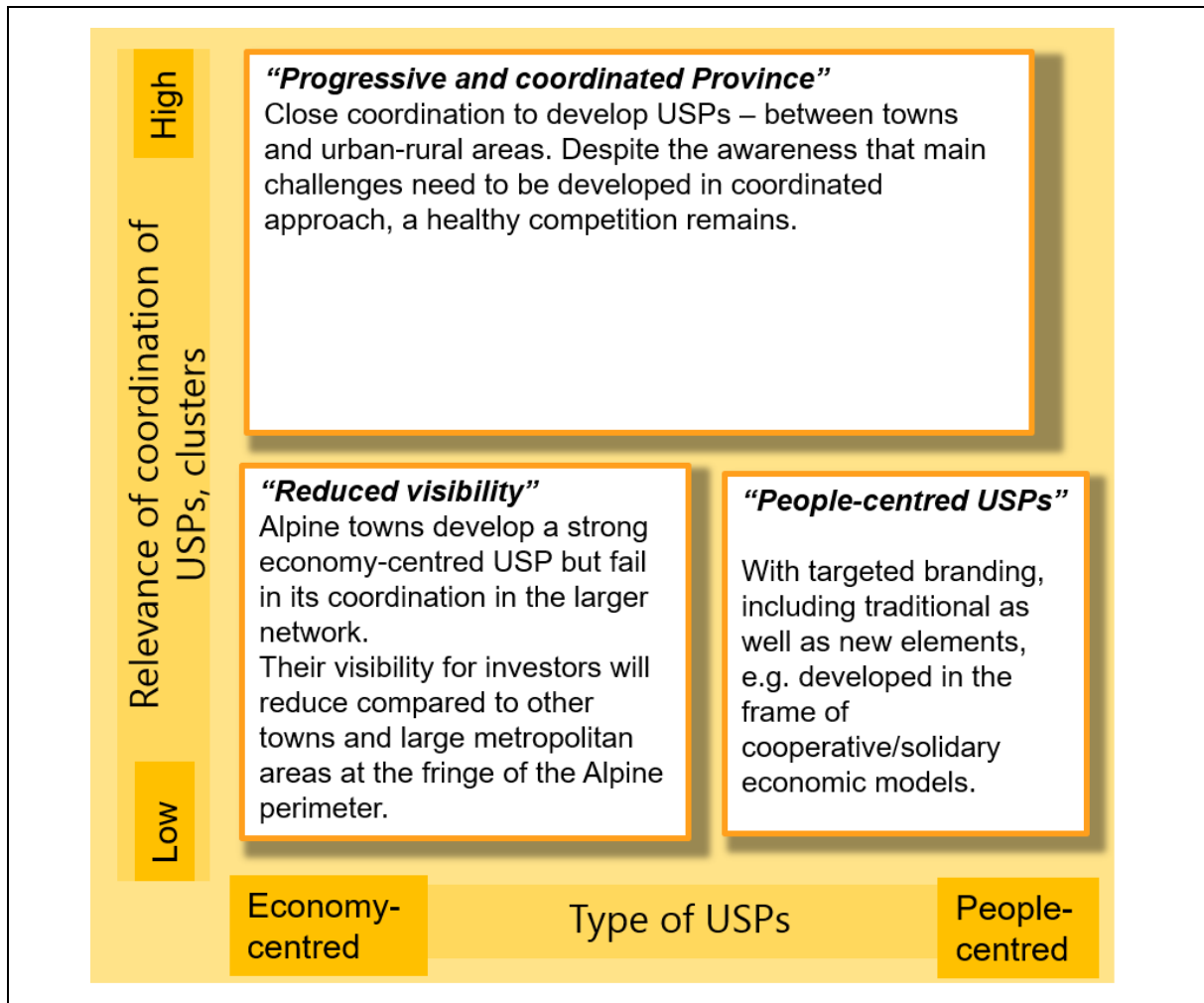


## 4. Driver 4: Global transformation

### 4.1 Factsheet Key factor 13: Alpine towns and their USPs – economic positioning of Alpine towns

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Alpine towns face multiple challenges with respect to securing their economic position and competitiveness. The common challenge is to compete in the ever increasing global market, the changing geopolitical landscape (i.e. shift towards 'Asian century') and to find economic opportunities and niches for a sustainable economic development – taking into account the specific environmental and cultural dimensions in the Alps. As this is a challenge not only for Alpine towns but for cities and regions throughout Europe, the EU has promoted the set-up of Smart Specialisation Strategies, requiring smart, strategic choices and evidence-based policy making. Priorities are set on the basis of a bottom-up entrepreneurial discovery process supported by strategic intelligence about a region's assets, its challenges, competitive advantages and potential for excellence. Cities can be embedded in such smart specialisation strategies or could even be seen as accelerators. But they could also chose to (further) develop their local-level strategies:</p> <ul style="list-style-type: none"> <li>- Between high-tec/strategic sectors with global relevance and 'glocalisation'</li> <li>- Towns as 'centres of excellence' based on developing high-profile universities and schools of further education</li> <li>- Development on the basis of a strong tourism-brand</li> </ul>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Prioritising knowledge domains and lead markets: coordinated between Alpine urban-rural areas or individual optimisation</li> <li>- Urban Marketig Strategies Improving visibility/urban marketing</li> <li>- Tourism branding</li> <li>- Connecting smart specialisation strategies (RIS3) to the city</li> <li>- Cluster development</li> </ul>
<b>Alpine specific character</b>	<p>The Alps have a specific position in the European market when it comes to economic positioning. Especially, the tourism sector plays an important role in this respect with its specific offers that are recognized throughout Europe and at global scale.</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Rivas, M. (2016) <a href="#">Connecting RIS3 to the city, a two-way bridge</a>. URBACT-InFocus thematic paper.</li> <li>- Alpine Space Programme: S3-4AlpClusters: <a href="#">Smart Specialisation with Smart Clusters</a></li> </ul>

<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>Elements of developing USPs for Alpine towns:</b></p> <ul style="list-style-type: none"> <li>- Many elements for USPs identified, recognising the needs of different target groups</li> <li>- Elements for tourists and citizens: high quality of life, favourable climate conditions, attractive mix between urbanity and close to nature...</li> <li>- Elements for companies, investors: central location in Europe, attractive mix, close link to nature, high-skilled workforce with high commitment to their living place,...</li> </ul> <p><b>Target group of USPs:</b></p> <ul style="list-style-type: none"> <li>- Not only looking at the business sector and tourism, rather also develop USPs to attract citizens: people-centred USPs should also play a role</li> <li>- Type of market: USPs should rather focus on the European market, global market is relevant but more difficult to target by Alpine Towns</li> </ul> <p><b>Coordination, networking:</b></p> <ul style="list-style-type: none"> <li>- Alpine towns develop clusters of USPs which they can jointly promote on global level</li> <li>- Networking with larger cities in close proximity to the Alps (Munich, Stuttgart, Milan...)</li> <li>- Individual optimisation: selected towns develop strong USPs which they use to attract specific target-groups</li> <li>- Networking also with universities and other stakeholder to develop strong USPs and branding</li> </ul> <p><b>Branding:</b></p> <ul style="list-style-type: none"> <li>- Branding: traditional vs. new (or mix of both)</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Level of coordination:</b> Alpine towns coordinate the development of USPs in clusters and networks vs. low level of coordination with the risk of reduced visibility</li> <li>2. <b>Type of USPs:</b> economy-centred vs. people-centred</li> <li>3. <b>Branding:</b> traditional vs. new (or mix of both)</li> </ol>

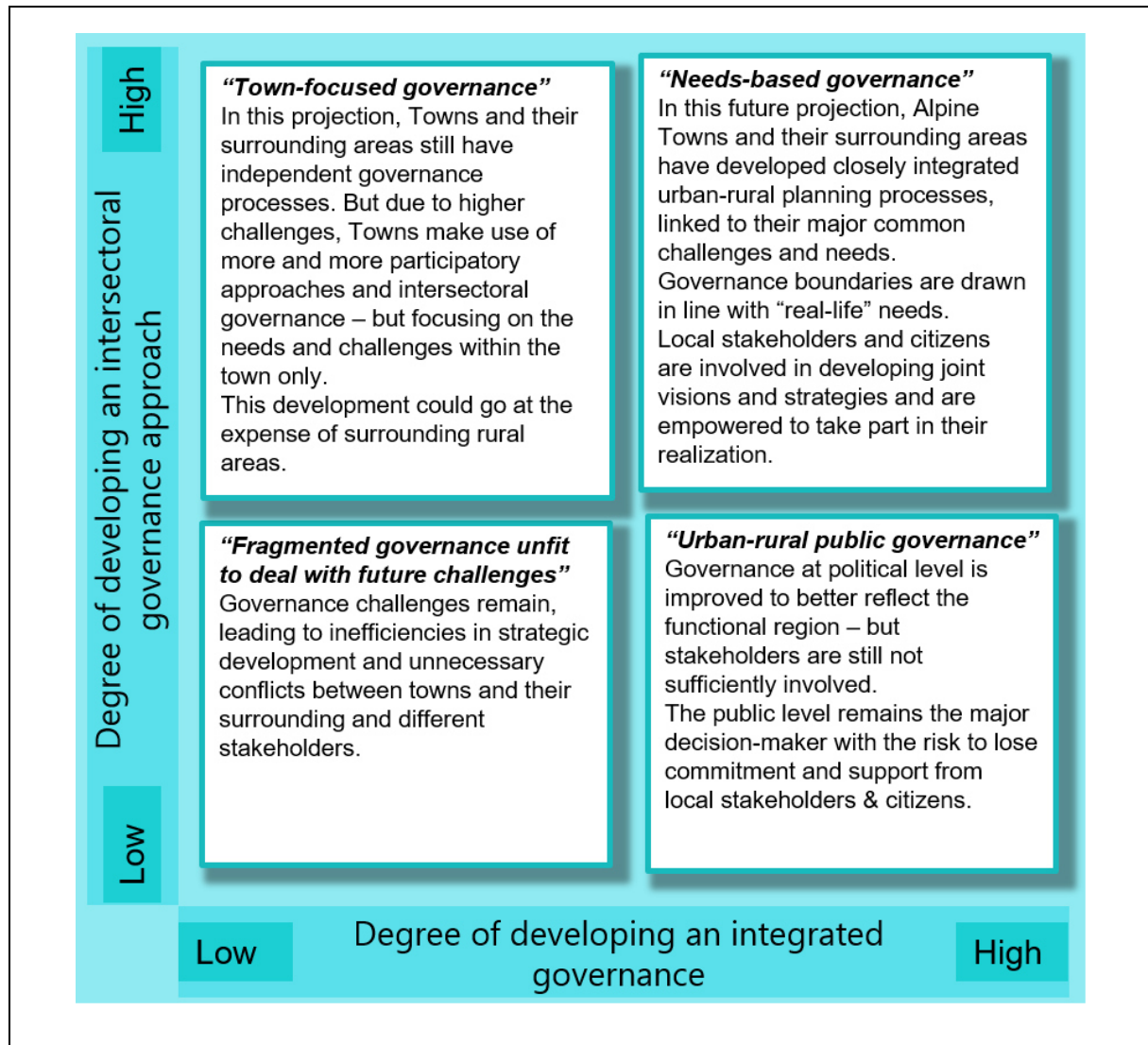


## 5. Driver 5: Governance

### 5.1 Factsheet Key factor 14a: Urban-rural governance

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Urban-rural Governance relates to integrated and participatory forms of 'coordinating' collective actions, both within Alpine towns and within their embeddedness in function areas. Urban-rural governance influences all areas and the social, environmental and economic spheres and can be divided in multi-level governance, intersectoral governance and transnational governance.</p> <p>With respect to Urban-rural spatial structures, integrated governance also needs to consider cooperation in flexible spatial structures to avoid a territorial mismatch and an administrative fragmentation between administrative and real-life boundaries of functional urban-rural areas.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Multilevel governance</li> <li>- Integrated governance: Governance of functional areas: flexible or institutionalized governance mechanisms reaching out to broader functional areas vs. administrative fragmentation</li> <li>- Intersectoral governance mechanism established, including private sector and civil society vs. rather 'classical' forms of local governance</li> <li>- Public-private partnerships and public-private-social partnerships</li> <li>- Level of Public information? Formats and degree of providing public information</li> <li>- Participation in urban/metropolitan governance bodies, e.g. Covenant of Mayors</li> </ul>
<b>Alpine specific character</b>	<p>Governance mechanisms for urban-rural functional areas face specific challenges in the Alps:</p> <ul style="list-style-type: none"> <li>- Many functional areas extend across national borders and thus have to deal with multiple layers and governance frameworks.</li> <li>- Several major challenges for sustainable development in the Alps require a stronger cooperation to avoid trade-offs and/or unwanted distributional effects: e.g. to deal with water scarcity, natural hazard management, settlement pressures...</li> <li>- Very broad spectrum of interests in functional areas due to topographical conditions ('urban' and 'remote' can be very close together in the Alps).</li> </ul>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Joint Research Centre (2019): The Future of Cities – Opportunities, challenges and the way forward (chapter on Urban Governance)</li> <li>- URBACT (2017): <a href="#">Functional territories for better integrated governance: Towards spatially coordinated development in metropolitan and urban-rural area</a>.</li> <li>- Horizon 2020 Project '<a href="#">Robust – Rural-Urban Europe</a>' with Communities of practice to strengthen urban-rural governance on new Business Models and labour markets, public infrastructures and social services, sustainable food systems, cultural connections and ecosystem services.</li> </ul>

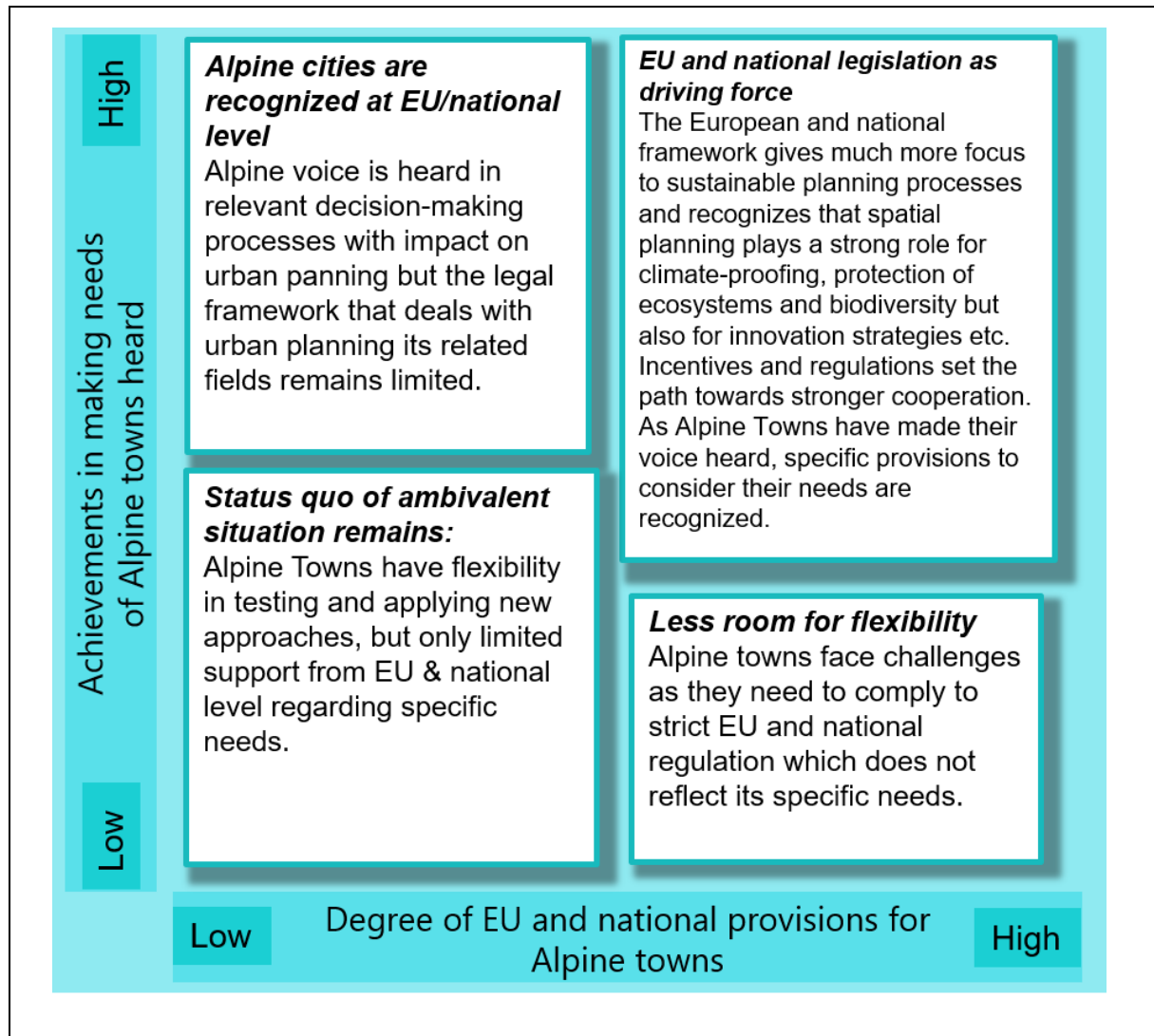
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>Integrated governance and role of coordination/networking:</b></p> <ul style="list-style-type: none"> <li>- Coordination of spatial planning will become more and more important, major challenges need to be solved in the frame of common approaches. Joint visions and strategies, developed by urban-rural partnerships</li> <li>- Governance 'boundaries': Integrated governance which is linked to real-life boundaries: all relevant aspects that affect both towns and their surrounding areas are jointly developed, boundaries are drawn where necessary vs. governance remains fragmented and is not linked real-life challenges</li> <li>- Identifying challenges/topics that need to be tackled in urban-rural partnerships: some fields are more relevant than others but include all the environmental spheres (planning of green and blue spaces, ecosystems protection), the social sphere (housing, education, culture) and the economic sphere (innovation policy, workspace, space for businesses and industry...)</li> </ul> <p><b>Intersectoral and participatory governance:</b></p> <ul style="list-style-type: none"> <li>- Intersectoral governance: the private sector, civil society and research are integrated in governance structures vs. the public level remains the major decision-maker</li> <li>- Participatory approaches: empowerment of citizens and stakeholders to shape their living and working space, develop responsibility for their town</li> </ul> <p><b>Exchange of good practices and experiences:</b></p> <ul style="list-style-type: none"> <li>- Learn from each other beyond national boundaries and types of Alpine towns: exchange good experiences with governance approaches, try to transfer good practices from rural planning to urban-rural planning etc.</li> </ul> <p><b>Challenges:</b></p> <ul style="list-style-type: none"> <li>- Different legal frameworks in all Alpine countries make an exchange of experiences and the development of a common toolbox difficult</li> <li>- Challenges of reorganisation: how to convince towns and rural areas to coordinate their planning processes (regulatory provisions, financial support linked to coordination...)</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Integrated governance vs. fragmentation:</b> On the one hand, governance structures could be better integrated with a stronger coordination between towns and their surrounding rural areas. The governance boundaries are linked to real-life boundaries: all relevant aspects that affect both towns and their surrounding areas are jointly developed, based on common visions vs. governance remains fragmented and is not linked to real-life challenges. Even if towns and their surround rural areas realize that they could profit from coordination, the hurdles are too high – they stick to status quo.</li> <li>2. <b>Intersectoral and participatory governance:</b> the private sector, civil society and research are integrated in governance structures. Participatory approaches play a more and more important role by empowering citizens and local stakeholders vs. the public level remains the major decision-maker.</li> </ol>



## 5.2 Factsheet Key factor 14b: EU and national governance framework: recognition of local/urban needs

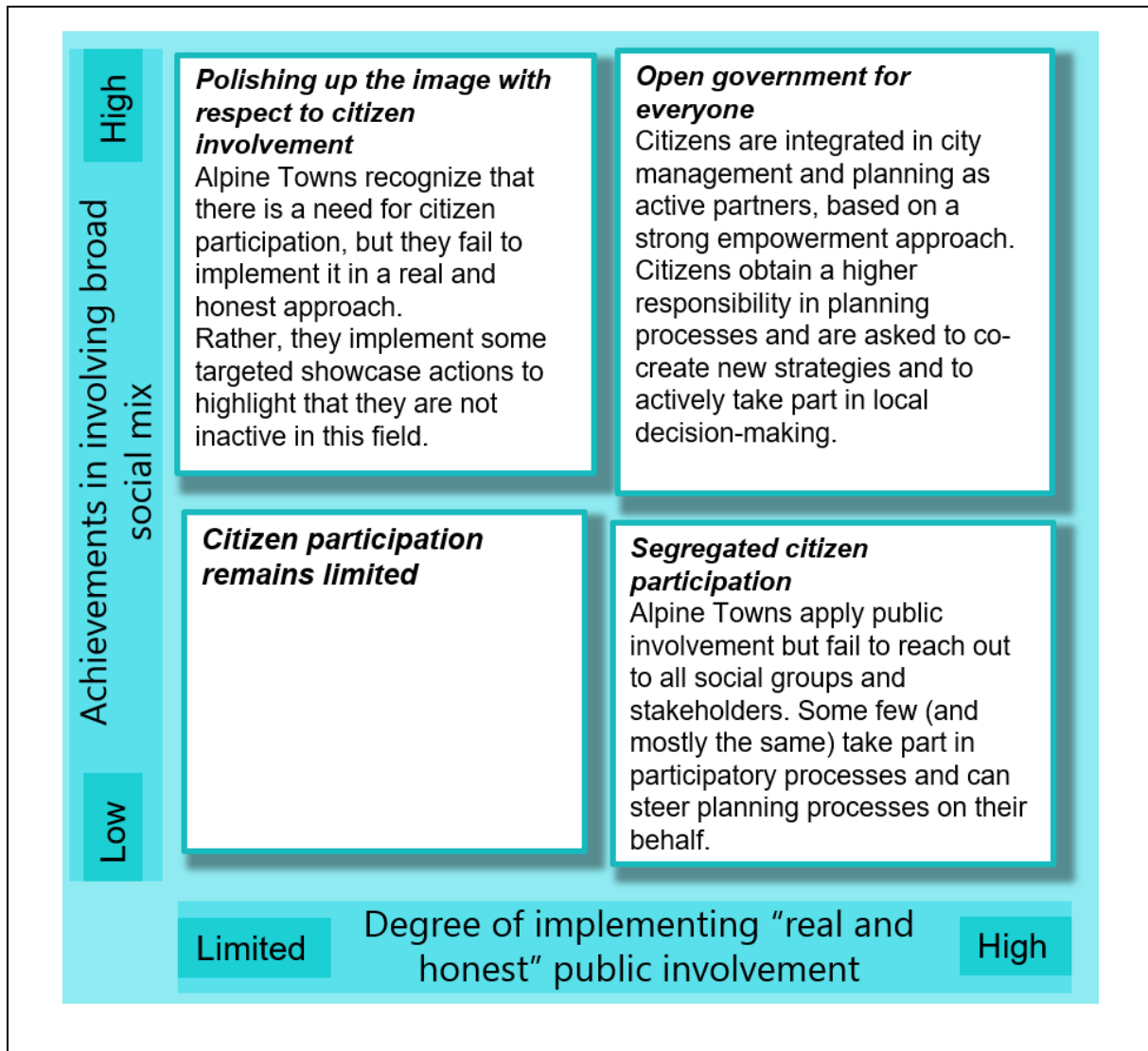
<i>General description</i>	
<b>Short description of the key factor</b>	<p>Decision-making processes in Alpine towns and their urban-rural structures also depend closely on the recognition of local needs in the legislative framework at European and national level. The role of cities in EU policy-making has been more and more recognised since the end of the 1980s – leading to the ‘EU Urban Agenda’ formulated by the ‘Pact of Amsterdam’ in June 2016. Although formal rights of cities and their organisations to participate in decision-making at the EU level are still limited, cities can influence decision-making by offering the EU institutions expertise and legitimacy (EU Parliament 2017).</p> <p>This influence gains importance and needs to be more actively used by cities and towns to effectively deal with the multiple challenges that cities and towns are facing today: dealing with the aftermaths of the Covid-pandemic, managing the transformation to a climate-neutral Europe and dealing with increasing social and economic inequality. The EAA (2021) highlights several opportunities and needs to ensure that local governments can play an active role in the recovery planning process and the transformation towards climate-neutrality at EU and national levels (e.g. to ensure that cities and towns can make effective use of the Next Generation EU Stimulus Package).</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Recognition of local needs in EU and national legislative frameworks</li> <li>- Opportunities for municipalities to shape EU and nat.decision-making</li> <li>- Role of municipal level in shaping Recovery Funding mechanisms</li> <li>- Role of municipal level in shaping the framework for transformation strategies with respect to climate-neutrality, digitalisation, regional cohesion etc.</li> </ul>
<b>Alpine specific character</b>	<p>The Alpine governance framework can be described by a high heterogeneity: in the different Alpine countries, municipalities have different responsibilities and tasks, local state-society relations are organised in different ways, and municipalities are embedded in different ways in local-central or vertical power relations within the political systems of the Member States. It is thus difficult to find a common voice for the needs of Alpine cities in the EU and national legislative frameworks.</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- EEA (2021): EEA Briefing no. 03/2021 – <a href="#">‘Urban sustainability in Europe – opportunities in challenging times’</a></li> <li>- EU Parliament (2017): The role of cities in the institutional framework of the European Union.</li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments + Main future uncertainties and future portfolio</b>	<p>→ See directly proposal in portfolio</p>





### 5.3 Factsheet Key factor 15: Citizen participation – open government in Alpine towns

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Citizens can play a crucial role in identifying or actively intervening in urban challenges, often providing new perspectives and solutions. The co-creation of strategies to tackle urban challenges is thus an important element for future-proofing urban development. This however requires an empowerment of citizens to get a better understanding on local challenges and how they can contribute to tackle them.</p> <p>Participatory methods can rely on both established and experimental participatory methods and new technologies can significantly improve citizen involvement.</p> <ul style="list-style-type: none"> <li>- Participatory decision making aims at including citizens in the development of planning measures and investments (e.g. via e-surveys, stakeholder involvement, citizens)</li> <li>- Crowdfunding for urban projects: Citizen participation can also cover the funding sphere, crowdfunding can provide budget for projects which are developed bottom-up in citizens' initiatives.</li> <li>- Citizens as active partners in urban management: e.g. by enabling direct communication channels between citizens and public administration</li> </ul>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Participatory and co-creative decision making</li> <li>- Crowdfunding</li> <li>- Empowerment of citizens to become active partners: creating a sense of local communities</li> <li>- Citizens-Apps which integrate private and public-sector information</li> <li>- Formats: BürgerForum, DesignThinking, CitizenLab, Deliberative Walks, Citizens' juries,...</li> <li>- Open City Hall (incl. consultation hours of mayors)</li> </ul>
<b>Alpine specific character</b>	<p>Alpine-specific characteristics relate to involvement of different types of migration, especially how to involve newcomers to Alpine towns (amenity migration, seasonal workers but also international migration).</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Joint Research Centre (2019): The Future of Cities – Opportunities, challenges and the way forward (chapter on The Citizens' City)</li> <li>- OECD (2020): <a href="#">Innovative Citizen Participation and New Democratic Institutions: Catching the Deliberative Wave</a></li> <li>- Alpine Space Programme <a href="#">PlurAlps</a></li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments + Main future uncertainties and future portfolio</b>	<ul style="list-style-type: none"> <li>- Citizens are 'really' integrated in city management as active partners vs. public participation remains limited and intransparent</li> <li>- Degree of reaching all citizens: some citizens are easier to involve in public participation than others → open government reaches out to everyone</li> <li>- Innovative formats are applied, going beyond pure information and opinion making</li> </ul>

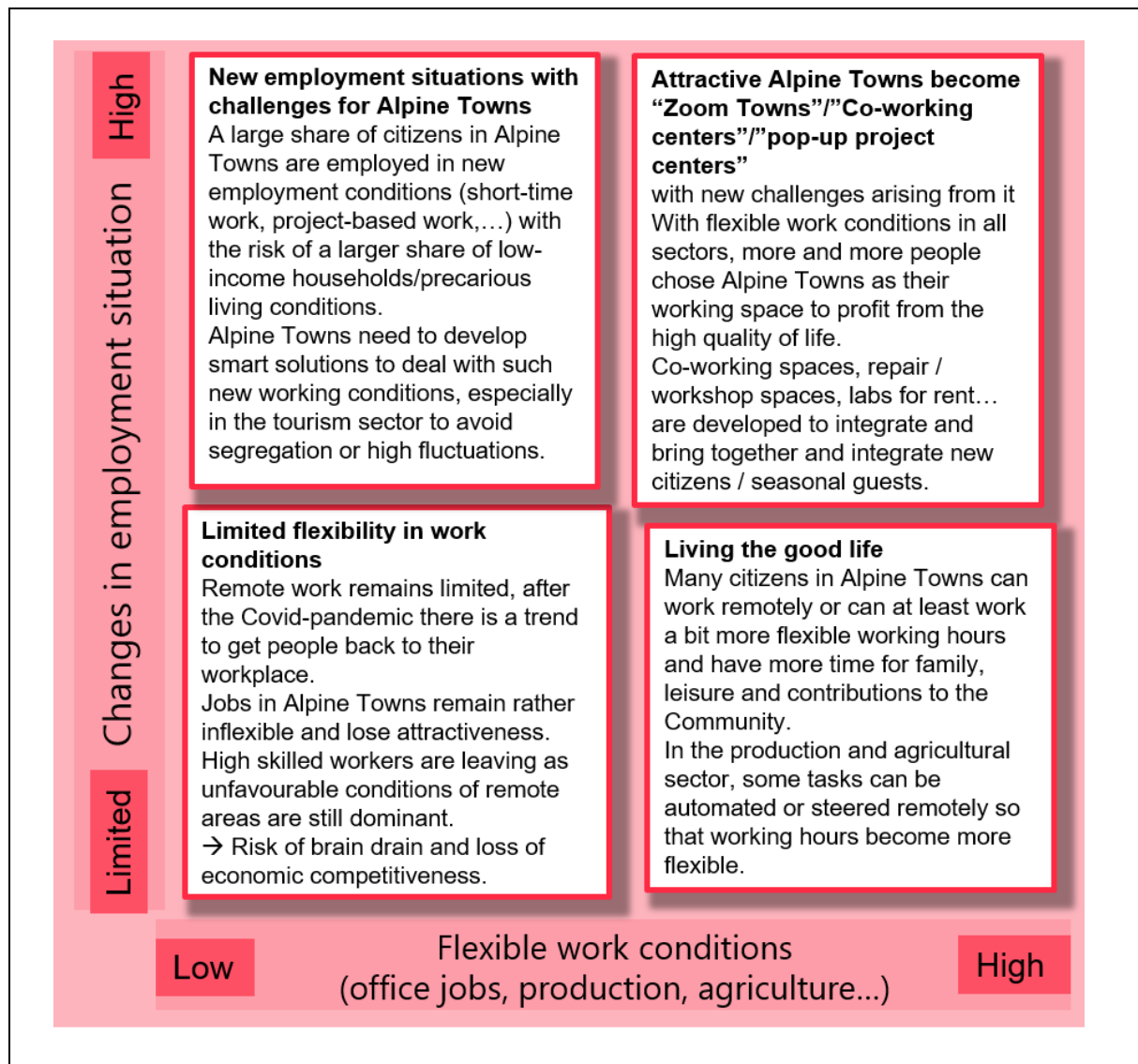


## 6. Driver 6: Lifestyles, quality of life, accessibility

### 6.1 Factsheet Key factor 16: New work in Alpine towns

<i>General description</i>	
<b>Short description of the key factor</b>	<p>Work patterns have changed rapidly over the last couple of years and the Corona pandemic has considerably accelerated the trend towards new work. Digitalisation supports new working structures which are mostly influenced by new forms of work-life-blending, collaboration and remote work.</p> <p>Work attitudes are changing as well: income and status are no longer the main objectives, rather work and employment shall be meaningful and satisfying. Flexible work models which allow a better balance between paid work, voluntary work, family time and leisure become more important and average working hours are decreasing.</p> <p>With the help of remote and flexible work surroundings, the new concept of work-life-blending becomes more important with blurring lines between work and private life.</p>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Flexible employment</li> <li>- Work-life-blending</li> <li>- Remote work</li> <li>- Co-working spaces</li> <li>- Diversity management in employment</li> <li>- 'Workation' (blending work and vacation), working for 'drop-outs'</li> <li>- Tax Incentives</li> <li>- Inclusive Work</li> <li>- Automation</li> </ul>
<b>Alpine specific character</b>	Opportunities but also risks from higher degrees of remote work.
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- Project Start Alps, Allianz in den Alpen. <a href="#">Themenfeld Digitalisierung und Arbeit</a></li> <li>- Deloitte thematic page <a href="#">'The future of work'</a> – Reimagining the work, workforce, and workplace of the future'</li> <li>- The Economist, <a href="#">Special report: The future of work</a></li> </ul>

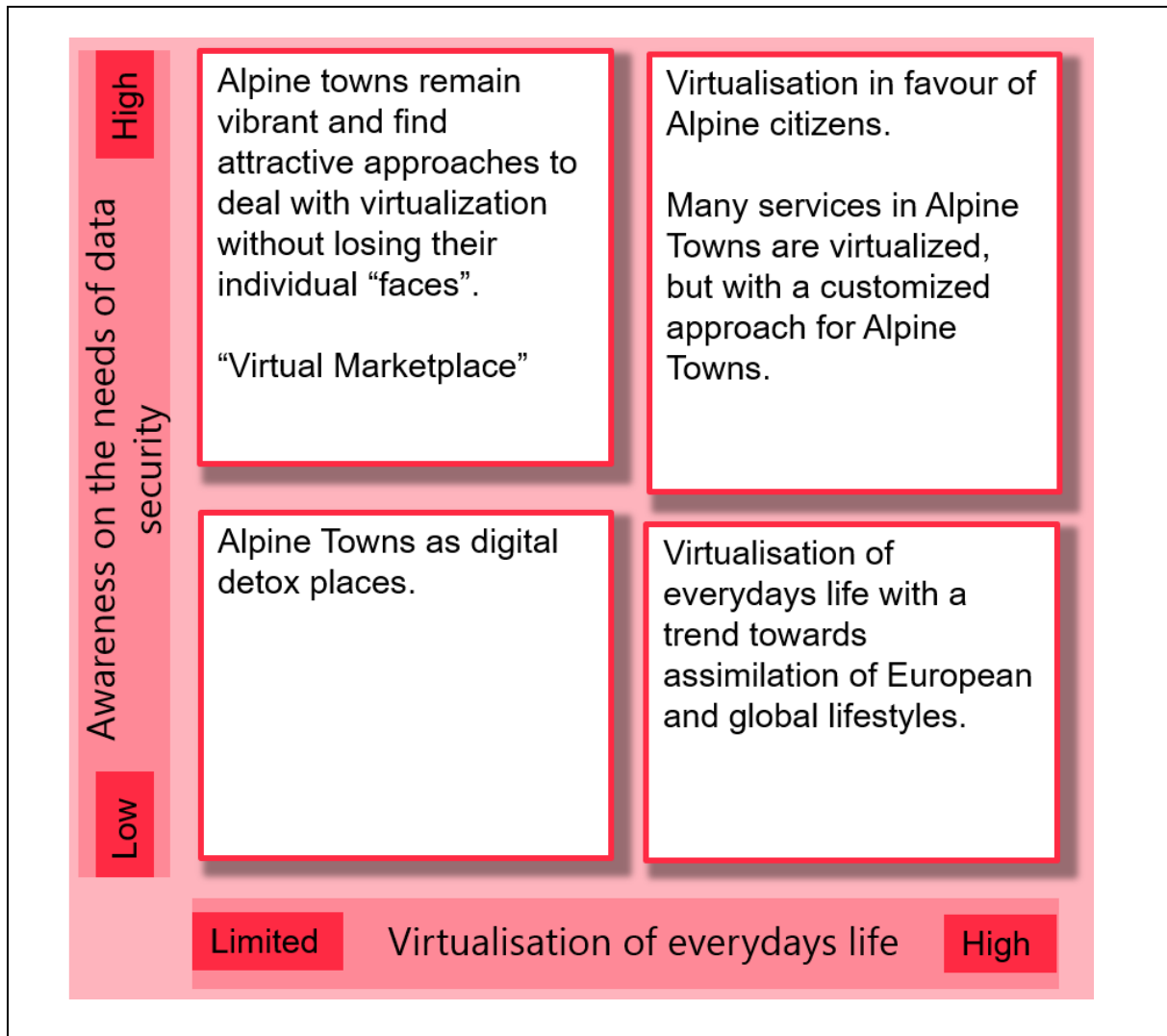
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>General trends in labour and employment:</b></p> <ul style="list-style-type: none"> <li>- Overall lifetime employment will increase: working beyond the age of 65</li> <li>- Working hours or at least working hours in the office will reduce: 35 hours week, 4-day week</li> <li>- Due to demographic developments, more people will be working in the health/care/social sector</li> <li>- New social security provisions could be implemented: basic income could be established in some Alpine countries</li> </ul> <p><b>Flexibility of work:</b></p> <ul style="list-style-type: none"> <li>- More and more people will work remotely from their home offices – at least for some day of the week. Commuting is reduced. People can spend more time with their families and for other activities vs. development goes back to long office-hours with regular attendance</li> <li>- Also for production and agricultural sector, working hours will become more flexible as some tasks will be automated (e.g. fully automated feeding of cattle)</li> <li>- Work structures will change towards more flexibility: work-life blending vs. work-life balance</li> </ul> <p><b>New employment situations:</b></p> <ul style="list-style-type: none"> <li>- More and more people will work self-employed ('Project nomads'), with related opportunities but also risks ('precarisation')</li> <li>- Seasonal work contracts/short-time work contracts will increase with higher planning uncertainties in the tourism sector (climate conditions, health issues/future pandemics?/global crisis...) ('work on demand') → additional challenges for Alpine Towns as this will create more and more low-income households</li> <li>- Traditional work skills could become more important again: handicraft, merging of new and traditional skills (also integrating skills from other world regions...)</li> </ul> <p><b>Pre-conditions/challenges:</b></p> <ul style="list-style-type: none"> <li>- Provision of high-speed internet</li> <li>- Provision of relevant infrastructures if more and more people work remotely or on project basis (co-working spaces, space for experimentation, labs for rent..)</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<p><b>1. Flexibility of work:</b> Office jobs: More and more people will work remotely from their home offices – at least for some day of the week. Commuting is reduced. People can spend more time with their families and for other activities vs. development goes back to long office-hours with regular attendance. Production sector and agriculture: work becomes at least a bit more flexible due to automation vs. some jobs still are very unflexible and require strict working hours.</p> <p><b>2. Employment situation:</b> More and more people will work in new employment situations, based on project-based work, work on demand, seasonal jobs, short-term contracts which leads to risks but also opportunities vs. employment conditions remain stable (also due to social security frameworks established by Alpine Countries).</p>



## 6.2 Factsheet Key factor 17: Alpine digital mindset – role of communication technologies and communication patterns

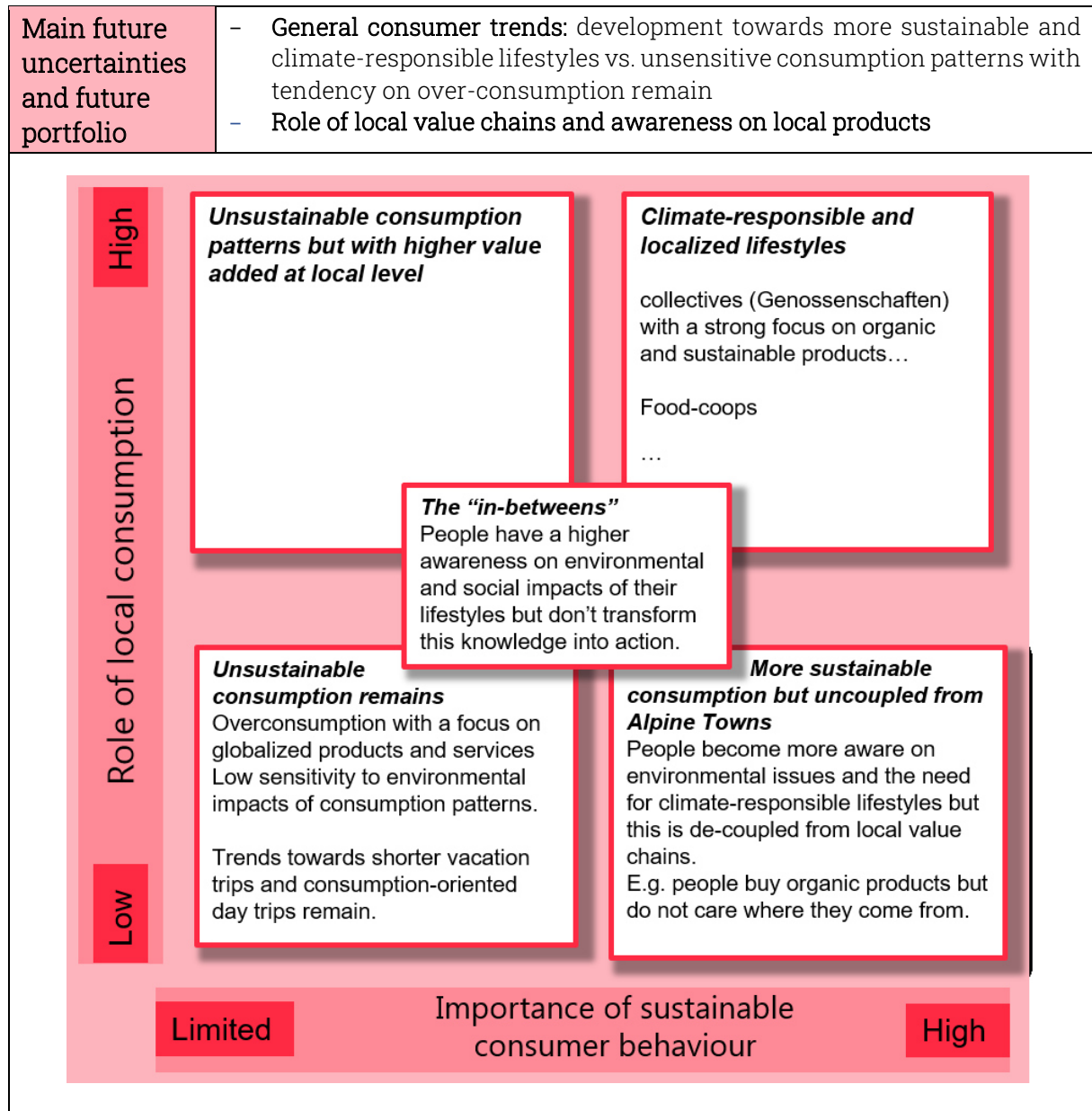
<i>General description</i>	
<b>Short description of the key factor</b>	<p>The network society constitutes a new era which fundamentally changes the framework conditions for economic success and which crucially changes not only economic but also social and cultural patterns.</p> <p>Digital communication channels enable a much higher connectivity and with this new approaches that affect all spheres of urban life:</p> <ul style="list-style-type: none"> <li>- New approaches to consumption and ownership like the sharing economy</li> <li>- New communication channels and virtualisation of everyday life</li> <li>- New working methods: remote work, online project management, etc.</li> </ul>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Social media</li> <li>- Virtualisation of everyday life</li> <li>- Platform economy</li> <li>- Sharing economy</li> <li>- Opinion building, misinformation, disinformation, and malinformation (alternative facts, fake news...)</li> <li>- Physical contacts vs. networks in virtual space, balance of digital and live interactions</li> <li>- Impacts on Services of General Interest: balance between digital and physical services, based on the real needs of citizens</li> <li>- Digital divide/digital access challenge</li> </ul>
<b>Alpine specific character</b>	<p>The Alpine characteristics need to be considered when discussing a specific Alpine digital mindset, e.g. how can traditional characteristics be maintained in an ever increasing virtualisation of everyday life?</p> <p>→ Alpine Digital Dorfplatz: strengthening community ties also in times of reduced social interactions</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<ul style="list-style-type: none"> <li>- EU Science Hub: Information page on <a href="#">‘Digital Living’</a></li> <li>- Dijk, J. (2020): The Network Society, 4<sup>th</sup> Edition.</li> </ul>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments + Main future uncertainties and future portfolio</b>	<ul style="list-style-type: none"> <li>- Virtualisation of everyday life: which activities and how much of our life will become virtual up to 2030? Is there an Alpine specific development (over-proportional/under-proportional?)</li> <li>- Degree of how digitalisation is developed in favour of citizens needs vs. digitalisation to profit private sector</li> <li>- Role of data security: citizens become more aware of the issue vs. data security will lose importance</li> </ul>





### 6.3 Factsheet Key factor 18: Consumer trends – consumption patterns

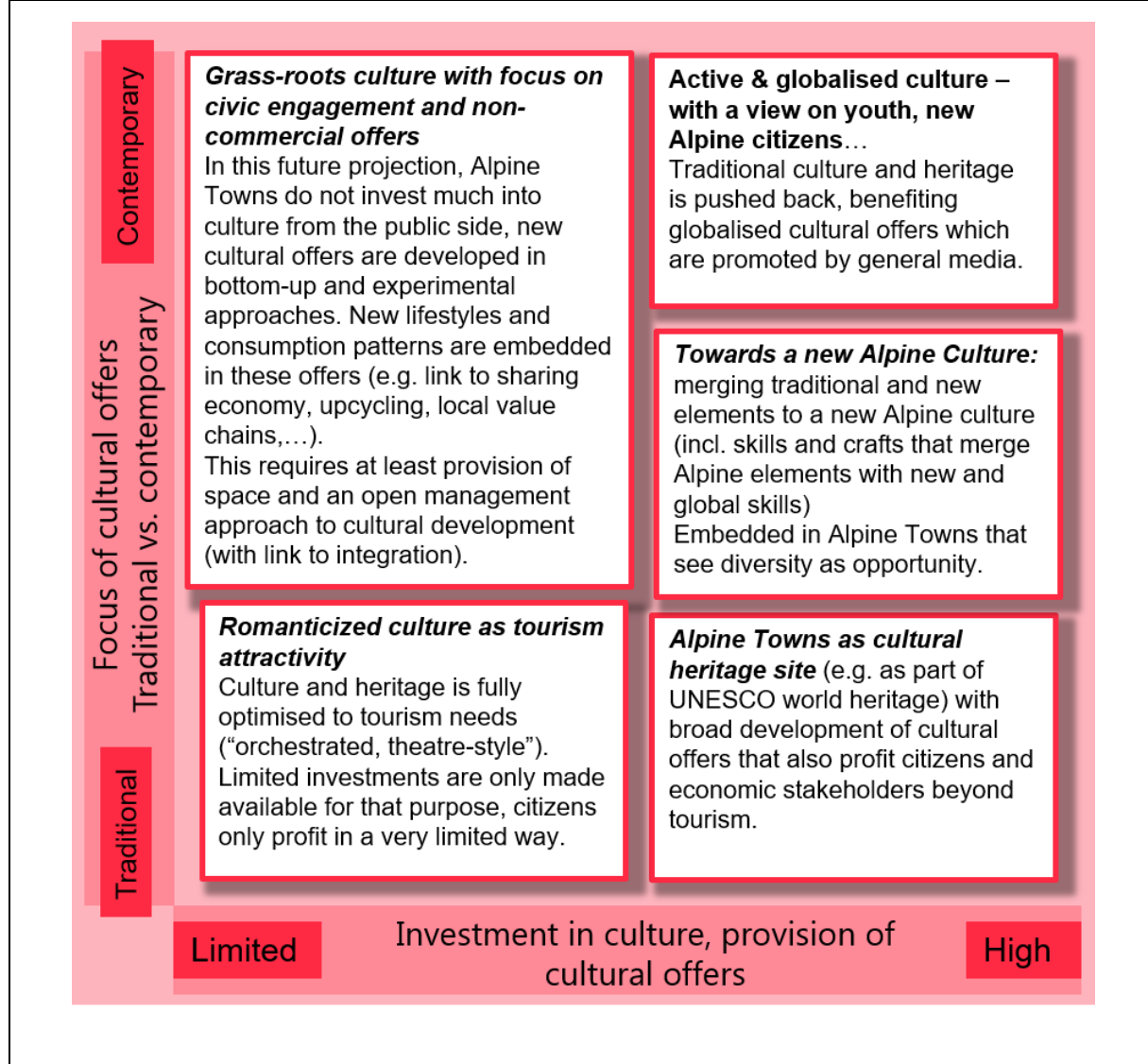
<i>General description</i>	
<b>Short description of the key factor</b>	<p>Lifestyles are changing and with them consumption patterns and consumption trends. Some underlying megatrends are affecting lifestyles and consumption:</p> <ul style="list-style-type: none"> <li>- Individualism: Freedom of choice is understood to be one of the overriding principles in today's world. Society is becoming more pluralistic and differentiated under this influence, leading to individualized lifestyles and consumption patterns</li> <li>- Neo-ecology and climate-responsible lives: Environmental awareness and sustainability are advancing from an individual lifestyle and consumer trend to a social movement. In the broadest sense, 'environmental-friendly' and 'climate-responsible' are becoming part of a new global identity</li> <li>- Silver society: As biographical patterns become more flexible and diverse, 'un-retirement' is establishing itself as a new phase of life. The reassessment of the stage of life after the usual retirement age is producing a variety of new lifestyles among older people</li> </ul>
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Individualism</li> <li>- Neo-Ecology: Climate-responsible lifestyles, Glocalisation, Slow culture, Minimalism / Frugalism</li> <li>- 'Common good' (Gemeinwohl)</li> <li>- Overconsumption: consumption of non-necessary articles, over-tourism,</li> <li>- Diversity management</li> <li>- Different needs and consumption patterns of generations (babybommers/ now silver society, millennials, generation z)</li> </ul>
<b>Alpine specific character</b>	<p>Changes in lifestyles also have impacts on tourism demand, e.g. regarding climate-responsible tourism services, health tourism...</p> <p>Silver society: leads to amenity migration to the Alps</p>
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	<p>European Strategy and Policy Analysis System, ESPAS (2019): <a href="#">Global trends to 2030: Challenges and choices for Europe</a></p>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>General consumer behaviour related to megatrends:</b></p> <ul style="list-style-type: none"> <li>- Neo-ecology and climate-responsible lives: Environmental awareness and sustainability are advancing from an individual lifestyle and consumer trend to a social movement. In the broadest sense, 'environmental-friendly' and 'climate-responsible' are becoming part of a new global identity vs. on the other hand: individualized lifestyles/'McDonaldisation of everyday life'</li> <li>- Role of local value chains and awareness on local products: strong focus on local products, awareness on their value added for Alpine Towns vs. consumption of sustainable products from other regions (via online shopping)</li> <li>- Silver society: As biographical patterns become more flexible and diverse, 'un-retirement' is establishing itself as a new phase of life. The reassessment of the stage of life after the usual retirement age is producing a variety of new lifestyles among older people</li> </ul>



## 6.4 Factsheet Key factor 19: Culture and heritage in Alpine towns

<i>General description</i>	
<b>Short description of the key factor</b>	Across Europe's regions and cities, culture is highly valued by residents and visitors alike. Cultural and creative industries are also a vital asset for regional economic competitiveness and attractiveness, while cultural heritage is a key element of the image and identity of cities and regions, and oftentimes the focus of city tourism. Integrating culture and heritage in regional and local development strategies stimulates the development of creative businesses; promotes traditional cultural assets, brings spill-over effects to the wider local community. Also, a strong focus on cultural heritage can have co-benefits with respect to environmental considerations (through awareness raising on specific sensitivity of Alpine region, use of local products which become popular again in urban manufacturing, traditional construction, etc.).
<b>Topics that describe the key factor</b>	<ul style="list-style-type: none"> <li>- Culture as asset</li> <li>- Creating a local identity</li> <li>- Space for creativity in urban areas, creative businesses</li> <li>- Bringing together existing and new contrasts in a positive way: be multi-cultural and authentic Alpine, combine traditional and new</li> <li>- Alpine-specific skills</li> <li>- Heritage as a basis for future development</li> </ul>
<b>Alpine specific character</b>	Specific cultural heritage in the Alps
<i>Further reading and facts and figures</i>	
<b>Further reading</b>	Alpine Convention: pages on 'Population and culture': <a href="https://www.alpconv.org/en/home/topics/population-culture/">https://www.alpconv.org/en/home/topics/population-culture/</a>
<i>Future projections: brainstorming results and future portfolios</i>	
<b>Brainstorming results on potential future developments</b>	<p><b>Relevant aspects:</b></p> <ul style="list-style-type: none"> <li>- Visibility of culture and heritage from the outside: cultural offers are broadly visible and are part of the 'brand' of Alpine towns, including diversity in cultural offers</li> <li>- Internal influences: culture and heritage are alive in urban lifestyles, they are part of Alpine towns' identity and are cultivated by citizens and stakeholders alike. Culture can be seen as 'social glue' and vibrant resource for Alpine towns</li> <li>- Scope of culture and heritage: totally of Alpine landscape or only specific elements (e.g. specific cultural offers, built environment...)</li> </ul> <p><b>Traditional culture and heritage vs. modern and contemporary:</b></p> <ul style="list-style-type: none"> <li>- Traditional cultures and modern and contemporary elements can either be seen as alternatives or can be merged to a new Alpine culture that embraces old and new elements. On the one hand, one future projection could see a 'renaissance' of traditional culture and heritage: traditional skills and crafts are rejuvenated; on the other side:</li> <li>- Take-up of megatrends in culture and heritage: e.g. using cultural offers to raise awareness on environmental challenges, new lifestyles → sustainability becomes more embedded in Alpine lifestyles</li> </ul>

	<ul style="list-style-type: none"> <li>- But also risk of losing specific Alpine culture with globalized cultural offers ('netflixation')</li> </ul>
<b>Main future uncertainties and future portfolio</b>	<ol style="list-style-type: none"> <li>1. <b>Overall relevance of culture and heritage in Alpine towns:</b> high investment in culture and broad provision of cultural offers vs. limited focus on culture with only few offers</li> <li>2. <b>Focus of cultural offers:</b> offers are focused on cultivating traditional culture and heritage with a view on tourism offers vs. cultural offers extend to contemporary, modern and experimental culture</li> </ol>

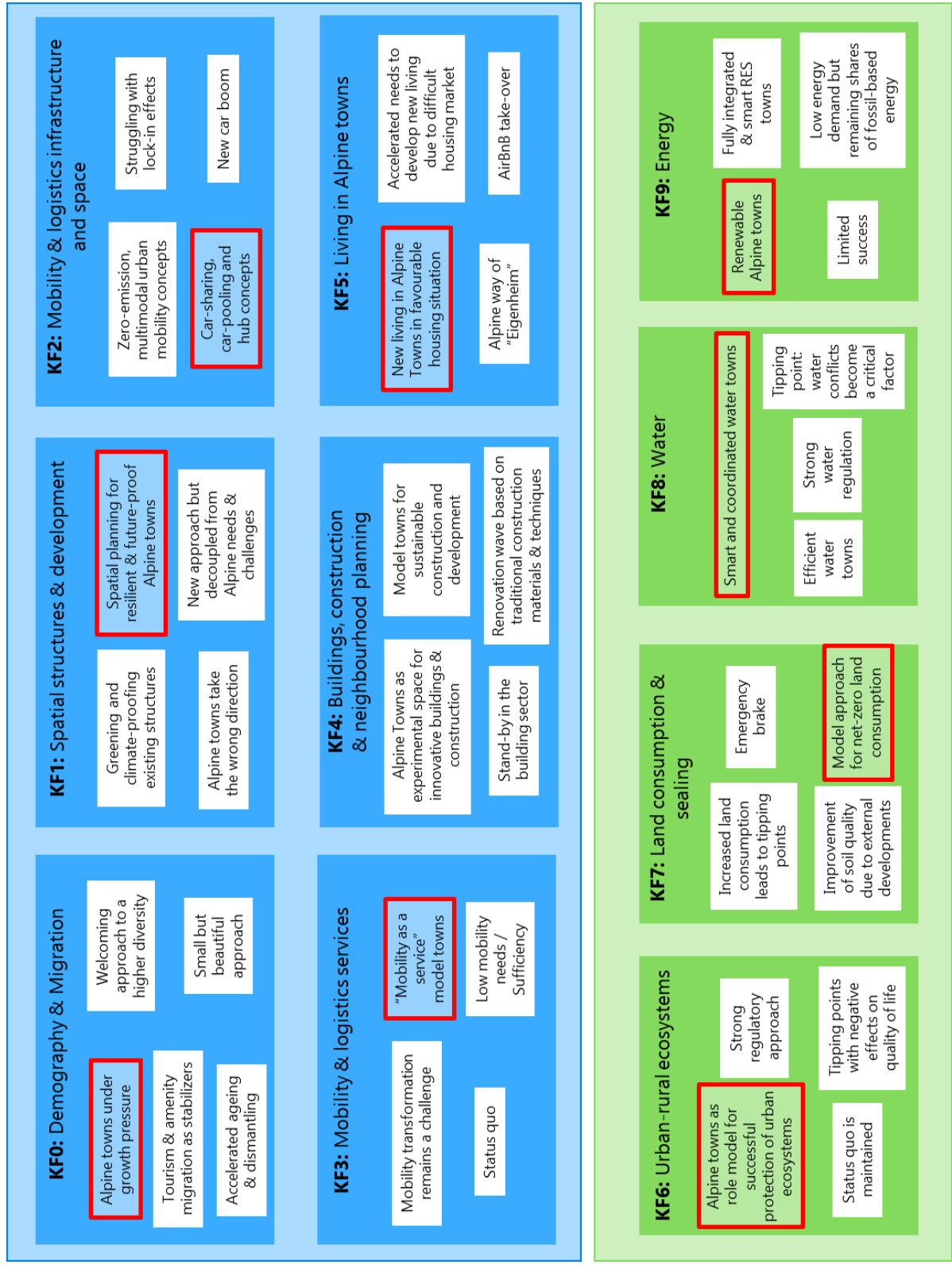


## B) Future Maps per scenario

The following illustrations show the Future Maps per scenario. They show the relevant future projections that were identified for each of the scenarios – following the approach illustrated in *Annex I: Technical Background*. The five most important future projections which mainly drive the scenario are also illustrated in the main scenario report, the following illustrations highlight the whole set of projections that build the scenarios.

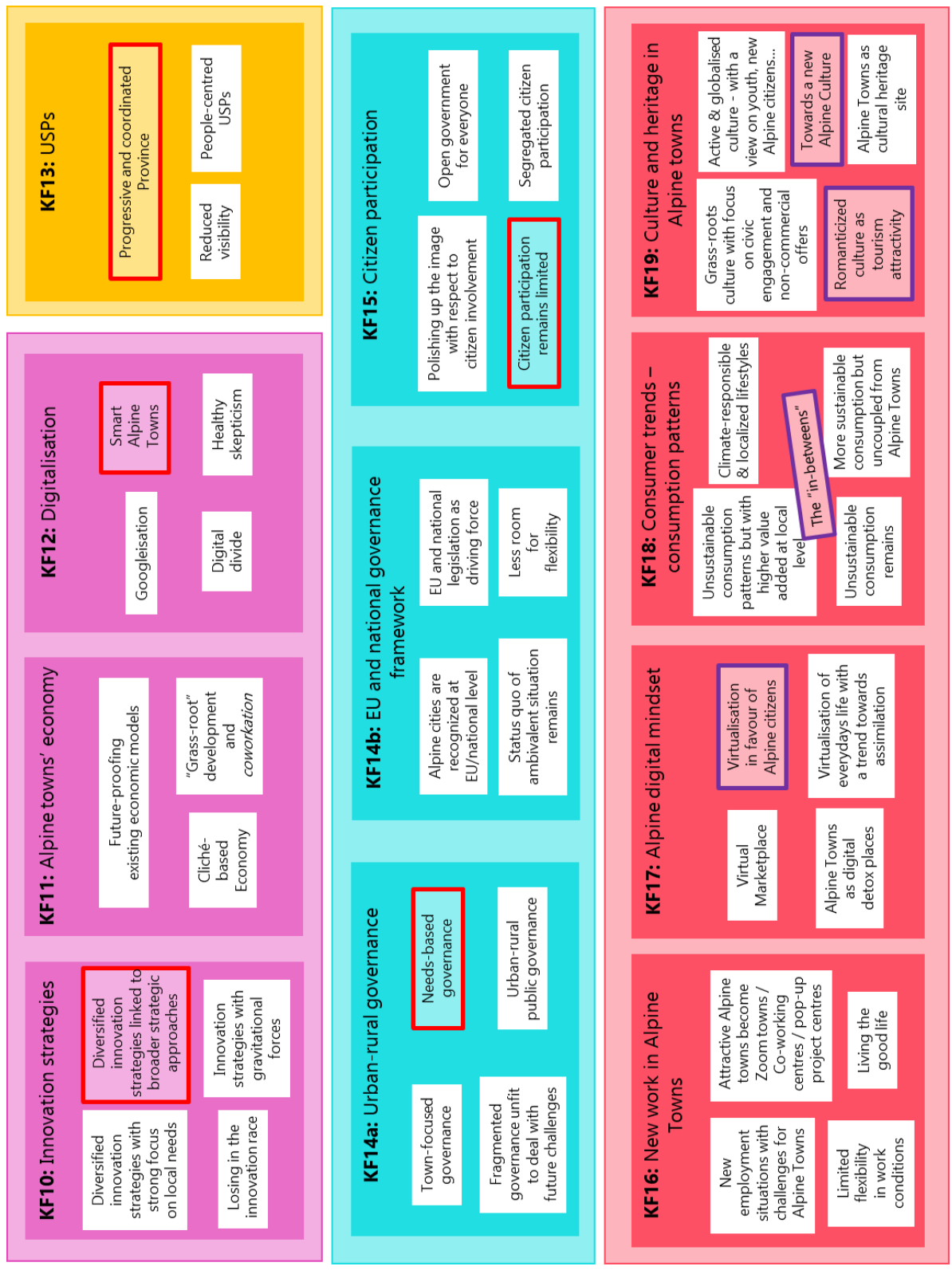
## Future Map Scenario 1 – Joining forces

### Joining forces – Part 1



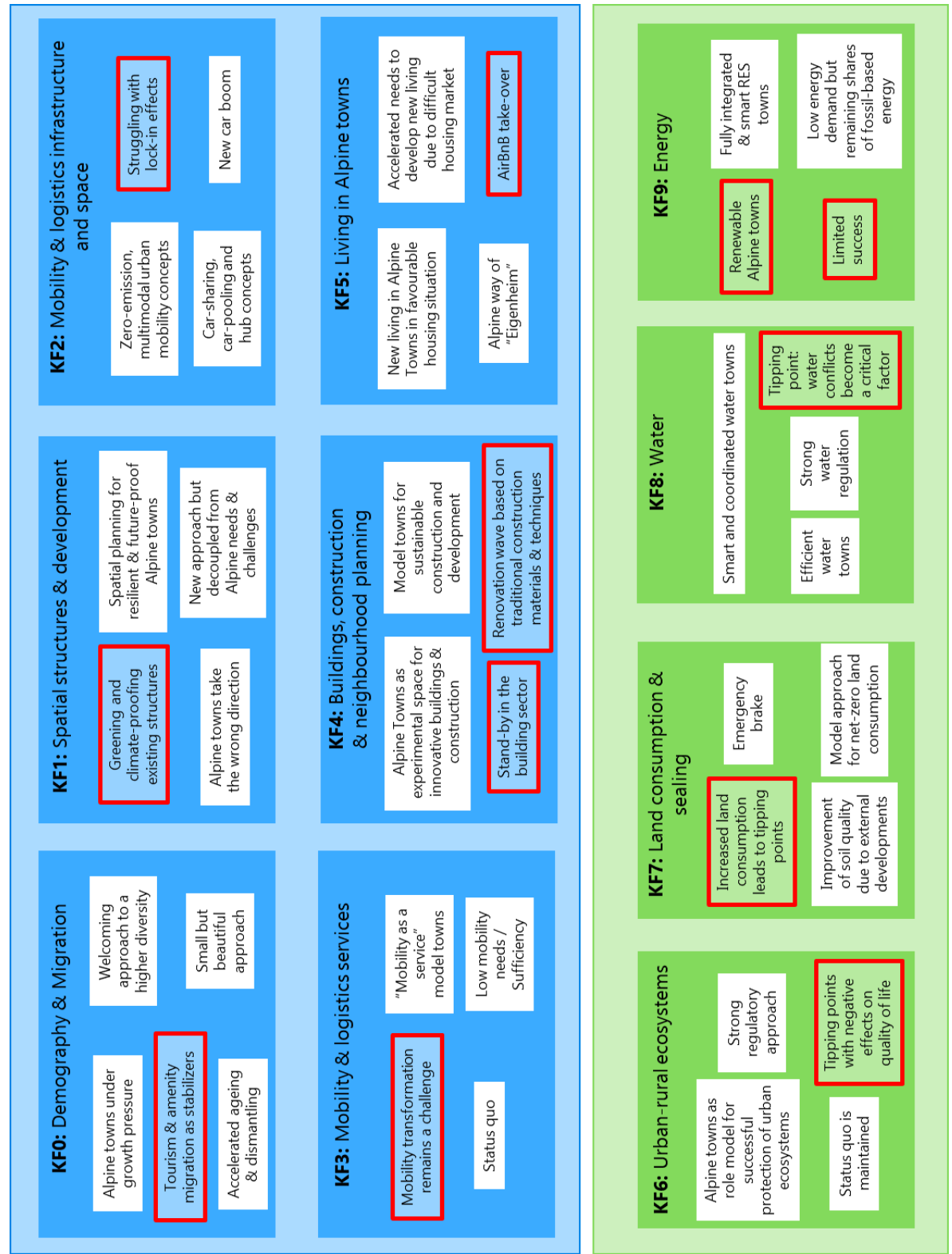


## Joining forces – Part 2

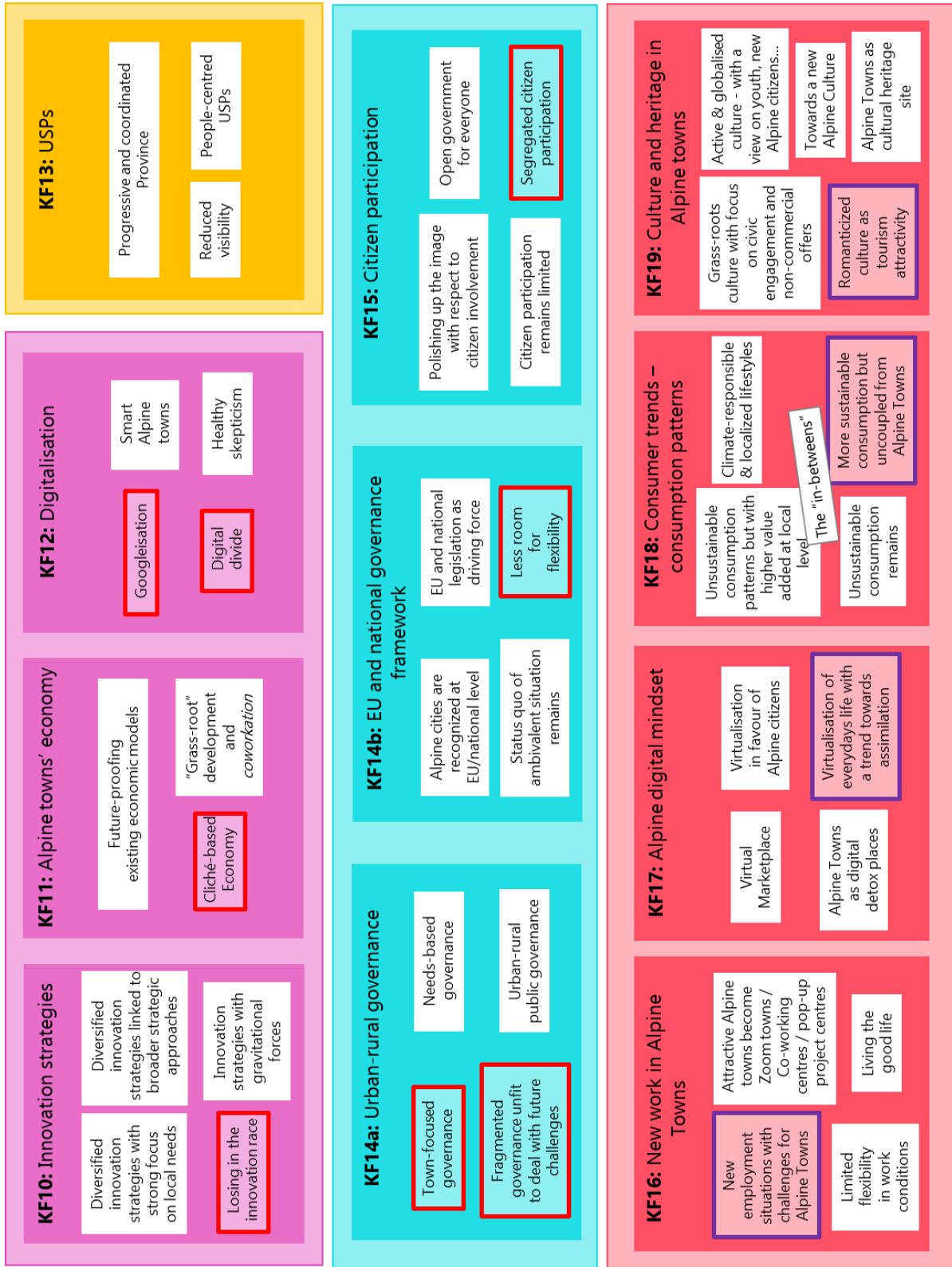


## Future Map Scenario 2 – High-risk/high-reward

### High-risk/high-reward – Part 1

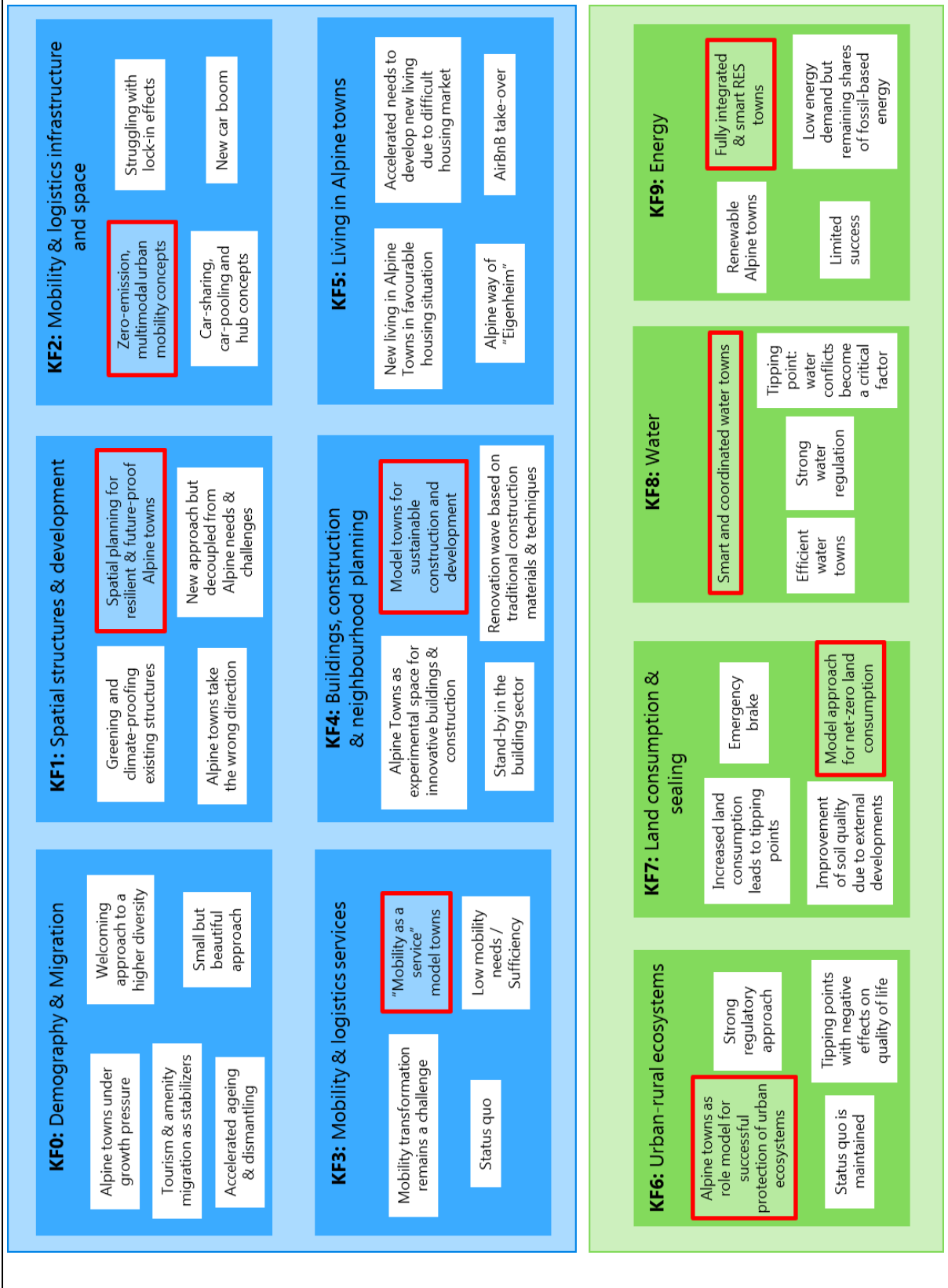


## High-risk/ high-reward – Part 2

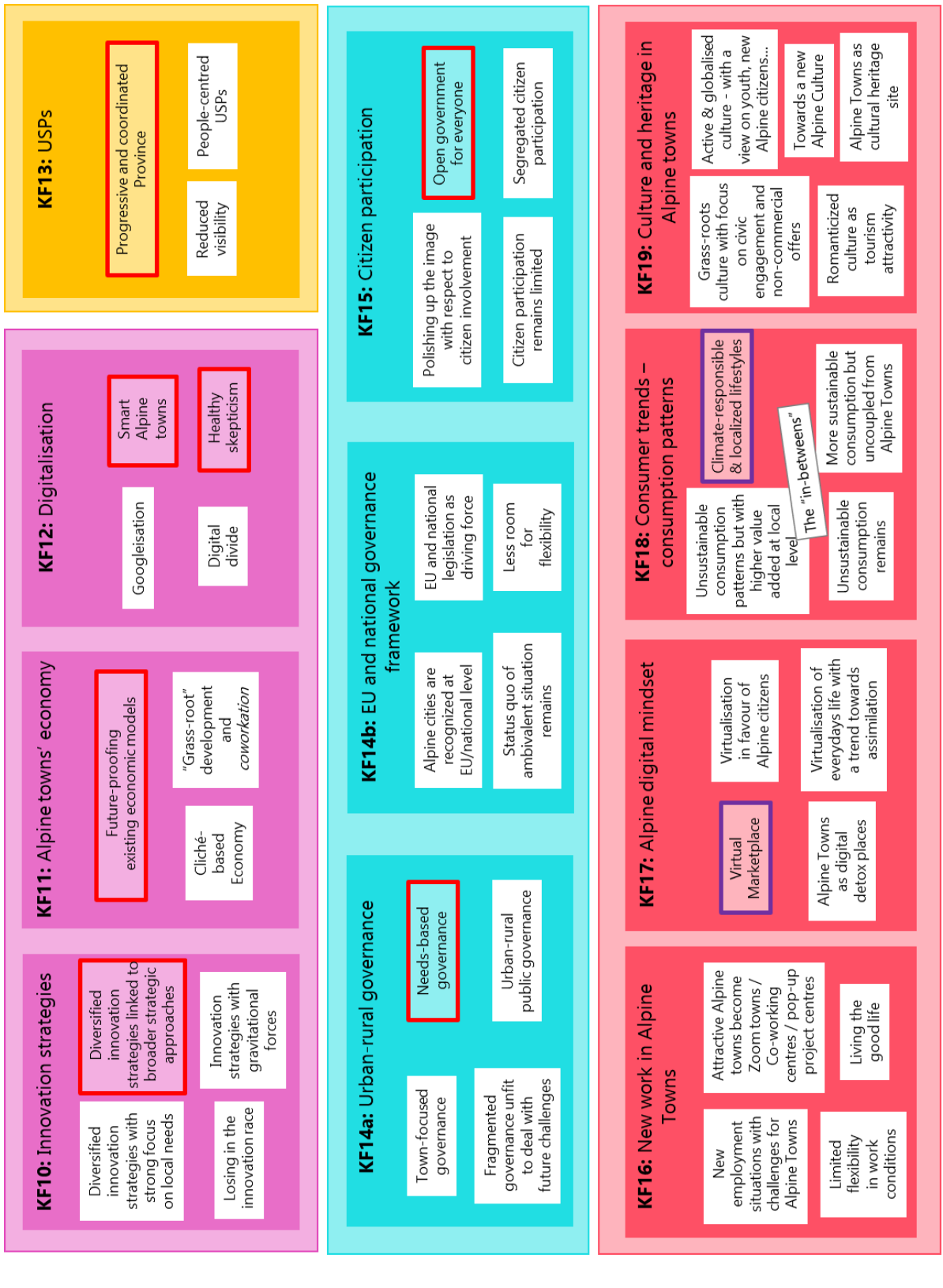


## Future Map Scenario 3 – Eco-model town

### Eco-model town – Part 1

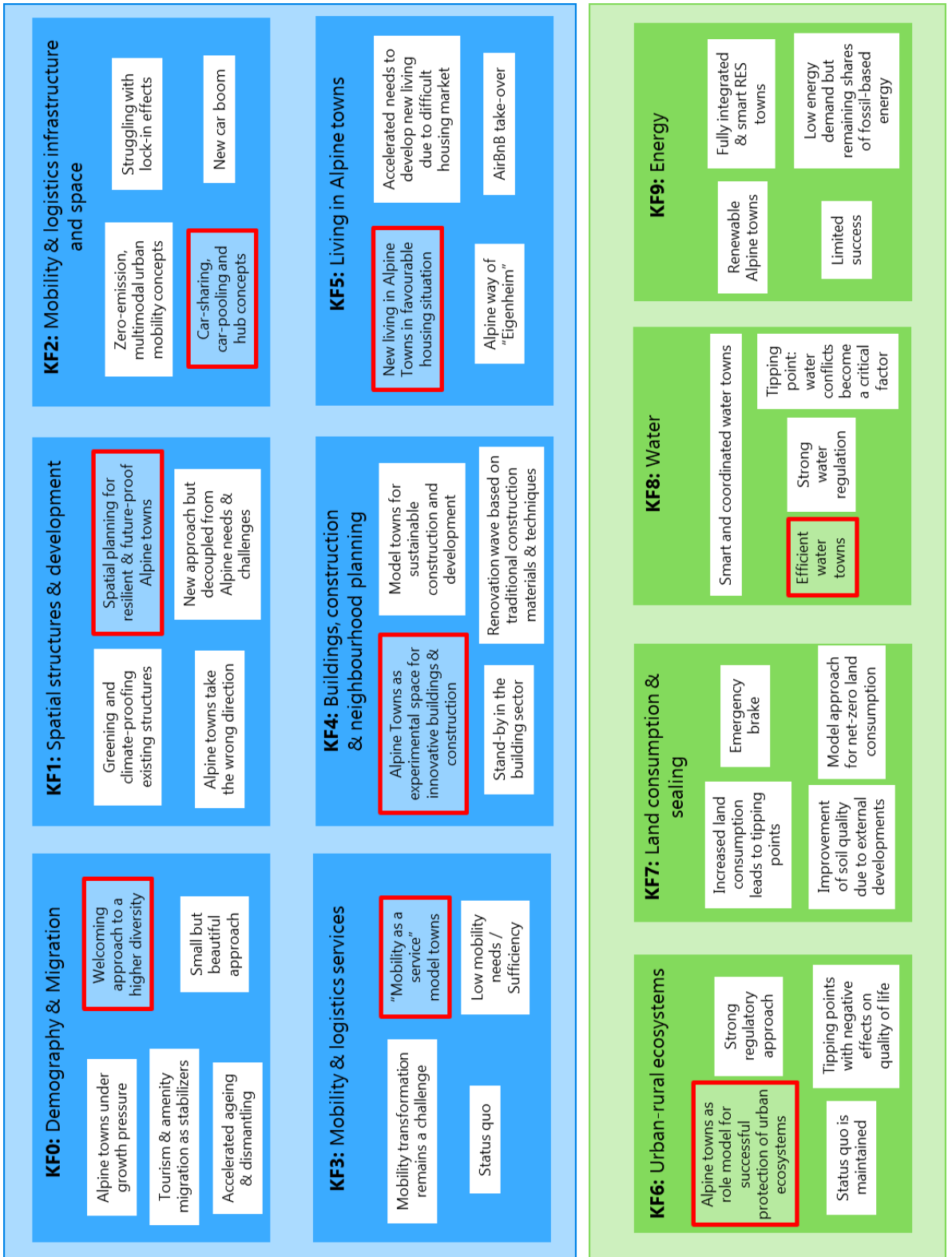


## Eco-model town – Part 2

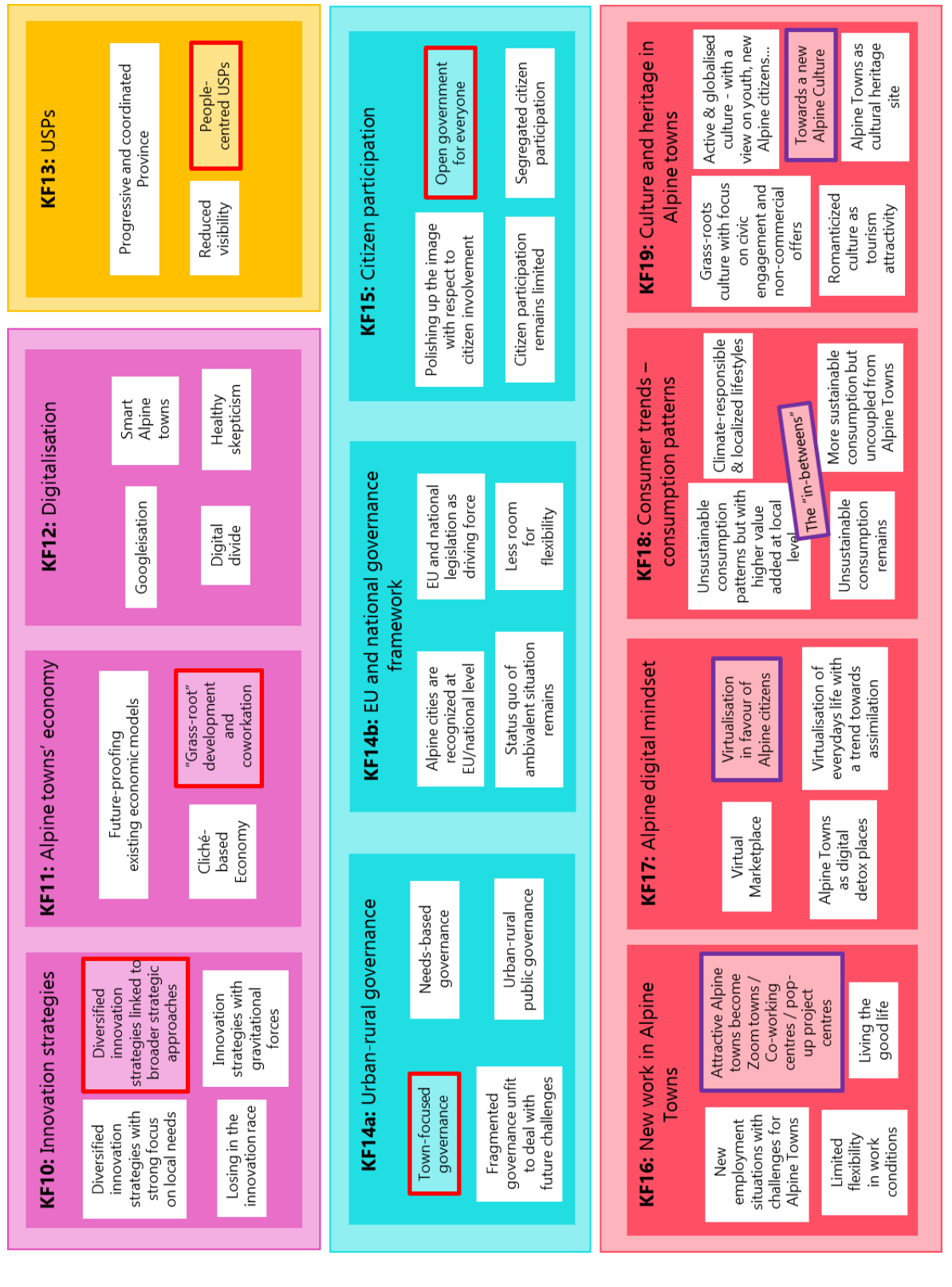


## Future Map Scenario 4 – Citizen-based approach

### Citizen-based approach – Part 1



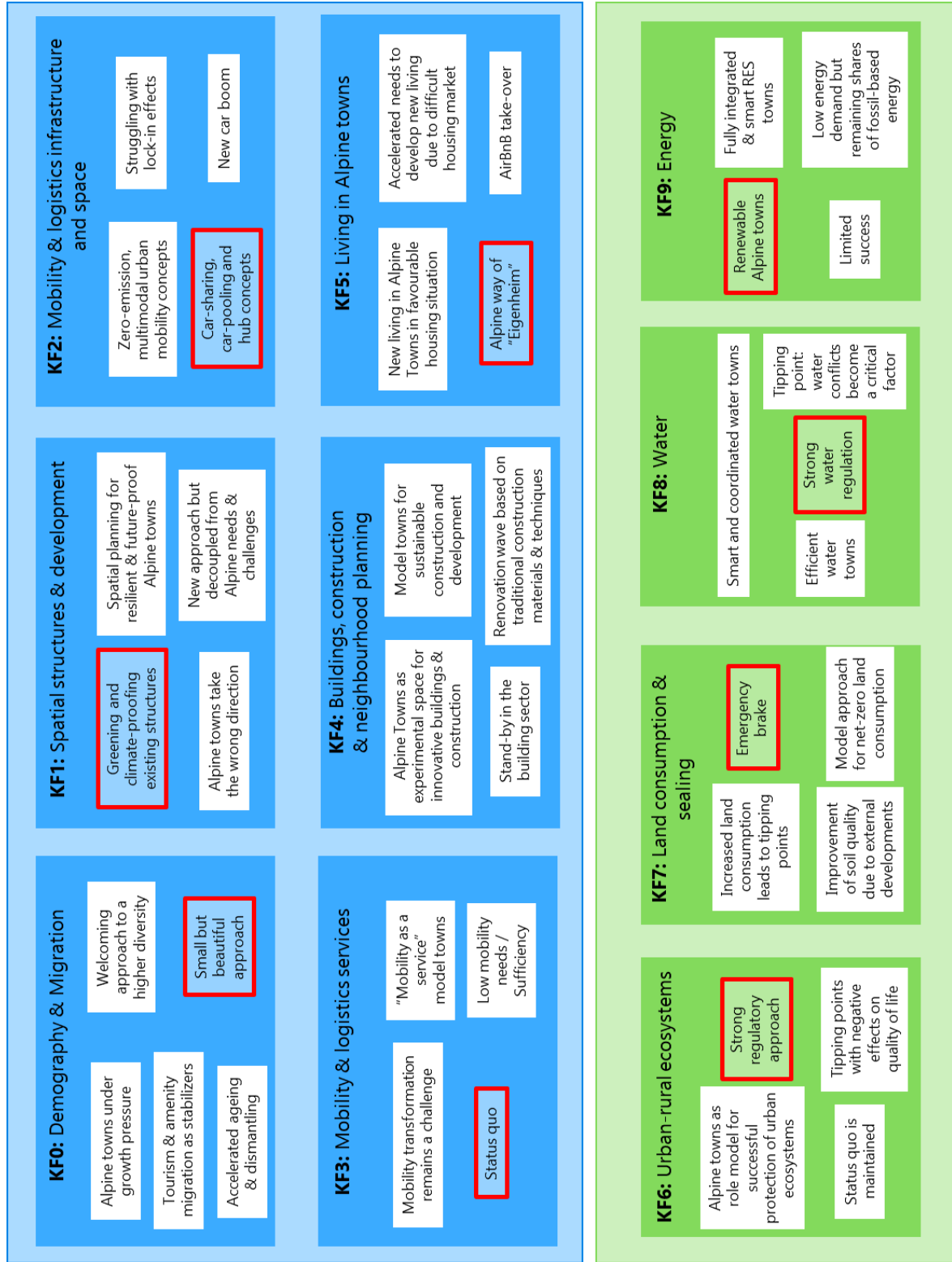
## Citizen-based approach – Part 2



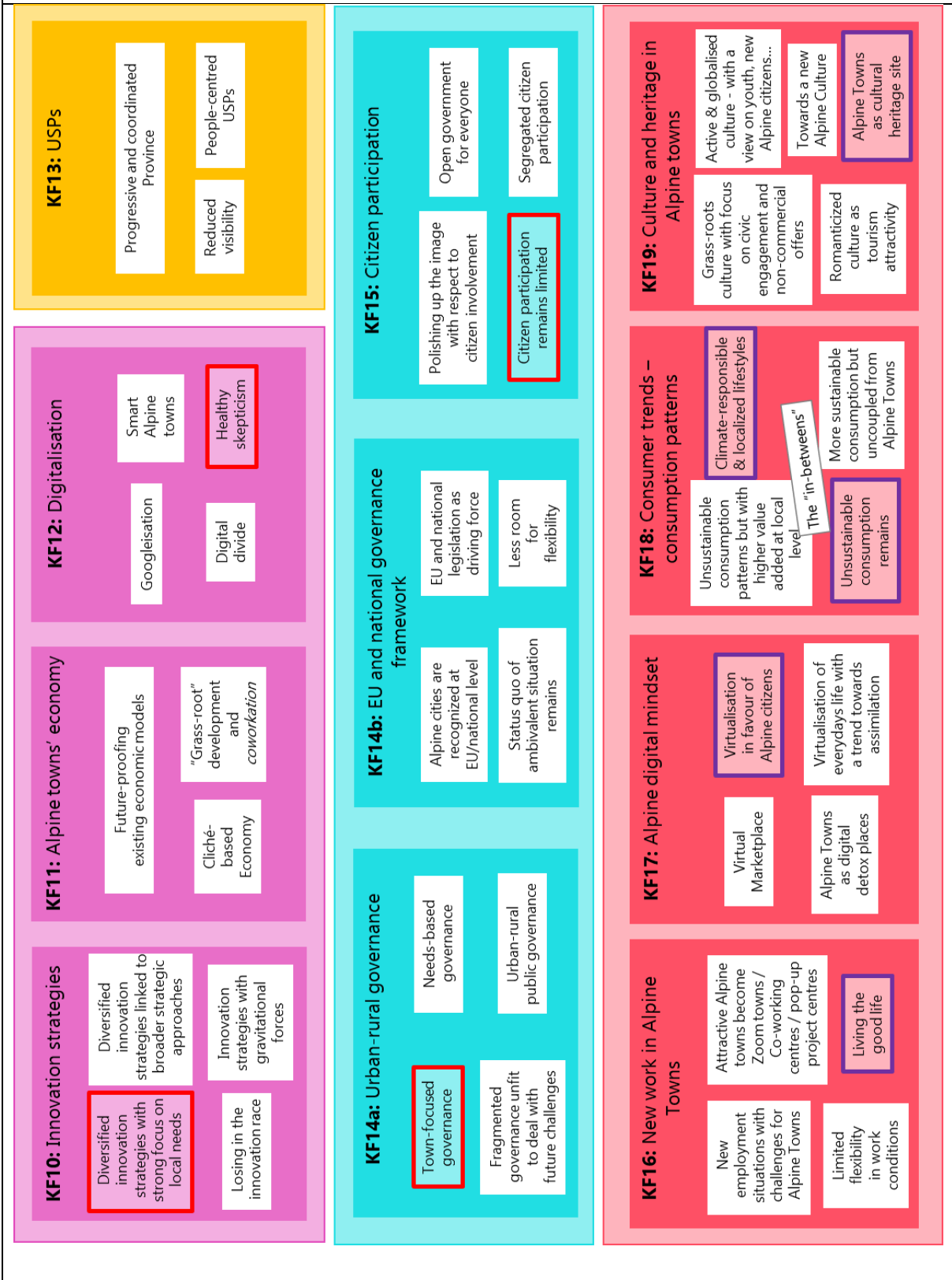


## Future Map Scenario 5 – Emergency brake

### Emergency brake – Part 1



## Emergency brake – Part 2



[www.alpinetowns.alpconv.org](http://www.alpinetowns.alpconv.org)

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