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ANNEX – REV.1

7 Activity Report of the Spatial Planning and Sustainable Development Working Group for the period 2021-2022 (EN)

**ACTIVITY REPORT OF THE
Spatial Planning and Sustainable Development Working Group
FOR THE PERIOD 2021-2022
(BETWEEN THE XVI AND XVII MEETINGS OF THE ALPINE CONFERENCE)**

1. Overview of the mandate given by the XVI Alpine Conference

Summary of the objectives according to the 2021-2022 mandate or work programme

Based on the work conducted by the Alpine Convention's Ad-hoc Expert Group on Spatial Planning and Sustainable Development, the newly established Spatial Planning and Sustainable Development Working Group shall contribute to the prioritised Alpine Climate Board (ACB) implementation pathways on Spatial Planning

- (IP_SP1) Alpine wide concept „Spatial planning for climate protection” as well as
- on Soil Protection (IP_S2): Defining Alpine wide guidelines for minimised land take and sealing) by taking part in the Matchmaking process and further activities for teaming up.

Furthermore, the Spatial Planning and Sustainable Development Working Group shall work on an Assessment of the current state of cross-border cooperation and coordination of spatial development – particularly coordination of spatial planning and sustainable territorial development – in the Alpine Convention area (Art. 4 Protocol on Spatial Planning and Sustainable Development) with a specific focus on the ACTS 2050.

In addition, the Spatial Planning Working Group contributes to the 9th Report on the State of the Alps (RSA 9) on Alpine towns regarding aspects of spatial planning and development, e.g. urban-rural linkages, civil participation in planning processes, climate adaption and resilience through spatial planning or settlement.

2. Meetings

Summary of the meetings held (date, place, main topics and milestones)

Against the background of the Covid-19 situation, all working group meetings have taken place digitally so far.

9 March 2021, Videoconference

Agenda:

1. Welcome and Introductory round
2. Previous work: Ad-hoc WG Spatial Development (2015-2019)/Expert meeting 2020
3. Presentation and discussion of the Mandate:
 - a. Current state of cross-border cooperation and coordination of spatial development
 - b. Follow-up to ACTS 2050/CAP 2.0: Implementation pathway 1 Spatial Planning and pathway 2 Soil (in cooperation with AG Soil)
 - c. Contribution to the RSA 9 (Alpine towns)
4. Work structure and timeline
5. Possible fields of cooperation

5 July 2021, Videoconference

Agenda:

1. Welcome
2. Assessment study:
 - a. Status report of literature screening on Alpine-wide level
 - b. Data collection by WG members – presentation of templates (spreadsheet for literature screening, questionnaire for expert interviews)
 - c. First draft report
3. Contributions to the ACTS2050 /CAP 2.0
 - a. Survey of land-saving targets and challenges
 - b. Collection of good practices for growth and shrinking strategies
 - c. Definition of land use/soil sealing
 - d. Coaching of spatial planners
4. Contribution to the RSA Alpine towns
 - a. Type of contribution
 - b. Timeline
5. Cooperation
 - a. Working Groups (Soil Protection WG(proposal for joint meeting, joint workshop), WISO, Ad-hoc WG MAP/Thematic Working Bodies)
 - b. EUSALP, AlpPlan network, TA Pilot Action “Climate Action in Alpine Towns”
6. Communication
7. Relevant information by WG members (PSAC, Contracting Parties, Observers)

11 November 2021, Videoconference

Agenda:

1. Welcome
2. Assessment study:
 - a. Status report

- b. Discussion of final product: format and content
- 3. Status reports on contributions to the ACTS 2050/CAP 2.0
 - a. Survey of land-saving targets and challenges
 - b. Collection of good practices for growth and shrinking strategies
 - c. Definition of land use/soil sealing
- 4. Joint Workshop Soil Protection WG /Spatial Planning WG on the use of soil function maps 2022
 - a. Status report on preparation
 - b. Discussion on content, format and target group
- 5. Contribution to the RSA Alpine towns
 - a. Status report on scientific analysis and scenarios (and further contributions by Spatial Planning WG) (Prof. Chilla/Mr. Pfister)
- 6. Reports by WG members
 - a. EUSALP Joint Declaration
 - b. Working Groups (Ad-hoc WG MAP, Transport WG)
 - c. AlpPlan network, Actarea workshop, CLISPALP workshop, EUSALP conference city-mountain cooperation
 - d. additional information by WG members (PSAC, Contracting Parties, Observers)
- 7. Outlook 2022
 - a. Proposal for a conference “20 years Spatial Planning Protocol: cross-border cooperation and future challenges” in 2022
- 8. Relevant information by WG members (PSAC, Contracting parties, Observers)

17 March 2022, Videoconference

Agenda:

- 1. Welcome
- 2. Cross-border cooperation in spatial planning and development:
 - a. Feedback and discussion on draft assessment study
 - b. Issues for potential pilot project
- 3. Contributions to the ACTS 2050/CAP 2.0
 - a. Survey of land-saving targets and challenges
 - b. Collection of good practices for growth and shrinking strategies
 - c. Definition of land use/soil sealing
- 4. Joint Workshop SoilProtection WG /Spatial Planning WG
 - a. Expected results and potential next steps
- 5. RSA Alpine towns: Status report and follow-up
- 6. Wrap-up of mandate/outlook 2nd half of 2022/communication

7. Mandate proposal 2023/2024 / MAP 2023-2030

8. Reports by WG members

- a. Working Groups (Ad-hoc WG MAP, Transport WG)
- b. Exchange with EUSALP AG 6/Strategic Priority Policy Area
- c. Additional information by WG members (PSAC, Contracting Parties, Observers)

Planned 22 September 2022, Videoconference

Planned agenda:

1. Welcome
2. mandate output (including feedback from national consultation) – communication and public relation, next steps:
 - a. Assessment study
 - b. ACTS deliverables (dossiers on shrinking/growth strategies, land saving targets, and land take data)
 - c. Joint Workshop Soil Functions
3. Outlook on upcoming mandate – tasks and responsibilities:
 - a. Activities on cross-border cooperation in spatial development
 - b. Follow-up ACTS 2050 implementation pathways
 - c. Alpine Spatial Planning Perspective
4. Planned event “20 years of the Spatial Planning Protocol”
5. Reports by WG members:
 - a. Working Groups (Ad-hoc WG MAP, Transport WG)
 - b. Exchange with EUSALP AG 6/Strategic Priority Policy Area
 - c. Additional information by WG members (PSAC, Contracting Parties, Observers)
6. Workshop “Towards a project on cross-border/transnational cooperation in spatial development”

3. Activities carried out

Synthetic description of further activities carried out (including outreach and communication activities)

- Joint organisation with the Soil Protection Working Group of the workshop “Soil functions and spatial planning in the Alps” on 29/30 March 2022 in Munich/DE, including a broad outreach to relevant institutions
- Participation in the Thematic Working Bodies Workshop on 17 June 2021 and 25 January 2022

- Participation in and contribution to the Ad-hoc Working Group RSA on Alpine towns and its meetings (2 February 2021, 30 March 2021 (data workshop), 16 September 2021, 20 October 2021, 22 February 2022)
- Presentation on SPSP WG activities at the OpenSpaceAlps workshop in Munich/DE on 18 May 2021
- Exchange with the AlpPlan network at the OpenSpaceAlps conference on 20 October 2021 in Berchtesgaden/DE
- Participation in the Ad-hoc Working Group for the preparation of MAP 2023-2030
- Participation at the MAP Stakeholder Workshop in Munich/DE on 9 September 2021
- Contribution to the workshop of the Alpine Climate Board on the Implementation Pathways "Spatial Planning" on 10 August 2021
- Participation in the TA2030 Support Group to Climate Action in Alpine towns" on 21 January 2021
- Online and social media posts (Twitter, Facebook, AC website) on WG activities
- Articles on the workshop "Soil functions and spatial planning in the Alps" and on the Working Group for the CIPRA Austria magazine "Die Alpenkonvention"
- Participation in the EUSALP AG 8 online workshop "Integrating climate resilience in spatial planning" on 15 October 2021
- Data collection in Alpine countries, including expert interviews for the assessment study on cross-border cooperation in spatial planning
- Data collection in Alpine countries for the contributions to the ACTS2050/CAP 2.0 (survey on land saving targets, survey of good practices for growing / shrinking strategies)
- Workshop on thematic focus of a pilot project proposal on cross-border cooperation in spatial planning (foreseen on 22 September 2022)
- Article "Soil function in Spatial Planning" in the CIPRA Austria magazine "Die Alpenkonvention"
- Event "20 years of the Spatial Planning and Sustainable Development Protocol of the Alpine Convention" (foreseen in November as a side event at the EUSALP Annual Forum in Trento/IT)

4. Outputs and results

Description of the main outputs and results achieved

- Assessment study on cross-border cooperation in spatial planning (120 pages plus executive summary)
- Collection of good practices for growth and shrinking strategies (Contribution to IP_SP1_1b of the Climate Action Plan 2.0) (40 pages plus executive summary)

- Land saving targets in Alpine countries and regions (Contribution to IP_SP1_3 of the Climate Action Plan 2.0) (30 pages plus executive summary)
- Land take in the Alpine region: the data perspective (Contribution to IP_S2, Step 1 of the Climate Action Plan 2.0) (17 pages plus executive summary)
- Workshop documentation: Soil functions and spatial planning in the Alps, Munich/DE, 29-30 March 2022 (40 pages)
- Proposal for the new mandate 2023/2024
- Minutes of the WG meetings

5. Cooperation

Description of cooperation developed with other Alpine Convention bodies and further relevant partners and processes, and of the resulting benefits

- Constant exchanges with the RSA 9 WG in order to contribute to the RSA by the Spatial Planning Working Group.
- Cooperation with the different Thematic Working Bodies of the Alpine Convention, focussing on exchange with the Soil Protection WG, WISO and the Transport WG.
- Cooperation with the Alpine Climate Board (ACB): regular exchange with the ACB on the pathways towards the Alpine Climate Targets related to spatial planning – especially joining the process on teaming up.
- Cooperation with EUSALP activities in the field of spatial development, most notably in the Action Group 6 and in particular on the basis of the EUSALP declaration “Sustainable Land Use and Soil Protection” as well as the strategic priority policy area “Spatial Planning”.
- Establish cooperation between AC and the AlpPlan network of Alpine spatial planning experts.
- Cooperation with the Alpine Space Programme and other cross-border Interreg programme bodies to make use of relevant existing project results and expertise.

6. Attachments

List of the documents attached to this report, such as papers proposed for approval by the XVII Alpine Conference (thematic reports, guidelines, statements etc.) and supporting documents (workshop proceedings, survey reports, communication materials etc.).

- Cross-border spatial development in the Alpine Convention area – Assessment study (report and executive summary)

- Collection of good practices for growth and shrinking strategies (Contribution to IP_SP1_1b of the Alpine Climate Target System) (report and executive summary)
- Land saving targets in Alpine countries and regions (Contribution to IP_SP1_3 of the Climate Action Plan 2.0) (report and executive summary)
- Land take in the Alpine region: the data perspective (Contribution to IP_S2, Step 1 of the Climate Action Plan 2.0) (report and executive summary)
- Workshop documentation: Soil functions and spatial planning in the Alps, Munich/DE, 29-30 March 2022
- Overview of statistical definitions of cities and towns according to the German continuous spatial observation of the Federal Institute for Research on Building, Urban Affairs and Spatial Development (WG input for the Ad-hoc WG RSA 9)

Cross-border spatial development in the Alpine Convention area

Assessment study

**Spatial Planning and Sustainable Development Working Group of
the Alpine Convention**

Mandate 2021-2022



ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

IMPRINT

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Abbreviations

ACTS 2050	Alpine Climate Target System 2050
ADRION	Interreg Adria Ionic
AEBR	Association of European Border Regions
AG	Action Group
ALCOTRA	Alpes Latines COopération TRAnsfrontalière
ARL	Academy for Spatial Development in the Leibniz Association
ARPAF	Alpine Region Preparatory Action Fund
AT	Austria
BMI	Federal Ministry for the Interior, Building and Community (DE)
BMVI	Federal Ministry for Transport and Digital Infrastructure (DE)
CBC	Cross-border cooperation
CH	Switzerland
CLLD	Community-led local development
COMPASS	Comparative Analysis of Territorial Governance and Spatial Planning Systems in Europe
EGTC	European Grouping of Territorial Cooperation
EIA	Environmental Impact Assessment
ELSA	European Land and Soil Alliance
ESPON	European Spatial Observation Network
ETC	European Territorial Cooperation
EUSALP	EU Strategy for the Alpine Region
FAU	Friedrich-Alexander-University Erlangen
FR	France
FVG	Friuli Venezia Giulia
GIS	Geographic Information System
IBK	International Lake Constance Conference
ICT	Information and Communication Technologies
IMeG	Cross-border Metropolitan Regions Initiative (Initiativkreis Metropolitane Grenzregionen)
IT	Italy
LAG	Local Action Group

LAU	Local Area Unit
LEADER	Liaison entre actions de développement de l'économie rurale
LI	Liechtenstein
MAP	Multi-Annual Work Program of the Alpine Conference
MC	Monaco
MOT	Mission Opérationnelle Transfrontalière
MRS	Macro-regional strategy
NEAT	Neue Eisenbahn-Alpentransversale
NGO	Non-governmental organisation
NRLA	New Railway Links through the Alps
NUTS	Nomenclature of territorial units for statistics (Nomenclature des Unités territoriales statistiques)
PITEM	Integrated Thematic Plan
PITER/PIT	Integrated Territorial Plan
PLACE	Report on Spatial Planning & Ecological Connectivity
PSAC	Permanent Secretariat of the Alpine Convention
SEA	Strategic Environmental Assessment
SGI	Services of general interest
SI	Slovenia
SRADDET	Regional plan for planning, sustainable development and equality of territories (Schéma régional d'aménagement, de développement durable et d'égalité des territoires)
SPSDP	Spatial Planning and Sustainable Development Protocol
SUMP	Strategic Urban Mobility Plan
TEN	Trans-European Networks
TEN-T	Trans-European Networks – Train
UBA	German Environmental Agency
WG	Working Group
WG SPSPD	Working Group Spatial Planning and Sustainable Development
WSL	Swiss Federal Institute for Forest, Snow and Landscape Research

1. BACKGROUND

Conducted at the beginning of the newly established Working Group Spatial Planning and Sustainable Development (WG SPSPD), this assessment study serves the purpose of establishing an overview of cross-border cooperation (CBC) in spatial planning and spatial development between the Contracting Parties of the Alpine Convention and their regions, municipalities and institutions. It includes past and present forms of cooperation and is intended to serve as a basis for identifying topics and needs for an intensified CBC for the interested public as well as for future activities of the WG SPSPD.

This study is based on a literature screening and a limited number of expert interviews. Efforts have been made to achieve a comprehensive overview. Nonetheless, the limited scope of the desktop-research and the broad bracket of what cooperation and types of projects can be summarised under the umbrella of spatial planning and spatial development, the assessment remains necessarily not exhaustive.

1.1 Mandate

The mandate 2021-2022 of the WG SPSPD outlines the following objectives and output for this deliverable (mandate citation in italics).

Assessment of the current status of cross-border cooperation and coordination of spatial development – particularly the coordination of spatial planning and sustainable spatial development – in the Alpine Convention area (Art. 4 of the Spatial Planning and Sustainable Development Protocol (SPSPDP)), with a particular focus on the Alpine Climate Target System 2050 (ACTS 2050). As a first step, the most important results of previous activities (Declaration of Murnau, International Conference “Sustainable Spatial Development in the Alps” in 2016, ESPON Targeted Analysis “Alps2050” and results of the follow-up-workshops in Munich) in the field of spatial development will be summarised as a basis for further actions of the WG.

Description of output

- Study report assessing cross-border cooperation and coordination of spatial planning in the Alpine Convention perimeter including
- documentation of identified areas of cooperation and synergies and
- proposals for pilot activities on cross-border or transnational spatial planning and integrated spatial development.

Geographical scope

The mandate geographically focuses on cross-border areas – with the exception of pilot activities, which are to be developed at a transnational scale. We defined this as cooperation between NUTS 3 regions or municipalities (LAU) from at least two different Contracting States lying directly on the borders or adjacent or near to them.¹

The WG SPSPD decided to also include transnational resp. international cooperation on the Alpine-wide level. This includes cooperation among Alpine countries as well as in the framework

¹ Cp. https://ec.europa.eu/regional_policy/de/policy/cooperation/european-territorial/cross-border/#1

of Interreg ETC-programs (Alpine Space, ADRION, Central Europe, Danube, Mediterranean, North West Europe). Transnational cooperation addresses a larger scale, comprising neighboring regions, parts of countries or even countries as such. Cooperation activities by Alpine Convention, the Alpine Space Program (Interreg B) and EUSALP cross borders, so borders or border regions can be – but not necessarily need to be – at the center of the cooperation. Cooperation may also take place between regions which not necessarily share common borders. International and territorial cooperation would in this context be the generic term that encompasses cross-border as well as transnational cooperation.

Thematic focus

The thematic focus of the assessment study was on permanent forms of cross-border cooperation in spatial planning and spatial development. This may entail the outputs and outcomes of Interreg-funded projects, but mostly excludes Interreg project results that may have been elaborated transnationally but are not addressing cross-border issues or regions.

Besides the topics of spatial planning and spatial development, the thematic scope includes the following sector topics in their spatially relevant dimension (see chapter 4): Protected areas/ Protection of open spaces, Reduction of land take/ soil protection, Water management, Transport, Tourism, Natural hazard, Cultural heritage/ landscape, Commerce and retail, Services of general interest, Climate change

1.2 Framework of the Protocol

The Alpine Convention Spatial Planning and Sustainable Development Protocol (SPSDP) addresses cross-border resp. international cooperation in the following regard:

Preamble

- *„promote cross-border cooperation between local and regional bodies [...] to produce harmonious development“*
- *„certain problems can only be resolved in a cross-border framework and require joint measures on the part of the Alpine States“*

Art. 2 Fundamental Commitments

- *„encourage harmonization in policies for territorial planning, development and protection by means of international cooperation“*

Art. 4 International Cooperation

- Elimination of obstacles for international cooperation/promoting collaboration at territorial level
- Greater international cooperation, particularly regarding territorial plans and/or programs for sustainable development → in border areas coordination of territorial planning with economic development and environmental requirements
- Representation of local/regional authorities in processes of national and international competence

Art. 8 Spatial plans and/or programs and sustainable development

- Coordination with bordering territorial authorities (incl. cross-border level)

The SPSDP formulates a series of important principles for the contracting parties, including international cooperation and coordination of sectoral policies. Moreover, the protocol calls for preparing spatial plans in coordination with bordering territorial authorities, *“possibly at a cross-border level”* (Art. 8 (3)). In this sense, the protocol leaves it open, at what stages of the systematic the activities take place.

Article 6 addresses the task of coordinating sector policies to promote sustainable development, particularly in three areas: to find solutions compatible with the protection of the environment (cp. Art. 3 regarding criteria for environmental protection and Art. 9 regarding content of spatial plans) and management of natural resources as well as to prevent risks connected to one-sided land use. In the context of

- Article 4, according to which cooperation should primarily aim at coordinating territorial (spatial) planning with economic development and ecological requirements (cross-sectoral coordination),
- and Article 8, according to which spatial plans ought to be coordinated with bordering territorial authorities (cross-border coordination),

coordination can be understood as avoiding or minimising frictions between different sectors or adjacent territories. Cooperation would thus imply a more (pro)active element of spatial planning and development that in its extent goes well beyond coordination, which describes the reconciliation of plans or schemes among autonomous partners that are not contractually bound to a joint project. From our perspective, the task of assessing the status quo strongly depends on a common understanding within the WG of the extent and depth when it comes to coordinating or cooperating in the field of spatial planning as well as an understanding of the legal framework of individual Alpine countries when it comes to cross-border cooperation in spatial planning (see Annex 1).

Additionally, the challenge for spatial planning in the Alpine Convention area is that the Alpine Convention stipulates a level of cross-border cooperation that is not necessarily reflected in the planning framework of the individual Alpine countries and requires *“extracurricular”* engagement of stakeholders (Bächtold et al. 2012:34) on both sides of the border: *“Talking about or practising cross-border spatial planning implies the need to develop a new way of thinking about spatial development, both at the domestic and cross-border scales. Therefore, the actors in charge of spatial planning have to deal with the contradictory situation in which they are caught up, with the willingness to cooperate across a border implying a certain “cross-border thinking” while being subject to constraints linked with the national regulatory frameworks”* (Durand & Decoville 2018:233). On top of that comes a lacking European harmonisation of spatial planning systems (ESPON 2018:233).

2. METHODOLOGY

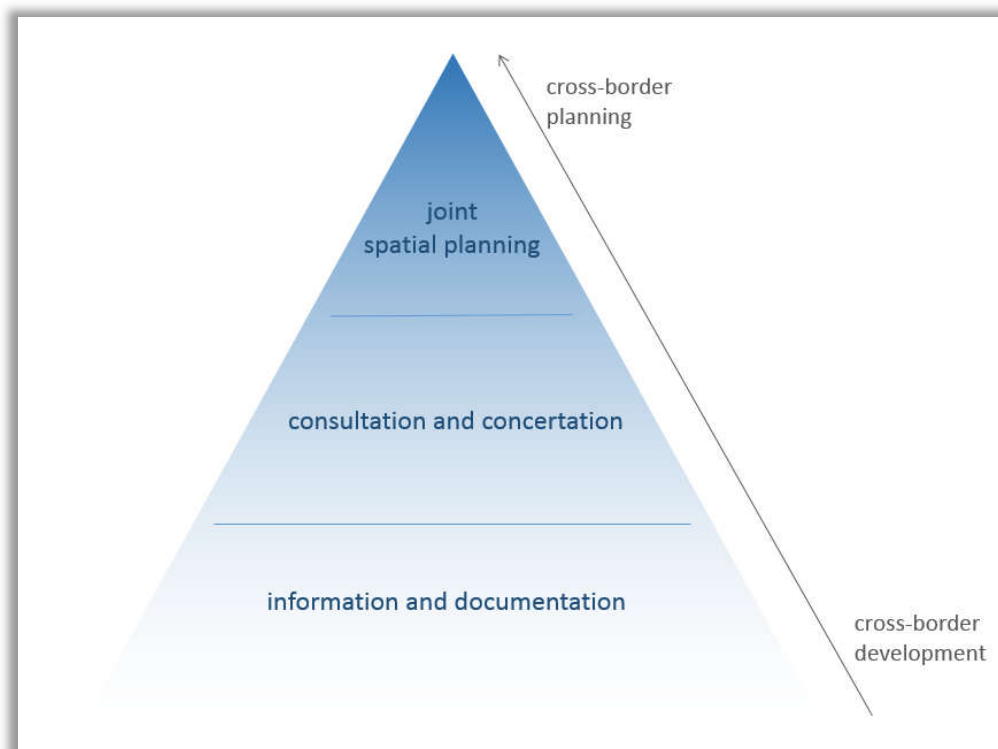
Scope of the assessment

The terminology of the protocol differs between coordination and cooperation resp. collaboration. Cooperation is seen as a tool (*“to produce harmonious development”* and *“to encourage harmonisation in policies for territorial planning, development and protection”*) as well as a process (*“international cooperation regarding territorial plans and/or programs”*). Coordination addresses the thematic alignment across sectors, borders, and mandates.

Given the rather ‘soft’ character of cross-border spatial planning, the coordination, cooperation, and collaboration can take very different forms. This depends a lot on how binding the setting is conceived. This leads to the concepts of spatial planning and spatial development, which can be regarded as overlapping each other. In particular for border regions, these overlaps between classical, binding planning instruments and rather informal instruments can be seen as a gradual scale from informal development towards formal planning (see

Source: Chilla, 2021.

Figure 1).



Source: Chilla, 2021.

Figure 1: Cross-border spatial development and planning as a gradient pyramid.

From this perspective, three stages can be differentiated:

- Firstly, information and documentation are the basis for all planning related activities. Spatial analyses and observatories play a major role in this context (cp. Peyrony & Denert 2012, BMVI 2018). One might mention the [Alpine Convention Atlas](https://www.alpine-convention.eu/), ESPON Alps2050, or the Arc Jurassien² example. As an example how to deal with these different stages the so-called Greater Region – the cross-border region around Luxembourg – concretized this in the participation process of the green book on territorial cohesion (Vidal & Niedermeyer 2011). In practical terms, the cross-border GIS in the Greater Region might be the most elaborated example³. Rather sectoral reports like the Reports on the State of

² <https://www.arcjurassien.ch/>

³ <https://www.sig-gr.eu/>

the Alps⁴ or studies like the ARPAF-funded CrossBorder Project⁵ are important sources of knowledge. Several Interreg projects contribute to key issues of spatial development, like the OpenSpaceAlps project⁶. On the strategic level, the programming procedures of Interreg A and B funding periods contribute to spatial development in the long run⁷.

- Secondly, consultation and concertation go a step further as different approaches and priorities are addressed. One inspiring example is the cross-border system of centrality in the Greater Region⁸. The above-mentioned frameworks on the local and regional level can be assigned to this step as well. In the Bavarian regional planning system (Landesplanung), a series of cross-border central places (grenzüberschreitende Doppelzentren) have been assigned, also for the Austrian-Bavarian region. They might also be categorised as a punctual result of consultation.
- Thirdly, joint spatial planning would be the most integrated step, which means that a cross-border area adjusts and finally merges its spatial development into a common cross-border spatial planning. Again, the Greater Region serves as a reference: The case of Alzette-Belval is institutionalized as European Grouping of Territorial Cooperation (EGTC), thus having a legal personality. The mandate comprises a multifaceted program, including to support the renewal and planning of the cross-border area that is characterized by its industrial heritage⁹.

Cross-border and transnational cooperation includes the following types of instruments and approaches:

- Spatial plans and/or programs
- Regional development concepts
- Memoranda of Understanding resp. Declarations of Intent
- Contractual arrangements
- Regional networks
- Regional cooperation structures or platforms
- Spatial observation
- Selected sectoral plans or programs with a prominent cross-border dimension
- Bilateral commissions
- Others

Assumptions for our assessment study

For the assessment study, we are adopting the following assumptions which will not be addressed in a broader sense:

⁴ <https://www.alpconv.org/en/home/soia/report-on-the-state-of-the-alps/>

⁵ <https://www.alpine-region.eu/projects/arpaf-crossborder>

⁶ <https://www.alpine-space.eu/projects/openspacealps/en/homeB>

⁷ E.g. <https://www.Interreg-bayaut.net/wp-content/uploads/2020/05/Version-2.0.pdf>

⁸ https://www.sig-gr.eu/de/cartes-thematiques/amenagement-territoire/poles_fonctions_metropolitaines.html

⁹ <http://gectalzettebelval.eu/>

1. Territorial development provides benefits when taking relevant cross-border or supra-regional effects (transit traffic, tourism, Common Agricultural Policy) into consideration
2. Cross-border coordination and cooperation in spatial planning and development is beneficial in terms of creating European, political, institutional, socio-economic and sociocultural benefits (AEBR 2012:10). This is most obvious for:
 - a. spatially coherent, largely integrated cross-border regions in view of functional regions and the EU cohesion policy of promoting and supporting the overall balanced development of its member countries and regions
 - b. cross-border regions with stark contrasts in spatial regulations (e.g. settlement, tourism)
 - c. cross-border regions with a strong shared interest in cooperating on spatially relevant issues

2.1 Data collection

The basis for this assessment is a screening of relevant documents and internet sources and interviews with a selected number (see 0) of experts. We did not strive for nor have achieved a complete, comprehensive overview. This does not exclude a latter further approach going into more detail. By approaching the issue from different angles (literature, expert interviews, online research), an effort has been made to identify activities that are relevant in a broader sense and to provide an overview of approaches, lessons-learnt and good examples in regard to follow-up activities.

2.1.1 Screening of existing assessments/studies

The basis for the assessment of the status quo is a screening of relevant literature. This includes the following documents in the context of the Alpine Convention:

- Previous reports of the Compliance Committee of the Alpine Convention on the implementation status of the Alpine Convention and its protocols, notably
 - Report to the XI Alpine Conference (AC11/A1/1) and the respective national reports
 - Excerpts from the national compliance reports for the Alpine Convention status report on the implementation of the Alpine Convention. For this first draft report and based on a consent by the respective national Focal Points, the not yet (11/2021) published national compliance reports from Austria, Italy, France, Monaco, Slovenia and Switzerland were analysed. Additionally, the compliance reports for Germany and Liechtenstein are publicly available and have been analysed.
- Umweltbundesamt (2018): Quo vadis soil protection in the Alps? Assessment of the Alpine Convention Soil Conservation Protocol and preparation/implementation of an international conference. UBA-Texte 56/2018. Dessau-Roßlau.
- In-depth report of the Compliance Committee (2019) on the Economical Use of Soil

Additional relevant literature and assessments has been collected and screened. For example, for the case of the German-Austrian border region, the Working Group “Cross-border spatial development in Bavaria” of the Bavarian chapter of the German Academy for Territorial Development in the Leibniz Association (ARL) has produced a report (Chilla et al. 2018).

Additionally, the ARL-Research Report 7 “Analysis, assessment and safeguarding of Alpine open spaces through spatial planning” (Job et al. 2017) also addresses cross-border aspects.

Also, online sources have been useful for the assessment of the status quo of cross-border and transnational cooperation (e.g. keep.eu-database, Database on cross-border territories by the French Transfrontier Operational Mission (MOT¹⁰), Euregio- resp. EGTC-websites¹¹, ArgeAlp¹², websites of regional planning authorities, scientific literature, planning-related cross-border institutions as the International Lake Constance Conference IBK¹³, etc.).

The literature screening was conducted according to the following process:

- The German chair and its consultants summarised the previous work carried out for the AC Ad-Hoc Expert Group on Spatial Planning (2015-2019) as a common starting point.
- The German chair and its consultants have screened relevant literature at the European and Alpine-wide level – selected in consultation with the Working Group members - that is available in German or English and handed over this basic stock of information to the national representatives for completion with national literature sources.
- A questionnaire has been prepared by the German chair to guide WG members through the literature screening of national relevant literature. They have been asked to deliver relevant information from their national sources according to the questionnaire.

Besides literature (Bächtold et al. 2012, Chilla et al. 2018) and internet sources with a focus on specific border regions or issues, the following transnational documents have been analyzed by the WGchair (Table 1).

Table 1: Analyzed literature for the transalpine screening.

Author(s)	Year	Title
Job, Hubert; Mayer, Marius; Haßlacher, Peter; Nischik, Gero; Knauf, Christoph; Pütz, Marco; Essl, Josef; Marlin, Andreas; Kopf, Manfred; Obkircher, Stefan	2017	Analyse, Bewertung und Sicherung alpiner Freiräume durch Raumordnung und räumliche Planung
ESPON	2018	COMPASS – Comparative Analysis of Territorial Governance and Spatial Planning Systems in Europe Applied Research 2016-2018 Final Report
Medeiros, Eduardo (Ed.)	2018	European Territorial Cooperation, Theoretical and Empirical Approaches to the Process and Impacts of Cross-Border and Transnational Cooperation in Europe
ESPON	2018	Alps2050 Common spatial perspectives for the Alpine area. Towards a common vision, Targeted Analysis Final Report

¹⁰ <http://www.espaces-transfrontaliers.org/en/resources/projects/>

¹¹ <http://www.europaregion.info/de/default.asp>

¹² <https://www.argealp.org/de/projekte>

¹³ <http://www.dachplus.org/>

Badura, M.; Kuenzer, N.; Sutor, G.; Kals, R.; Schmid, S. / UBA (Hrsg.)	2018	Quo vadis soil protection in the Alps? Assessment of the Alpine Convention Soil Conservation Protocol and preparation/implementation of an international conference. UBA-Texte 56/2018
Soil Protection Working Group of the Alpine Convention	2020	Economical and prudent use of soil in the Alps.
Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit	2019	Bericht der Bundesrepublik Deutschland zum dritten Implementierungsbericht der Alpenkonvention und ihrer Protokolle gemäß Beschluss VII/4 der VII. Alpenkonferenz, Aktualisierter Länderbericht im Rahmen des dritten Überprüfungsverfahrens gemäß Beschluss ACXII/A1 in der Fassung des Beschlusses ACXIV/A7 Stand: Mai 2019
Perrin, Mathieu; Bertrand, Nathalie; Kohler, Yann (main authors and coordinators) et al.	2019	PLACE Report on Spatial Planning & Ecological Connectivity - an analytical overview across the Alpine Convention area
Guillermo-Ramirez, M.; Nikolov, A. (Eds.)	2015	Spatial planning and cross-border cooperation
Pallagst, K.; Hartz, A.; Caesar, B. (Eds.)	2018	Border Futures – Zukunft Grenze – Avenir Frontière - Zukunftsfähigkeit grenzüberschreitender Zusammenarbeit
Plassmann, G.; Kohler, Y.; Badura, M.; Walze, C.	2016	Alpine Nature 2030. Creating [ecological] connectivity for generations to come. Commissioned by the German Federal Ministry for the Environment. Berlin.
Compliance Committee of the Alpine Convention	2019	Vertiefte Prüfung zum Thema „Flächensparende Bodennutzung“ Abschlussbericht (Entwurf 18.02.2019)
Permanent Secretariat of the Alpine Convention	2020	Vertiefte Prüfung des Überprüfungsausschusses der Alpenkonvention zum Thema „Flächensparende Bodennutzung“
Compliance Committee of the Alpine Convention	2011	Bericht des Überprüfungsausschusses an die XI. Alpenkonferenz über den Stand der Einhaltung der Alpenkonvention und ihrer Durchführungsprotokolle. AC11/A1/1
Austria, France, Germany, Italy, Liechtenstein, Monaco, Switzerland, Slovenia	2019	National compliance reports for the upcoming report on the implementation of the Alpine Convention

2.1.2 Expert interviews

The overview gained through the literature analysis was supplemented by expert interviews (spatial planners, administration, associations of planning practitioners, representatives of regional cooperation structures, Euregio) in order to achieve a comprehensive and current overview on cross-border activities and needs for action. A template with guiding questions (see Annex 4) has been disseminated by the WG chair, according to which the interviews have been documented and handed over to the WG members.

2.2 Success-factors and obstacles

In order to develop targeted follow-up activities, the assessment of success factors and obstacles for cross-border cooperation and coordination in spatial planning and development – particularly the expert interviews – were structured in regard to the following potential success factors:

- Personal contacts among stakeholders
- Competence of key stakeholders (awareness about cross-border framework, personal networks)
- Mutual trust among stakeholders due to previous cooperation experience
- Compatible cross-border governance structures
- Sufficient and appropriate resources (human and financial)
- Informal networks (e.g. Alpine Soil Partnership, AlpPlan)
- Institutionalised networks (e.g. bodies of the Alpine Convention)
- Cross-border relevance of the issue at stake, thus interest from both sides of the border (e.g. ecological connectivity, mobility, flood management)
- Win-win situation for partners on both sides of the border (e.g. services of general interest, utilisation of existing infrastructure)
- Shared perception of the problem (awareness of a problem/conflict as well as its interpretation)
- Absence of cross-border competition (in the sense of competition e.g. for commercial or tourist development)
- Thematic/spatial information (ideally comparable at a cross-border level)
- (EU) Legal framework allowing or promoting cross-border cooperation
- Transnational treaties and plans (e.g. Alpine Convention)
- Other

Obstacles to cross-border cooperation include (Durand & Decoville 2018:240; DG Regio 2019:17):

Table 2: Types of obstacles in the production of cross-border spatial planning.

Institutional obstacles	Different state organisations (centralism, federalism)	Number of countries involved in the cooperation	Unbalanced representation of institutional levels and lack of coordination between them	Differentiated distribution of competencies according to administrative levels
Legal obstacles	Lack of compatibility between legal systems of territories	Absence of a clear regulatory framework and of legal tools at cross-border scale	Differences in land use, planning rules or building permits	
Technical obstacles	Lack of coordinated/ harmonised planning tools	Problems with the management of public spaces or cross-border services	Non-availability of specific funds for cross-border projects	Lack of connectivity of domestic systems/ networks
Cultural obstacles	Linguistic differences generating communication problems and misunderstandings	Discrepancies between planning cultures	Divergences in working methods for collecting data or for designing planning	Divergences concerning the definition/use of conceptual planning tools
Political obstacles	Divergences of planning visions	Discrepancies with respect to political priorities of each territory	National priorities outweigh cross-border ones	
Fiscal obstacles	Differentials in the levels of taxation	Differences with regards to the existence of taxes		
Relational obstacles	Quality of interpersonal relations between individuals	Divergences between the stakeholders in terms of legitimacy, experience, and leadership	Level of trust between implicated actors in cross-border governance	Gap in interest and political involvement for cross-border scale

(non-exhaustive list)

Source: Durand & Decoville 2018:240

Both the literature screening as well as the expert interviews as outlined below indicate needs for action in regard to the above-mentioned topics and instruments of spatial planning and development.

3. PREVIOUS ACTIVITIES

3.1 Declaration of Murnau – Declaration on Sustainable Spatial Development in the Alps

On 16 April 2016 the Ministers of the Contracting Parties of the Alpine Convention responsible for spatial planning have adopted the Declaration of Murnau (ACXIV/A12/1) in order to give a new impetus to the implementation of the SPSP.

The declaration lists the following new or more pressing challenges that have arisen since the drafting and adoption of the original protocol, resulting in common needs in regard to the effects of

- Climate change, adaption to climate change and natural hazards,
- Demographic change and structure and organisation of labour,
- Transport and connectivity,
- Settlement structure and land use,
- Energy savings, generation and provision,
- Tourism,
- Ecosystem function, ecological connectivity and biodiversity,
- Vitality of mountain areas and their small and medium-sized towns,
- Cultural and natural heritage and
- improvements of governance, cooperation, and organisational requirements.

Considering these challenges, the Ministers see the need for a cross-sectoral approach to tackle the growing number of cross-cutting issues facing spatial development and to strengthen sustainable development in the Alpine region, including

- an integrated and sustainable spatial development that exceeds the scope of conventional spatial planning and requires joint efforts within sector-specific policies,
- the consideration of the above-mentioned issues,
- the development of a long-term perspective for the population living in the Alpine Convention perimeter in regard to health and quality of life, employment opportunities and sustainable economic development, regional attractiveness and services of general interest,
- based on the subsidiarity principle - improvements in governance, participation, and organisational requirements through informal exchange between institutions and organisations, acknowledgment of regional identities and further development of regional governance,
- Dissemination of good practices to strengthen exchange of experience and know-how between Alpine stakeholders and support for spatial decision-making processes through monitoring,
- projects addressing regional governance, cross-border spatial cooperation and sustainable development in the Alps.

The signing ministers pledge to provide new impulses for sustainable spatial development in the framework of the Alpine Convention by – among others –

- inviting the Thematic Working Bodies of the Alpine Convention and other planning bodies and relevant networks to exchange experiences and know-how,
- implementing the principles of the protocol within their respective jurisdiction and to use funds of international, national, and regional programs for projects promoting sustainable spatial development in the Alpine Convention.

The ministers responsible for spatial planning promote the establishment of sustainable spatial development scenarios, guiding principles and visions for the entire Alpine region to promote sustainable spatial development on the basis of joint principles.

The declaration concludes with a call to elaborate joint scenarios for the development of the Alpine region in the framework of an ESPON project (see 0).

Summing up, the declaration directly and indirectly outlines the commitment of the signatory countries to strengthen cross-border and transnational cooperation in the Alpine Convention area, explicitly in the form of

- Alpine-wide formal and informal exchanges between institutions and organisations,
- projects promoting cross-border spatial planning.

3.2 International Conference “Sustainable Spatial Development in the Alps”

In 2016, the ad-hoc Expert Group on Spatial Development organized a stakeholder conference on Alpine Spatial Development in Munich. As a preparatory step for the Declaration of Murnau (see 0) the conference focused on new challenges for Alpine spatial development, obstacles, and solution approaches. Additionally, it addressed issues of implementation, project development, governance, and organizational requirements of spatial development.

Keynote speeches by the BMVI and the PSAC underlined the importance of cross-border and multi-level cooperation in spatial planning in the Alps.

In addition to the Reports on the State of the Alps, regional monitoring was seen as a necessary tool to promote spatial coordination and a cross-border approach to spatial development (BMVI 2016:5). At the European level, there are no cross-border planning procedures. The institutional density and variety of stakeholders is higher in the Alps than in many other European regions – so the challenge is how to interlink them in order to create leverage. Participants argued for project-related and formal networking e.g. in the form of cross-border hiking trails. NGOs argued for cross-border coordination of tourism and large-scale retail and a strengthening of formal spatial planning – also in a cross-border dimension – in general.

Participants discussed the effects of and ways to address new challenges in regard to three topics:

- Climate change
- Demographic change, migration, employment patterns and future settlement development
- Accessibility of good, physical and digital services

A clear cross-border dimension was seen regarding uniform cost structures for goods transport, which cannot be addressed at a solely regional cross-border level. Progress considering settlement development or public transport is often seen as being impeded by national borders.

The regional diversity in the Alps calls for differentiated solutions, based on common objectives. As the national level often holds no decision-making power, spatial development is often in the hands of regions and municipalities. In regard to instruments such as the EGTC or cross-border databases on commercial vacancies, participants reported implementation difficulties (ibid. 12).

Regarding the implementation of sustainability-oriented spatial development, the following needs were expressed:

- Strengthening inter-sectoral and cross-border spatial planning
- Expand the zoning-approach regarding infrastructural development of the Bavarian Alpenplan across the Alps
- Joint spatial planning target formulation at regional and cross-border level

In order to avoid a race-to-the-bottom and deregulation of spatial planning, a need for cross-border coordination – including public funding – was expressed in regard to tourism as well as transport infrastructure. Additionally, a need was seen for developing criteria to address land take at a cross-border level.

In regard to governance and organizational aspects, a cross-border need was seen in identifying and alleviating disparities (ibid:14).

Cross-border project ideas included an assessment and exchange of inner-urban development potentials, resulting in fact-based decision making, as well as the elaboration of joint spatial development guiding principles for cross-border regions.

3.3 ESPON Targeted Analysis Alps2050

The objective of the project "ESPON Alps2050 – Common Spatial Perspectives for the Alpine Area. Towards a Common Vision" (Chilla et al. 2018) was to develop a vision and common spatial perspective for the Alpine area to strengthen territorial cooperation among the Alpine countries towards more effective sustainable development (WSL 2021). The general aim of ESPON Alps2050 reflects the European priority to jointly face challenges related to balanced sustainable development as well as to contribute to the European goal of territorial cohesion.

Main outcomes:

- A territorial vision and common spatial perspectives for the Alpine area,
- a set of maps and related data showing the current state in the Alps concerning the selected thematic fields mentioned above,
- suggestions for more effective solutions for balanced sustainable development,
- guidelines for the development of spatial perspectives and a spatial vision that can be used beyond the geographical scope of Alps 2050 by other European transnational cooperation areas.

Status quo

Cross-border cooperation formats

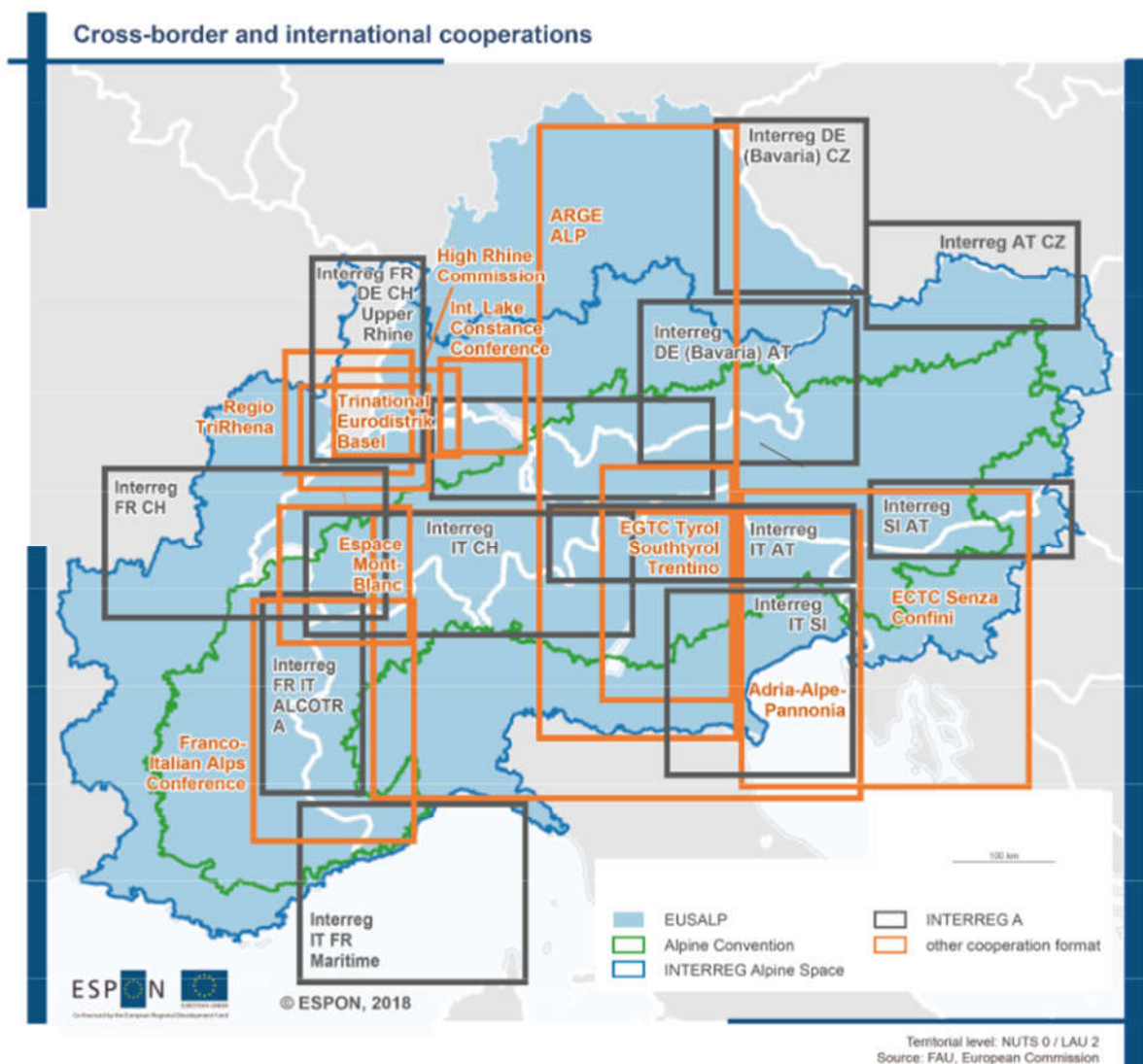
From the governance perspective, the Alpine region is remarkable as it is the 'contact zone' of several countries and, at the same time, of different administrative and political systems. Despite

this political complexity (or maybe because of it?), territorial cooperation looks back on a remarkable tradition and diversity. Source: ESPON Alps2050.

Figure 2 shows most of the cooperation formats on the cross-border level (Chilla et al. 2018:16ff). Cooperation – initiated in the 1970s and gaining momentum in the 1990s – is e.g. taking place between all Alpine countries and involves Interreg program authorities and national representatives at various levels.

Cooperation structures are multifaceted, longstanding, mostly based on funding programs, sometimes also on intergovernmental agreements. Bodies or platforms of cross-border spatial cooperation include Euregios and a range of additional working committees and bodies mentioned below.

Alps2050 identified success factors for cooperation, including a longstanding experience of cooperation and diversity of cooperation formats ('institutional thickness'). Obstacles include the complexity of context, 'soft' mandates and the character of spatial development and planning as a rather implicit topic (rather sectoral focus).



Source: ESPON Alps2050.

Figure 2: Cross-border and international cooperation in the Alps.

Needs for action

Settlements and centrality

Currently, the settlement system of the Alpine region is characterized by mainly national and regional policy regimes. However, the main challenges are the same in all involved countries: Processes of aerosolization put large cities under pressure whereas many regions of rural and mountainous character are confronted with demographic decline and structural changes. Providing adequate services of public interest is a challenge in both kinds of territories. Frictions along the many national borders in the Alpine region aggravate the already challenging situation. Moreover, the increasing share of older population shows that the challenges will grow in the coming years, even if the economic situation remains positive and skilled labor in-migration would continue.

The aim is to achieve spatial development that ensures a good and comparable quality of life for all inhabitants and an efficient organization of services of public interest. Urban and rural areas or mountainous and non-mountainous settlements have to be linked in a (more) sustainable way. The organization of settlement systems is a domestic policy field, following the principle of subsidiarity. Still, the following political activities on the transnational scale can improve the situation:

- Work towards a possible political definition of a common typology of settlement functions on the transnational level as proposed in Alps2050. This may facilitate monitoring and exchange.
- An action plan on the removal of cross-border barriers would improve the organisation of public services across boundaries.

Linkages and transport

The spatial structure of the Alpine region is characterized by functional linkages on different scales that are based on axes and corridors, carrying major parts of transport flows, hosting main parts of the settlement system, and providing important services of general interest.

The challenges are manifold: growing transport quantities (in particular of freight and via road) aggravate current traffic problems which imply a significant economic and environmental burden and question the local quality of life. Inaction would result in almost permanent congestion situations, increasing noise and air pollution and a widely shared sense of decreasing quality of life in large scale corridors. Already now, political conflicts along transit routes are serious (among national ministries and between subregional entities along the connecting routes and national decision makers). It is obvious that improved coordination is needed, including both sectoral transport policy measures and integrated spatial coordination. At the same time, local accessibility remains a complex challenge in many mountainous parts.

The objective is to balance transnational mobility and accessibility on the one hand, and ecological quality and good local quality of life on the other. This can only be achieved by considerable efforts on the domestic level but requires also increased attention at the transnational level. The new infrastructure and the new modes of mobility lead to new geographies due to new accessibility patterns that fundamentally change regional development paths. Towards the year 2050, the following actions are suggested by ESPON Alps2050:

- Sectoral level: The TEN-T has to be completed, including connecting routes, completing a transnational accessibility regime. Moreover, enhancing multi-modality, combining in particular road and rail, is of high priority. A transnational toll policy might be an important element in this respect. In parallel, internal accessibility (passenger transport) has to be developed in a sustainable way.
- Integrated spatial development: Transport policy has to be closely interwoven with general spatial planning processes. There has to be a clear differentiation of transit flows of high quantities that have to be organized along few corridors that are capable to handle large flows in a way that does not harm environmental quality. On the other hand, accessibility on the regional and local level have to be closely linked to questions of the settlement system including SGI and to economic dynamics.

4. EXISTING FORMS OF COORDINATION AND COOPERATION IN SPATIAL PLANNING AND DEVELOPMENT

The following chapter presents the cases of cross-border cooperation in spatial planning in the form of short descriptions and references and structured into transnational activities and needs and into specific border regions of two Contracting Parties of the Alpine Convention. The cases and references are being presented in an additive form, structured into topics and status (status quo, needs for action, solutions).

Spatial planning and development require interdisciplinary approaches and the differentiation between spatial planning and sectoral planning is not always clear to draw, particularly in informal planning processes and where sectoral plans have spatial ramifications. Therefore, a broader approach has been taken and the examples of existing forms of cross-border coordination and cooperation in the area of spatial planning and development include the following thematic spheres:

- Spatial planning in general
- Spatial development in general
- Protected areas/Protection of open spaces
- Reduction of land take/Soil protection
- Water management
- Transport
- Tourism
- Natural hazards
- Cultural heritage/landscape
- Commerce and retail
- Services of general interest
- Climate change

Examples which comprise several topics will be listed under the first two categories. For each bi-national border region, the identified cases of cooperation are differentiated into these thematic categories. Within each category, there is an additional differentiation between:

- **‘Status quo’** of cooperation – meaning examples where cooperation is currently taking place or has taken place –
- **‘Needs for action’** – meaning references in documents or expert interviews that outline potential topics and requirements for improved cooperation.
- Additionally, the analyzed documents contain references to **‘Solutions’**, which are listed as well, predominately in chapter 0.

4.1 Transalpine

4.1.1 Spatial planning in general

Status-quo

Cooperation with international governmental or non-governmental organizations for the implementation of the Alpine Convention

According to the contribution of the Federal Republic of Germany to the Compliance Report of the Alpine Convention (BMU 2019:63f), Germany cooperates, among others, with the following governmental organizations on issues related to spatial planning in the broadest sense:

- Permanent Secretariat of the Alpine Convention (public relations)
- ARGE ALP (transport, tourism, agriculture, soil protection, spatial planning, culture, nature conservation, air purity)
- International Research Association Interpraevent (dealing with alpine natural hazards, forest, water balance)
- Federal Environmental Agency (Austria)

In addition, cooperation takes place with the following NGOs, among others:

- International Soil Alliance (soil protection)
- CIPRA International (municipal projects, public relations)
- Alpine Network of Protected Areas ALPARC (nature conservation, ecological network, protected areas alliance, funding within the framework of association funding)
- Association of Alpine Clubs (Club Arc Alpin – CAA) (tourism, nature conservation)
- Network of municipalities Alliance in the Alps (promotion of implementation measures)
- Alpine Town of the Year Association (promotion of implementation measures)

Alpine Working Community (ARGE ALP)

In 1972, during the same period, the Alpine Working Community (ARGE ALP) was founded, an association at governmental and administrative level of 10 regions, provinces, cantons and federal states from Austria, Germany, Italy and Switzerland. The guiding principles of ARGE ALP in the field of spatial planning¹⁴ include the economical use of land and landscape-friendly, land-saving forms of construction, holistic regional policy initiatives as well as an intensification of cross-border spatial planning activities, the avoidance of spatial polarization tendencies (growth/shrinking areas) and the safeguarding of equal living conditions, the protection of open spaces, townscapes and landscapes as well as biotope networking, the examination of spatially significant measures for their compatibility with the special requirements of the Alpine region, the reduction of second-home construction as well as traffic reduction through mixed-use settlement structures.

Current projects of ARGE ALP in the field of spatial planning and development include a 2021 summer academy "Alpine Building and Settlement Development - Cooperation, Networking and Knowledge Exchange on Buildings and Settlement Development in the Alpine Space". ARGE ALP has observer status at the Alpine Convention.

Territorial Agenda and Green Paper on Territorial Cohesion

¹⁴ <https://www.argealp.org/de/arge-alp/ziele-und-massnahmen/raumordnung>

For Switzerland, the cooperation of the Alpine Convention countries in the field of European regional policy includes the discussions in the framework of the Territorial Agenda as well as on the Green Paper on Territorial Cohesion (Alpine Conference 2011:5).

Cross-border consultations in the context of Strategic Environmental Assessments

Consultations with neighboring countries in Alpine border regions is taking place in the context of implementing the European directive on Strategic Environmental Assessments (SEA) and Environmental Impact Assessments (EIA). This applies e.g. to local spatial planning concepts or land use plans with neighboring countries (Austrian Compliance Report 2019:115, French Compliance Report 2019:12). According to the French Compliance Report (2019:71) early cross-border consultation is also taking place in the context of the implementation of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) - the 'Espoo (EIA) Convention'. The Italian Compliance Report stresses the national implementation of the Protocol on Strategic Environmental Assessment to the Espoo Convention in the form of Law 3 May 2016, n. 79 on the ratification and execution of environmental agreements, including the consultation of third countries in the case of plans, programs and projects that have a significant cross-border impact.

AlpGov - Promoting effective implementation of the EU Alpine Strategy through a systematic transnational approach

In the Interreg V B project AlpGov (2016-2019), governance structures and mechanisms were developed and tested at the level of the EUSALP working groups. At the same time, synergies were created with the other implementing bodies of the EU Alpine Strategy, "General Assembly" and "Executive Board", and other institutional actors in the field of Alpine policy. Currently, AlpGov 2 (2020-2022) is the continuation of the AlpGov project, including Bavarian, Austrian, Italian, French and Slovenian authorities as well as Swiss partners (BMU 2019:60) and focusing among other things on natural hazard management (CLISP-ALP).

The EUSALP Board of Action Group Leaders (BAGL) initiated in the project is to support the formal EUSALP bodies in horizontally linking individual working groups as well as in establishing vertical interfaces, especially between coordination and implementation.

Saller (2018:187ff) considers the EUSALP as a platform for shaping regional policy, with cities as key actors in cross-border cooperation.

AlpPlan Network

The Interreg Alpine Space "OpenSpaceAlps" project (2019-2022) and the German Academy for Territorial Development in the Leibniz Association (ARL) have established a network, based on the idea that especially approaches to open space planning should be developed and implemented across borders. The "AlpPlan" Alpine spatial planning network aims to provide spatial and sectoral planning professionals, experts and decision makers from all Alpine Space countries and regions with a platform for transnational knowledge exchange of good practices and future solutions for sustainable land-use and spatial planning. The AlpPlan network is intended to work in close cooperation with stakeholders among the existing transnational Alpine cooperation framework, such as EUSALP and the Alpine Convention.

The planned activities of the AlpPlan network include:

- annual conferences, which deal with current topics of alpine spatial development,
- workshops targeted at specific topics (e.g. international capacity building seminar for young professionals, scholars and advanced students on alpine open spaces),
- elaboration, negotiation and signing of a Memorandum of Cooperation (MoC) in Alpine spatial planning.

Needs for action

Bächtold et al. (2012:16) see a need to overcome different legal and political frameworks in border regions, where *“national or regional interests dominate cross-border optimization and balancing efforts. [...] In border regions, spatial units characterized by differing legal and political-administrative conditions collide.”* A consultation conducted by the European Committee of the Regions (2021:27) indicates that broad majority of cross-border entities would fully or to some extent favor integrated spatial planning in border regions.

Implementation guidelines for the SPSDP

Austria (Alpine Conference, Compliance Committee 2011:24) criticizes the lack of clear implementation guidelines for the SPSDP, e.g. in the form of a program between the federal provinces. Moreover, coordination on the content, type and form of spatial plans and programs at the level of the Contracting Parties would be necessary in order to achieve better implementation of cross-sectoral objectives. An expert pointed out the wide scope for interpretation of the requirements of the Spatial Planning Protocol. An interpretation guideline (e.g. Essl & Schmid 2018) could operationalise the protocol (i.e. when is a goal considered to be achieved?) and create a more binding force.

On the other hand, the ESPON COMPASS analysis identifies a need for a systemic and simplified approach of spatial planning instruments and procedures particularly for peripheral areas in order to increase flexibility (ESPON 2018:74).

Resolve discrepancy between the Spatial Planning Protocol and the regulatory content of national spatial plans

Germany notes that its spatial development plans and/or programs are not foreseen to contain measures according to Art. 9 (1a) of the Spatial Planning Protocol. This article calls on Contracting Parties to introduce measures that provide the resident population with satisfactory employment opportunities and with the goods and services necessary for social, cultural and economic development, as well as guarantee their equal opportunities (Alpine Conference, Compliance Committee 2011:25). In Germany, special measures to promote job-creating economic combinations according to Art. 9 (1c) of the SPSDP are also not part of spatial programs and plans (ibid.). Austria responded accordingly that e.g. measures outlined in Art. 11 of the SPSDP (e.g. compensation of services in the public interest) are not part of the mandate of Austrian spatial planning (Austrian Compliance Report 2019:116 f).

Improve communication between federal authorities of the Alpine countries, e.g. in regard to consultation on projects with cross-border effects

The new SPSPD Working Group within the framework of the Alpine Convention is seen as a tool to improve coordination between national authorities (Badura et al. 2018:48). Appropriate instructions for action need to be developed for the subordinate departments.

In the 2011 Compliance Committee Report, the Austrian side saw room for improvement in the consultation of other Contracting Parties on projects in the energy sector with cross-border effects. Conversely, Austria felt that it is not sufficiently consulted by the German and Swiss sides in some cases (Alpine Conference, Compliance Committee 2011:7). From the German side, it was reported in 2011 that consultation by other Contracting Parties does not take place in some cases for projects with significant cross-border impacts. Specifically, sectoral driving bans on the Inntal motorway and the temporal-spatial extension of the night driving ban were mentioned (Alpine Conference, Compliance Committee 2011:6).

In the updated national reports for the Compliance Committee, Germany (BMU 2019:73) confirmed a timely and reciprocal implementation of Art. 10 (2) of the SPSPD. Austria (Austrian Compliance Report 2019:115) confirmed that it is generally consulted, with exceptions regarding retail projects and timeline of information (after project finalisation).

Strengthening the coordination and decision-making powers of regional planning

In a narrow sense, this need for action is not primarily targeted at cross-border cooperation. However, a stronger regional perspective and cooperation across municipal boundaries do not stop at national borders. In Badura et al. (2018:48), it is suggested that the coordination function of regional planning be strengthened again and that planning responsibilities be elevated to a cross-municipal level – with the goals of, among other things, higher building densities, protection of productive agricultural land and stronger coordination between municipalities.

Regional plans as strategic planning with cross-border mapping

One interviewee suggested that the regional plans should be further developed as thematically oriented strategic plans with sectoral sub-plans and cross-border maps. Topics for joint cross-border action had potential, which would be evident e.g. in the area of cross-border funding opportunities and the activities of Euregio Inntal or ViaSalina.

On the other hand, another interviewee emphasised that cross-border cooperation in formal spatial planning often makes little sense due to the lack of territorial competence. In addition, the districts and Euregios are often closer to the technical issues than regional planning. An expert considered earlier cross-border cooperation to be necessary, but also unrealistic, as regional planning is strongly focused on its spatial area of responsibility.

Joint programs for systematic spatial observation

In the field of spatial planning, no joint or complementary programs for systematic observation are reported in the 2019 Compliance Reports in accordance with Art. 14 of the SPSPD. Nor are research and spatial observation results combined for permanent observation and information in a harmonised form (BMU 2019:58; Bächtold et al. 2012:16). However, good practices from several Alpine countries illustrate that national data sets are generally capable of territorial monitoring and observation at a cross-border level (ESPON 2021:15; BBSR 2019) and individual cross-border regions have addressed cross-border spatial observation (e.g. OMB, DACHplus).

Solutions

- Tools to improve commitment: The binding character of cross-border coordination of spatial planning can be secured through formalised tools such as state treaties or joint declarations of intent such as memoranda of understanding or letters of intent (Bächtold et al. 2012:33).

4.1.2 Spatial development in general

Status-quo

EUSALP Action Groups

Issues of relevance for cross-border cooperation are addressed in the framework of various EUSALP Action Groups (AG), most notably AG 6. In regard to soil conservation in the Alps, AG 6 coordinates efforts between different regions regarding soil conservation and commissions thematic analyses (e.g. Zollner et al. 2018 on quantitative soil protection). It is chaired by the Province of Carinthia and the Permanent Secretariat of the Alpine Convention and thematically takes reference to the Alpine Space Program and its Priority Axis “Livable Alpine Space” (Badura et al. 2018:14).

Interreg - European Territorial Cooperation

In the framework of the COMPASS-analysis (ESPON 2018:46), French and Italian experts saw a strong influence of ETC-projects on territorial governance and spatial planning. Outputs of projects include the introduction of cross-border planning tools such as inter-institutional partnerships at national level (IT), general regional policy impacts (CH) and sector-specific policies on cross-border transport infrastructure (SI). Finalised projects with relevance for spatial planning include CLISP, CLIMCHALP, COMUNIS, ACCESS, DEMOCHANGE, AlpsMobility II, CO2NeuTrAlp, AlpCheck II, TRANSITECTS and iMONITRAF! (Ständiges Sekretariat der Alpenkonvention 2011:5), MORÉCO, ASTUS and INTESI.

Karlsruhe Agreement on cross-border cooperation between local entities and local public authorities (Karlsruher Übereinkommen 1996)

The agreement¹⁵ between the Federal Republic of Germany, the Republic of France, the Grand Duchy of Luxembourg and the Swiss Federal Council (on behalf of the cantons Solothurn, Basel-Stadt, Basel-Landschaft, Aargau and Jura, all outside of the Alpine Convention perimeter) was signed to facilitate and promote cross-border cooperation in the framework of individual national legal frameworks. It stipulates conditions and requirements for cross-border cooperation agreements, transfer of services of general interest, public procurement, liability of contracting parties and the establishment of institutions of cross-border cooperation (special purpose associations). While not applicable to the Swiss Alpine Convention perimeter, the agreement is an example of legal framework conditions to facilitate cross-border cooperation.

CESBA (Common European Sustainable Built Environment Assessment)

¹⁵ https://www.euroinstitut.org/fileadmin/user_upload/02_Ueber_Uns/Struktur/Accord_Karlsruhe_Karlsruher_Ubereinkommen.pdf

CESBA is a bottom-up initiative that seeks to provide knowledge on harmonized built environment assessment. CESBA's mission is to facilitate diffusion and adoption of sustainable built environment principles through the use of harmonized assessment systems in the whole life cycle of the built environment. Its activities included the Interreg Alpine Space project CESBA Alps (2015-2019), which developed a Sustainability Assessment Tool for Alpine Space Territories (CESBA STT¹⁶). Based on 280 indicators, the tool can be contextualized at local level and used for setting up a scoring/rating system. It allows to reflect local standards and degrees in the sustainability field, defining for each assessment criterion a territorial performance scale.

Needs for action

In general, Bächtold et al. (2012:34) identify a lack of perceptible success of cross-border cooperation and argue for moving beyond projects that focus on exchange to projects that affect the lives of people living and working in border regions in a tangible and positive way. Furthermore, Bächtold et al. (2012:33) argue that finding common solutions in border regions requires a shared problem definition and assessment of opportunities and risks of spatial development.

Integration of cross-border funding schemes

The ESPON COMPASS analysis identified a need to better integrate cross-border projects supported by Interreg with those co-financed by other EU operational programs. Priority mismatches of different programs operating in a given territory need to be resolved, which is expected to improve in the course of increasing cooperation in larger contexts such as macroregional strategies (ESPON 2018:68).

According to Bächtold et al. (2012:67), cross-border cooperation structures are highly dependent on EU funding and are facing a critical lack of funds and operational/strategic frameworks once these European funds run out. Consequently, negative effects of peripherality are exacerbated as cross-border cooperation structures are not among the policy and funding priorities at regional and national level.

Strengthening municipal representation of interests at the European level

Saller (2018:202) addresses the role of cities as the fourth level in the European multi-level system. With the introduction of the partnership principle, the Urban Agenda and the establishment of macroregions in the EU, European cities have been assigned a key role in shaping cross-border cooperation (Europe of cities). According to Saller (ibid:197, 199), the (German) cities adopt this role only to a small extent. On the one hand, the formal opportunities for participation are indeed limited: The Committee of the Regions (since 1992), in which cities can bring in their concerns, has a weak position (ibid:193). On the other hand, municipalities are more interested in funding than in political influence in the EU.

Accordingly, a strengthening of the Committee of the Regions - possibly also through the establishment of a subcommittee of cities (ibid.:203) - and an alignment of intrastate structures would enable a more effective representation of municipal interests at the European level. As

¹⁶ <https://www.alpine-space.org/projects/cesba-alps/en/results/cesba-stt>. With the termination of the project, the tool is no longer available.

instruments of cross-border cooperation, Saller sees the platforms within the framework of the macroregional strategies, in which relevant regional stakeholders cooperate (ibid:189).

Research on territorial cooperation in functional areas

The ESPON COMPASS analysis identified research needs to further explore territorial cooperation beyond Interreg, territorial impacts and governance processes in functional areas, including cross-border regions (ESPON 2018:88). Bächtold et al. (2012:35) go one step further when considering the development of a joint cross-border perspective on the territorial perimeter as one of the most important tasks of cross-border spatial planning (see also Durand & Decoville 2018:233).

Solutions

- Theoretical approaches for conflict resolution: For cross-border spatial planning, Bächtold et al. (2012:18) see deficits in a culture to address and solve conflicts within horizontal cooperation structures without compromising existing personal relationships. They propose theoretical approaches such as economic game theory or international regime theory to identify conflict resolution strategies. Necessary according to Bächtold et al. (2012:33) is a culture for open discussion and conflict management in border regions, based on a sincere will to cooperate, a political mandate and competences on both sides to find unconventional and viable solutions.
- Cross-border institutions for cross-border tasks: In order to efficiently organise cross-border development on topics such as spatial and landscape development, infrastructure planning and economic development, Bächtold et al. (2012:35) propose to allocate cross-border cooperation and planning structures and competences in a superordinated cross-border institution that reflects functional areas and is equipped with the necessary decision-making competences (e.g. European Metropolitan Regions, Metropolitan Conferences, see also Simeonova et al. 2018).

4.1.3 Protected areas/protection of open spaces

Status quo

Interreg B projects related to issues of spatial development

In the 2019 German Compliance Report (BMU 2019:17 and 64), various projects of the Alpine Space Program on open space protection are addressed: The project "LOS_DAMA! - Landscape and Open Space Development in Alpine Metropolitan Areas", which ended in 2019, addressed the protection and sustainable development of natural and cultural assets in urban-regional landscapes of the Alpine Space, also in regard to cross-border relations. The project was linked to the intention of improving the identity of the Alpine Space and strengthening its role at the EU level. The project has created a network of metropolitan cities in the Alpine Space exchanging ideas on issues of landscape and open space development.

Perrin et al. (2020:12) stress that ETC programs provide “...a framework for the implementation of joint actions and policy to promote at cross-border, transnational, and Interregional levels an economic, social and territorial development of the Union. Accordingly, one of the five priorities of the Interreg V B program (2014-2020) intends “to protect the environment and promote a

sustainable use of natural resources". It also provides opportunities for the implementation and management of the Natura 2000 network and support to ecological network projects, all the more important that species, as well as corridors and other connecting elements, go beyond administrative borders."

The MaGICLandscapes project in the framework of the Interreg V B Central and Eastern Europe Program produced a manual of transnational green infrastructure assessment. The manual focusses on a general procedure to transnationally map green (and blue) infrastructure.

Alpine Nature 2030 – Creating [ecological] connectivity for generations to come

The Alpine Nature 2030 study (Plassmann et al. 2016) was carried out in the framework of the German Presidency of the Alpine Convention. It represents a guide for improving ecological connectivity in the Alps by giving keys and scenarios to understanding and mitigating the threats to Alpine biodiversity and ecological connectivity and underlined the key role of an integrated spatial planning process to guarantee biodiversity conservation and ecological connectivity (Perrin et al. 2019:15 ff).

ALPARC – Alpine Network of Protected Areas

The ALPARC network, founded in 1995 to support the implementation of the Nature Conservation Protocol, is promoting and facilitating the exchange among Alpine protected areas and specifically focusses on cross-border issues of spatial relevance. This includes project participation on ecological connectivity (ECONNECT, AlpBioNet, OpenSpaceAlps) and information exchange on cross-border management of protected areas.

Needs for action

Promotion of ecological connectivity and transnational connections of protected areas

Perrin et al. (2019:105ff) conclude in the PLACE study that supranational or EU-wide frameworks are needed to define how ecological connectivity can be realized through transboundary spatial planning. In this context, not only land use types but also land use practices taking place on the land should be referred to. Different planning concepts and scales as well as administrative boundaries should be integrated more vertically and horizontally, and graphical representations of ecological connectivity systems should be standardized across borders. In particular, the temporal component of ecological connectivity should be taken into account and a continuous involvement of spatial planning should be ensured.

At present, the fact that ecological connectivity is anchored differently in the respective Alpine countries in terms of planning law and administration – if at all – represents an obstacle. There are many different approaches and different levels of knowledge, which make cross-border cooperation difficult. In Austria and South Tyrol, for example, wildlife bridges are not very widespread and there is a need for spatial planning land provision at the suitable crossing corridors. These are already well mapped throughout the Alps by Interreg projects such as ECONNECT (Interreg IV B) or AlpBioNet (Interreg V B).

Although the Alpine Convention perimeter includes a large number of protected areas, these protected areas have not specifically been designed to facilitate ecological connectivity.

Therefore, a need is seen to strengthen connections between protected areas on a transnational level (ibid).

A particular need for action is seen to protect and restore connectivity between mountain ranges (Perrin et al. 2019:103) – focussing on fragmented and partly highly urbanised valley bottoms and slopes (see Strategic Alpine Connectivity Areas (SACA) produced in the AlpBioNet-project).

Cross-border ecological network concept

According to Perrin et al. (2019:46), a cross-border ecological network concept can potentially improve ecological connectivity. Connectivity should ideally be addressed on a multi-scalar and even a trans-scalar basis, given the cross-border nature of ecological mechanisms and the variety of ecological functions potentially fulfilled by a same area at different spatial scales. In regard to current allocations of competences, obstacles arise from the shortcomings of decentralised/federal organisation as well as of nationally/regionally centralised organisation. According to Perrin et al. (ibid), a multilevel governance can potentially improve the interconnectedness between different levels, involving formal and informal procedures.

Definition of cross-border strategic open spaces and spatial planning implementation

Haßlacher et al. (2018:42) argue for a definition of cross-border open spaces and their implementation through planning instruments at regional and federal state level: *"This is the contemporary role of spatial planning institutions in terms of the coordination task of conflicting spatial use functions in the Alps. Accordingly, a better understanding of the spatial-functional order according to uses of different intensity levels is needed in the future. It needs the increased spatial planning safeguarding (consistent enforcement) of open spaces as protected areas for humans and nature."* (ibid.)

Raising awareness of decision makers for open space protection

Haßlacher et al. (ibid:40) also see the need to sensitize political decision makers to open space protection and thus to the fact *"that near-natural open spaces do not arise by chance and of their own accord, nor that they are maintained in the long term"* (Baier et al. 2006: 8).

Alpine-wide, cross-border harmonized data basis on Alpine open spaces

Job et al. (2017:65) and Haßlacher et al. (2018:40) see the creation of an alpine-wide, cross-border harmonized data basis on Alpine open spaces as a prerequisite for substantial open space analyses. They propose a governmental or country-related institution such as the Alpine Convention as a responsible body for preparing and making available data for the entire Alpine region.

However, there are obstacles to be overcome: data procurement via public channels is in part incomplete or only possible at a cost. In addition, the harmonization of cross-border data in particular is challenging (cf. Interreg DIAMONT project). As a consequence, the question arises which instruments can be used to strive for an effective open space protection on the basis of

cross-border open space analyses and whether further instruments (non-infrastructure-bound recreational use) are needed for this on regional and local level besides the Alpine Plan¹⁷.

4.1.4 Reduction of land take

Status quo

Alpine Soil Symposium

The 2016 Alpine Soil Symposium, carried out in the framework of the German Presidency of the Alpine Convention, identified and discussed Alpine-wide requirements and the implementation status of the Soil Conservation Protocol. In this context, it also encompassed and addressed contributions of spatial planning to soil conservation.¹⁸

Alpine Soil Partnership and Platform

In the framework of the Interreg V B Alpine-Space project Links4Soils (2016-2020), a transalpine platform and partnership¹⁹ were established to improve the consideration of soil protection in land management practices and promote Alpine-wide cooperation on soil protection and soil ecosystem services management. Activities include cross-border research projects, information exchange and dissemination on land and soil related issues, cooperation and lobbying. The Alpine Soil Platform continues to operate after the project's end (see Alpin SOILutions Congress in 2021) and continues to cooperate with the Soil Protection Working Group of the Alpine Convention.

Cross-border cooperation in the European Land and Soil Alliance

In the framework of the European Land and Soil Alliance (ELSA), a cross-border cooperation and exchange are taking place. The Alpine Convention perimeter is represented by numerous Austrian (e.g. 75 municipalities from Lower Austria) and three Italian members of the ELSA network (Alpine Convention 2019:20). Additionally, federal states and agencies, authorities, NGOs and private companies have joined the network as associated members.

Needs for action

Beyond the following specific needs, Badura et al. (2018:5 resp. 41) call for a regular exchange at the technical level (committees) between Alpine countries and regions on the issue of soil conservation and implementation of the Soil Conservation Protocol as well as utilizing existing networks for soil conservation for soil-related transboundary activities.

At the Alpine Soil Conservation Conference held in Bad Reichenhall in 2016, it was criticized that the economical use of soil receives very little attention in international cooperation in the Alpine region, although its importance for cooperation on and implementation of the Soil Protection

¹⁷ Established in 1972, the Alpine Plan is a spatial instrument to manage infrastructural development in the Bavarian Alps. It is part of the Bavarian State Development Program and differentiates the morphological mountain area of the Bavarian Alps into 3 categories with different limitations to infrastructural development.

¹⁸ https://www.alpconv.org/fileadmin/user_upload/fotos/Banner/Topics/soil_conservation/conference_report.pdf

¹⁹ <https://alpinesoils.eu/>

Protocol is considered crucial (Badura et al. 2018:43f). Also in transboundary cooperation, no land saving activities were reported by the interview partners.

Since 2018, some framework conditions have changed, which were then described by Badura et al. (2018:45) as a need for action: For example, the Soil Protection Working Group and the Alpine Soil Partnership as well as a network of Alpine spatial planning experts (AlpPlan network) have been established. Thus, the structures for an Alpine-wide exchange of knowledge have been created.

Alpine-wide monitoring on land consumption

The Compliance Committee of the Alpine Convention (2019:43) assesses that *"[a]n internationally coordinated and reliable determination of soil/land consumption in the scope of the Alpine Convention is not in place, the establishment of a common monitoring on soil data in the Alpine region in implementation of Articles 20 and 21 of the Soil Protection Protocol is still pending"*. Consequently, it recommends that the Contracting Parties agree on uniform definitions for the different models and instruments for assessing land use, soil sealing and qualitative soil impairments. Additionally, it recommends harmonising data in regard to Art. 20 of the Soil Protection Protocol "Establishment of Harmonised Databases".

Badura et al. (2018:21, 43 and 50, respectively) also call for an Alpine-wide monitoring on land use. This would have to be based on harmonised criteria/indicators and would underpin the quantitative development of new land use with qualitative aspects such as soil quality. At present, there are differences in national and, in some cases, regional land statistics (for a comparison of DE/AT/CH see Schigutt 2009:41). At the level of the Alpine Convention perimeter, there is currently no internationally coordinated and robust overview of land take.

Data quality, data collection for the entire Alpine Convention perimeter, time series and cross-national comparability are considered deficient for an Alpine spatial monitoring. Differences also concern the technical focus, for example the definition of soil quality. In general, there is a lack of linking quantitative (new land use) and qualitative (soil functions, see below) aspects. According to Zollner et al. (2018:47), research questions for the EUSALP area *"...could address the implementation of efficient and comparable monitoring and indicator systems, the spatial distribution of different problem areas and the generation of basic data."*

Cross-border agreed target values and management strategies on land consumption

The proposal to agree on target values and management strategies for land use goes one step further (Badura et al. 2018:43). It should be noted that the corresponding targets of the Soil Protection Protocol are operationalized very heterogeneously in the individual member countries (Alpine Convention 2020b:24).

In Switzerland, there are comparatively strict specifications and instruments of the federal government for the dimensioning of building zones and the use of brownfields, in particular through the revision of the Spatial Planning Act of 2014 (building zone dimensioning, rezoning, surplus value levy, instrument of the zoning freeze) – national or cantonal quantitative land saving targets are, however, missing.

Germany has been pursuing a national land-saving target of 30 ha (since 2019 "minus x") since 2001, but this has been missed for the 2020 target horizon and shifted to 2030. Since 2018, the

Bavarian state government has been aiming for an orientation value of 5 ha of daily new land use by 2030. These are explicitly non-binding target values that are not regionalized or linked to designation quotas or tradable land certificates, i.e. they are not linked to a management strategy that would ensure target achievement.

The situation is similar in Austria, which in its 2002 sustainability strategy aimed for a *"reduction of the increase in permanently sealed land to a maximum of one-tenth of the current value [25 ha in 2002] by 2010."* As in Germany, this 2.5-ha land-saving target was missed (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft 2017:39).

According to Badura et al. (2018:43), the situation in the Italian and Slovenian Alpine regions is comparable but needs to be seen in connection with the abandonment of agricultural land use and succession processes.

In France, the "Climate and Resilience Law" of August 22nd 2021, further accelerates the existing trend for land saving. The law includes a programmatic dimension, setting a Net Zero Artificialization objective in 2050 and a trajectory to achieve this goal (dividing land take by 2 in the next 10 years, i.e. by 2031). It also fosters urban and brownfield renewal.

The Compliance Committee of the Alpine Convention (2019:49) recommends the Contracting Parties to *"[...] promote activities to better coordinate soil/land use in cross-border functional areas"*, to set effective quantitative targets of soil and land consumption on local and regional levels (ibid:29) and to establish binding guidelines for municipalities to effectively contain soil/land consumption (ibid:30; Alpine Convention 2020b:29).

Alpine-wide soil function map

In connection with the above-mentioned strengthening of qualitative soil protection, Badura et al. (2018:21) propose to elaborate an Alpine-wide soil function map at a scale of 1:25,000. This could be linked to the existing soil function maps of e.g. Upper Austria, Tyrol or Salzburg and would be a relevant technical basis for spatial planning processes, but especially also the relevant sectoral planning.

Consideration of soil functions in spatial planning

In view of the insufficient consideration of soil functions in spatial planning and in weighing processes, Badura et al. (2018:46) propose the development of a working aid for the recording of soil functions until an Alpine-wide soil function map is available. The objectives and measures of the soil protection protocol should be formulated more precisely for this purpose.

The agricultural priority areas, e.g. in Tyrol, which are delimited on the basis of these planning principles, are primarily justified with economic necessities for local agriculture, but indirectly represent instruments of open space protection.

Knowledge transfer and awareness raising on soil protection at cross-border/regional/local level

The municipal level is crucial for soil protection due to its far-reaching decision-making powers on land use planning. Accordingly, raising awareness of soil as a finite resource among local decision makers is important, but also difficult. Especially with regard to land use, these are the primary contacts for aspects of soil protection (Badura et al. 2018:24). Accordingly, knowledge

transfer should be improved from the Alpine to the local level, again with a special focus on the municipal level (ibid:45).

Awareness raising measures include good practice examples and the involvement of far-sighted local politicians as multipliers. Illustrative material, e.g. for use in teaching or as a decision-making aid for spatial planning at the local level, can illustrate the consequential costs of land consumption (Badura et al. 2018:47).

In addition to raising awareness at the local/regional level, an improved multi-level, cross-sectoral and cross-border coordination (Zollner et al. 2018:47) as well as stronger Alpine-wide networking and cooperation on soil protection is suggested (Badura et al. 2018:45).

Emphasize topics and measures of the Soil Conservation Protocol in international cooperation

According to Badura et al. (2018:43f), the topics and specific measures stipulated in the Soil Conservation Protocol (Chapter II) are being addressed inadequately in international cooperation. This includes particularly the objective of “Economical and prudent use of soils”, but also “Conservation of soils in wetlands and moors”, “Designation and management of endangered areas/Alpine areas threatened by erosion”, “Agriculture, pasture farming and forestry”, “Effects of tourism infrastructures” and “Limiting inputs of harmful substances”.

Experts at the Alpine Soil Protection Conference considered the lack of an enforcement mechanism as a critical factor regarding the implementation of the Soil Conservation Protocol (Badura et al. 2018:50).

Solutions

- Monitoring: Development of a shared monitoring approach and improvement of its necessary legal implementation (Badura et al. 2018:5).
- To address implementation deficits particularly in regard to the Soil Conservation Protocol, intensified exchanges are proposed, including:
 - More intensive Alps-wide exchange on technical issues and future challenges: *“Important topics for the exchange on technical issues and future challenges include: land consumption/integration into spatial planning, data availability and harmonisation, climate protection, agriculture/forestry and erosion. In particular, the more intensive Alps-wide cooperation on qualitative soil conservation/land consumption/integration into spatial and regional planning should be pursued as a solution-based approach as this particular nexus is viewed as particularly important for future soil conservation.”* (ibid:48).
 - Improved Alps-wide knowledge transfer: *“As a way of improving Alps-wide knowledge transfer, a permanent Alpine soil conservation website is proposed. The website would provide information about various soil conservation issues, projects and stakeholders (e.g. public administration, the research community and practitioners) and showcase examples of best practice.”* (ibid:49). Additionally, a joint information platform for the sharing of experience (such as the Austrian Soil Platform) among soil conservation experts of the regions and countries (ibid:5) and

“[...] improved Alps-wide cooperation among public authorities and policy-makers in the EUSALP framework” is proposed (ibid:50).²⁰

- Legal harmonisation: Legal harmonisation and comparison and publication of binding national and federal statutory provisions pertaining to the Soil Conservation Protocol at various spatial levels (ibid:50).

4.1.5 Transport

Status quo

Alpin Pearls label for sustainable tourist mobility in the Alps

The Interreg Alpine Space projects AlpsMobility I (Interreg II C) and II (Interreg III B) resulted in the establishment of the Alpine Pearls label and marketing platform that comprises destinations from Austria, Germany, Italy, Slovenia and Switzerland. Apart from joint marketing, the member destinations are expanding their cross-border cooperation in the context of international projects such as RECAP, Connect2Move and SKILLed.

CrossBorder – Cross-border mobility in the Alpine region

The CrossBorder project – co-financed through the Alpine Region Preparatory Fund (ARPAF) – has produced a compendium on cross-border mobility in the Alpine region (SAB/Land Tirol/CIPRA 2019), which outlines the share of outgoing and incoming cross-border commuters at municipal level in selected Alpine countries as well as a detailed analysis of cross-border mobility networks in the Alpine region (Chilla & Heugel 2018) in regard to commuter volumes, transport infrastructure and travel time for 12 case study regions as well as comparisons for monocentric, polycentric, linear and transnational metropolitan mobility patterns.

Interreg IV B CODE24: Regional-municipal cooperation for a coordinated corridor development

In the framework of the Interreg IV B project CODE24 (Interreg IV B NWE Project “CODE24 – Corridor Development Rotterdam-Genoa”, 2010-2015), regional planning authorities in the Rhine-Alpine-Corridor have drafted a coordinated development strategy for the Rhine-Alpine corridor, including a corridor information system, compensation measures for large-scale infrastructure projects, analysis of logistics clusters, bottlenecks and hinterland accessibility and participation and future governance of the corridor (Saalbach 2018:238).

The Corridor Rhine-Alpine is a project to improve rail freight transportation in Europe and to encourage modal shift from road to rail. It is part of the planning of the EU TEN-V Project No. 24, No.1 a corridor between Rotterdam and Genua. The Gotthard NEAT project (Neue Eisenbahn-Alpentransversale, Nouvelle ligne ferroviaire à travers les Alpes NLFA, La Nuova ferrovia transalpina NFTA) is the Swiss part of the project and stretches from Basel to Chiasso. The planning started in the early 90s and is based on a cooperation of Switzerland, Italy, Germany and France.

²⁰ In 2017, the Alpine Soil Partnership has been established, including a soil web platform which serves as an information hub for soil-related information for the Alpine Space.

EGTC Rhine-Alpine Corridor

Established in 2015 as a follow-up and consolidation of the CODE24-project, the EGTC Rhine-Alpine Corridor comprises 26 members from the Netherlands, Belgium, France, Germany, Switzerland and Italy (Regione Lombardia, Piemonte, Comune di Novara) (Saalbach 2018:240ff). Its goals include among others

- the continuation of a joint development strategy for the multimodal Rhine-Alpine Corridor through,
 - coordination of regional development along the corridor in consideration of local and regional perspectives,
 - consideration of transport infrastructure projects and land use conflicts along the corridor
- and the use of financial resources for corridor related activities.

According to the EGTC action plan 2019-2022, actions in regard to cross-border issues include

- overview of cross-border issues on the Rhine-Alpine Corridor,
- strategy towards the TEN-T revision in 2023,
- lobby message on cross-border issues,
- exploring possibilities for cross-border projects in EU programs.

Cross-sectoral initiative "Green hydrogen for the Alps"

Based on a letter of intent signed by Auvergne-Rhône-Alpes, Baden-Württemberg, Piedmont, Autonomous Provinces of Bolzano/Bozen - South Tyrol, Trento and Friuli Venezia Giulia (FVG), Provence Alpes Côte d'Azur, Bourgogne Franche Comté Besançon and Lombardy in 2021, the goal of the EUSALP initiative is to develop solutions for hydrogen filling stations and expand the use of hydrogen for sustainable mobility along major routes in the territory and with a particular focus on heavy vehicles (busses, trucks, trains etc.).

Needs for action

The CrossBorder project (see above) has formulated political recommendations to improve cross-border mobility that – besides transport-related issues – also entail a spatial dimension (SAB/Land Tirol/CIPRA 2019:22ff). Cross-border spatial and mobility planning as well as management is seen as an important tool in order to take into account the manifold interlinkages across borders.

4.1.6 Natural hazards*Status quo**Natural hazard maps and adaptation to climate change (Interreg projects)*

In the context of an expert survey and a symposium, the production of natural hazard maps and the mapping of erosion-prone areas were mentioned as examples of international cooperation in the Alpine region (Badura et al. 2018:39f). For the German Alpine region, the Bavarian State Office for the Environment has conducted natural hazard mapping. The hazard maps are publicly available through the Bavarian Environmental Atlas.

Within the framework of the Interreg Alpine Space projects CLIMCHALP (III B), AdaptAlp (IV B) and CLISP (IV B, see below), the results were taken up, among other things, with regard to questions of land use and spatial planning. Particularly relevant for this assessment is the Interreg IV B project CLISP, in which 14 partners from the Alpine Space have elaborated solution approaches for "climate resilient" spatial planning, developed promising approaches for forward-looking planning that avoids or mitigates climate change-related spatial conflicts and reduces vulnerabilities of spatial structures to negative climate change impacts (Alpine Conference, Compliance Committee 2011:7). Additional Interreg projects related to adaptation measures to climate change include C3-Alps (Interreg IV B) and GoApply (Interreg V B).

PLANAT (CH) national platform for natural hazards

The Swiss platform for natural hazards PLANAT promotes cross-border cooperation in preventive handling and coping with events. PLANAT maintains and intensifies the exchange of knowledge and experience across borders. These include special cross-border agreements, for example in regard to standardization.

4.1.7 Water management

Status quo

International Commission for the Protection of the Rhine

The members of the International Commission for the Protection of the Rhine (ICPR) – including Switzerland, France, Germany, and the European Commission - co-operate with among others Austria, Liechtenstein and Italy to harmonize the many interests of use and protection in the Rhine area. Focal points of work are sustainable development of the Rhine, its alluvial areas and the good state of all waters in the watershed.

Working- and expert groups work on technical issues arising from the implementation of the Convention on the Protection of the Rhine and from European law. Decisions are taken in the annual plenary assembly. The Conference of Rhine Ministers takes decisions in matters of political importance and establishes the basis for coherent, co-ordinated programs of measure.

In February 2020, the Conference adopted the program "Rhine 2040" (International Commission for the Protection of the Rhine 2020). It aims at a sustainably managed Rhine catchment with valuable lifelines for man and nature that is resilient to the impacts of climate change. Picking up on the goals and the results of the predecessor program "Rhine 2020", the program "Rhine 2040" defines new goals for the year 2040, including goals that address spatial planning and cross-border cooperation (securing spaces for measures by spatial planning, risk-based spatial planning, cross-border pilot projects on the biotope network).

4.1.8 Tourism

Status quo

Mountaineering Villages/Bergsteigerdörfer

The Mountaineering Villages Initiative²¹ was initiated by the Department of Regional Planning and Nature Conservation of the Austrian Alpine Club (ÖAV) as an effort to locally implement the Alpine Convention. In 2005, 15 villages were selected in Austria according to a set of criteria that also include spatial, land use and urban planning aspects. These places were presented to the public in a brochure titled “Small and Quiet Mountaineering Villages to Enjoy and Linger”. From 2008 onwards, the Austrian Federal Ministry of Agriculture and Forestry funded the project within the EU program of regional development. From then on, project management was established to set concrete measures for creating offers, selecting partner businesses and common marketing. From 2011 onwards, a quality management process was introduced in the individual Mountaineering Villages.

The initiative is not conceived as a “classic” cross-border cooperation project for spatial planning, but it is facilitating cross-border exchange on issues of sustainable tourism and spatial planning for a growing number of Alpine municipalities. The pilot project “Mountaineering Villages without borders” was a first step towards international collaboration in 2012. Ramsau bei Berchtesgaden became Germany’s first Mountaineering Village in 2015. In 2017, Matsch followed as Italy’s first Mountaineering Village and in spring 2018 Jezersko in Slovenia became a part of the initiative. Between the following Mountaineering Villages, a cross-border cooperation has been established on issues such as hiking busses, grazing cooperatives and cross-border trails:

- Weißbach bei Lofer (AT) – Ramsau bei Berchtesgaden (DE)
- Matsch/Mazia (IT) – Vent im Ötztal (AT)
- Zell am See (AT) – Jezersko (SI)
- Kreuth (DE) - Steinberg am Rofan (AT)

The status as official implementation project of the Alpine Convention was formalized in 2016, when the Austrian Alpine Club and the Permanent Secretariat of the Alpine Convention signed a Memorandum of Understanding.

4.1.9 Services of general interest

Status quo

INTESI think tank on services of general interest

Established in the framework of the Interreg V B Alpine Space project INTESI, the Alpine Think Tank²² is a platform for the exchange of experiences on services of general interest (SGI) provision across the Alps. It identifies upcoming challenges for SGI in the Alps and addresses

²¹ <https://eng.bergsteigerdoerfer.org/6-1-The-Philosophy-of-Mountaineering-Villages.html>

²² <https://servicepublic.ch/en/alpine-think-tank/>

(transnational) solutions. The think tank proposes policy recommendations and reflects the work of INTESI and the EUSALP AG 5 as well as of other initiatives in the field of SGI.

Needs for action

Institutionalisation of the interrelation of spatial planning, regional development and demographic change

The Interreg IV B project demochange concluded that “although numerous institutions of international collaboration do exist between countries of the Alpine Space, so far no specialised institution has been formed to tackle the specific [demography-related] challenges spatial planning and regional development are confronted with [...] and to coordinate adequate action at the transnational level. Neither a mutually agreed plan, nor a strategy exist, and political decision makers are called upon to take the initiative to form such an institution to develop Alpine-wide strategies with a demography focus and to implement appropriate measures” (Maurer et al. 2013:32).

Use potential of digitalisation to improve cross-border public services

The Interreg V B Alpine Space project SmartVillages produced policy recommendations that also address cross-border issues. Operational cohesion policy programs at cross-border level are encouraged to include special lines on the Smart-villages approach (SmartVillages Consortium 2021). In general, the potential of digitalisation should be used to a greater extent to improve cross-border public services (ibid:15). In regard to digital infrastructure, special attention should be paid to border areas as numerous gaps in the fibre optics backbone have been identified across borders in the Alpine area and the availability of digital infrastructures tend to be lower in border areas due to dominant national or regional perspectives (ibid:16). Infrastructure planning in functional areas across borders is considered as an important issue for the foreseen EUSALP Common Spatial Development Perspective.

4.1.10 Climate Change

Status quo

CLISP - Climate Change Adaptation by Spatial Planning in the Alpine Space

In the framework of the Interreg IV B Alpine-Space project CLISP, a transnational strategy for climate proof spatial planning was elaborated (CLISP Consortium 2011). The strategy also outlined needs and measures for cross-border cooperation, e.g. in regard to integrated adaptation strategies, natural hazard management or water resource management. The CLISP project introduced harmonised concepts, methodologies and tools, which facilitate future (cross-border) cooperation. The project's model regions, however, were limited to single countries without addressing cross-border aspects. Follow-up projects include the Interreg B Alpine-Space projects C3-Alps (IV) and GoApply (V) and the EUSALP AG8 initiative CLISP-ALP.

CLISP-ALP

In 2021/2022, EUSALP's AG8 has been leading the cross-sectorial implementation initiative on climate resilient spatial planning in the Alps (CLISP-ALP) in the context of the Interreg project AlpGov2. The goal was to evaluate opportunities and performances of existing planning

instruments of the Alpine countries in view of achieving a climate resilient spatial development and to draft recommendations. Furthermore, AG8 has concentrated on the evaluation and development of target group-oriented risk communication tools like physical natural hazard models.

4.2 Austria - Italy

4.2.1 Spatial planning in general

Status quo

See description for the ISA-MAP project involving Austria, Italy and Slovenia in 0.

See description for SUSPLAN project involving Austria, Italy and Slovenia in 0.

4.2.2 Spatial development in general

Status quo

Cooperation project brenner.basis.raum b.b.r. / Fit4cooperation

The cooperation project b.b.r. (brenner.basis.raum) in the framework of the Interreg IV A Italy-Austria project „Fit4cooperation“ (EVTZ Europaregion Tirol-Südtirol-Trentino 2020) deals with cross-border effects of the future Brenner Base Tunnel (BBT). Currently, statistical evaluations of various socio-economic and socio-demographic parameters are being carried out. Based on a statistical and empirical analysis of the urban areas of Innsbruck, Bolzano/Bozen and Bressanone/Brixen, development scenarios for these areas will be elaborated. Above all, the reduction in travel time and the more comfortable connection can bring about an increased interconnection of the urban spaces that go beyond a tourist effect.

Equally important is the further development of the space in the Tyrolean and South Tyrolean Wipptal or at the border town of Brenner. In scenarios that assume a significant reduction of traffic via the Brenner Pass, the question of retrofitting and conversion of existing transport infrastructures, but also that of a shift in accessibility, may become applicable. In cooperation with the Office for Regional Planning in South Tyrol, a catalogue of questions was elaborated, which will be worked through in the coming years in order to be prepared and coordinated across borders for accompanying the opening of the BBT.

The Fit4Cooperation-project supported public administrations in the territories of the EGTC Euregio ohne Grenzen/Euregio Senza Confini and the EGTC Europaregion (Tyrol, South Tyrol, Trentino) on competences, instruments and benefits of cross-border cooperation in the EU and produced an analysis of success factors for cross-border cooperation (Engl. et al 2020, see chapter 5).

Cooperation project „Süd Alpen Raum/Spazio Sud Alpino“

In 2018, a contract for the cooperation between the cities of the Süd Alpen Raum (Southern Alpine Region)²³ was drawn up and finalized in July 2021. The four cities (from east to west)

²³ <https://www.suedalpenraum.eu/>

Spittal an der Drau (Carinthia), Hermagor-Pressegger See (Carinthia), Lienz (Tyrol) and Bruneck (South Tyrol) and their associated regions agree to cooperate along the Pustertal line and the most south-western areas of the province of Carinthia. The project receives funding from the Interreg IV A Italy-Austria program.

In the region, functional spaces have existed for a long time: the border areas, both across state and national borders, are linked by commuters and the shared use of the respective infrastructures – be it in retail, in the Austrian health and rescue services or in the sports and leisure industry. The strategic orientation is based on identified megatrends, which provide the framework for concrete projects, such as common care infrastructure or the strengthening of local centres.

The region has established a governance model, including as formal elements the Süd Alpen Raum Council, the Conference (both with representatives from Austria and Italy) and the management structure and as informal elements thematic working groups and an annual event. Through cross-border participation schemes and information and awareness raising on socio-political issues, the region hopes to become an Alpine model region in political participation (Regionalmanagement Osttirol 2021:29).

Joint working groups²⁴ also address spatially relevant issues such as demographic changes in rural areas, inner-urban development and climate and energy model regions.

Current projects include:

- Alliance for the Development of the South Alpine Space (Allianz zur Entwicklung des Südalpenraums²⁵), pursuing the strategic approaches to
 - clearly position and communicate the area as a counterpoint to the conurbations of Bolzano/Bozen, Innsbruck or Klagenfurt,
 - develop at least 3 topics (incl. higher education, mobility, value-added networks) that will be jointly pursued along the main axis Spittal/Hermagor - Lienz – Bruneck,
 - jointly prepare the topic of staying & coming (human potential). The spatial focus is placed on the Spittal/Hermagor - Lienz - Bruneck axis with the strongest transport and functional interconnections.

A strategic framework has been adopted in 2020, outlining the governance, megatrends and their impact on the region as well as issues of cross-border cooperation (Regionalmanagement Osttirol 2021). These include higher education, inner-urban development and care services (ibid 38ff). The results are supposed to feed into the new funding period for community-led local development (CLLD) within LEADER (see also Italian Compliance Report 2019:9).

- Coming & staying (Kommen & Bleiben): As part of the project "Alliance for the Development of the South Alpine Space", this sub-project addressed the issue of encouraging people to stay, come and return. A guideline for social groups, organisations and decision makers has been drafted in order to enhance the topic of "staying and

²⁴ <https://www.suedalpenraum.eu/gemeinsame-initiativen/arbeitsgruppen/>

²⁵ <https://www.zukunftsraumland.at/projekte/2495>

coming" jointly and across regions and to orient it towards the future (Regional Management LAG Pustertal 2021). Four thematic areas are being addressed:

- Living,
- Working,
- A culture of recognition and welcome
- And Networking & Communication.

The Süd Alpen Raum intends to become an innovative and sustainable region of the future in Europe with a model effect for other border regions and create a new, regional, European and cosmopolitan awareness through cooperation.

Community-led local development regions Dolomiti Live and HeurOpen

Within the South Alpine Space, two cross-border regions have adopted the community-led local development (CLLD) approach to promote and facilitate Interreg Italy-Austria projects for their respective territory (Zollner 2018:35).

The CLLD region Dolomiti Live encompasses the Province of Belluno (IT), East Tyrol (AT) and the South Tyrolean Pustertal (IT). Objectives include the promotion of cross-border cooperation in general, the establishment of a fund for cross-border small-scale projects (people to people). Projects with a spatial dimension address strategic urban networks to make better use of the cities' infrastructural potentials for regional development²⁶, cross-border municipal networking²⁷ and transferable landscape development concepts²⁸.

The CLLD region HEurOpen²⁹ comprises the Leader regions Hermagor (AT), Open Leader (Gemonese, Canal del Ferro e Val Canale, IT) and Euroleader (Carnia, IT). Based on the cross-border development strategy "HEurOpen", small- and medium-scale projects are being funded. Additionally, thematic working groups on intelligent, sustainable and inclusive growth have been established.

EGTC Europaregion Tirol – Südtirol – Trentino/Tirol – Alto Adige – Trentino

The EGTC is pursuing a range of cross-border projects on spatially relevant topics such as public transport and cycling infrastructure. Additionally, it provides support for cross-border project planning and implementation through the Fit4Cooperation consulting services for public administrations. For each tri-annual governing period, a joint program is adopted that outlines the planned activities (EVTZ Europaregion Tirol-Südtirol-Trentino 2019).

²⁶ <https://www.dolomitilive.eu/de/projekte/kleinprojekte/etablierung-strategischer-staedtenetze-im-sued-alpen-raum/>

²⁷ <https://www.dolomitilive.eu/de/projekte/kleinprojekte/grenzueberschreitende-kommunale-vernetzung/>

²⁸ <https://www.dolomitilive.eu/de/projekte/mittelprojekte/landschaftsentwicklungskonzept/>

²⁹ <https://region-hermagor.at/heuopen/clld-region/>

EGTC Euregio ohne Grenzen/Euregio Senza Confini

Established in 2012, the EGTC comprises the State of Carinthia, the Autonomous Region of Friuli Venezia Giulia (FVG) and the Veneto Region. Among its projects, which also involve Slovenian partners, a strong focus lies on cross-border mobility:

- **CROSSMOBY (2018-2022):** The main objective of the project is to create new cross-border and sustainable transport services and to improve mobility planning throughout the area. The expected changes will be achieved through testing new rail passenger services and a new approach to mobility planning based on the existing SUMP (Sustainable Urban Mobility Plan) methodology applied to a limited number of pilot projects.
- **SMARTLOGI (2018-2021):** With the goal of improving the institutional cooperation in regard to sustainable, intermodal goods transport, the project includes the drafting of a transnational action plan, which is being evaluated through feasibility studies and tested in pilot actions. Ultimately, a strategy for the promotion of cross-border intermodal transport is envisaged.
- **EMOTIONWay (2018-2022):** With a focus on soft tourism, the Interreg V-A Italy-Austria project EMOTIONWay³⁰ aims at establishing the Eastern Alps Cycleway Network (ReCAO).

A Memorandum of Understanding between the Land Carinthia, the FVG Region and the Veneto Region facilitates the sharing of data in support of sustainable cross-border mobility in the RECAO area. Based on a database of existing cycle lanes and intermodal transport services in the cross-border area, obstacles for accessibility were identified and missing intermodal links to complete the network's cross-border interconnections have been closed.

Additionally, the EGTC is conducting projects on natural disaster prevention and management as well as strengthening cross-border institutional cooperation between Italy and Austria in the field of migration and coherent integration policies (EUMINT project, 2018-2020). Together with the neighbouring EGTC Europaregion Tyrol/South Tyrol/Trentino, it participated in the Fit4Cooperation program (see above).

For the CONSPACE cooperation project of Austrian, Italian and Slovenian authorities, see description in chapter 0.

*Needs for action**Cross-border governance systems*

According to the Strategic Framework for the Süd Alpen Raum (Regionalmanagement Osttirol 2021:16, see above), there is a lack of well-functioning regional and cross-border governance systems that promote the idea of cooperation across political and administrative borders (see also Zollner et al. 2018). The obstacles spatial planning is facing in border regions and the support for cross-border governance systems is also expressed in a recent consultation conducted by the European Committee of the Regions (2021:15 and 27).

³⁰ https://ec.europa.eu/regional_policy/et/projects/europe/italy-austria-cross-border-cycle-networks-boost-tourism

4.2.3 Protected areas/Protection of open spaces

Status quo

Cross-border connectivity in regional spatial planning of the Friuli Venezia Giulia Region

A good example for the integration of ecological networking into regional spatial planning is the Regional Territorial Spatial Plan and the Regional Landscape Plan (RLP) in the FVG Region (Perrin et al. 2019:64ff). “The Region is situated at the border to Austria and Slovenia. The RLP takes into consideration ecological connectivity not only inside or in proximity to protected areas, but at a regional scale behind administrative borders.”

Needs for action

Cross-border protected area management

The Strategic Framework for the Süd Alpen Raum (Regionalmanagement Osttirol 2021:29) expects that establishing a cross-border management for protected areas that entails a continuous exchange, joint public relation and the drafting of joint objectives and areas for action would improve awareness and visibility of open spaces.

4.2.4 Transport

Needs for action

Cross-border transport initiatives

According to the Strategic Framework for the Süd Alpen Raum (Regionalmanagement Osttirol 2021:29), cross-border cooperative initiatives are expected to create new mobility offers by coordinating and integrating individual transport associations.

4.2.5 Natural hazards

Status quo

Cross-border avalanche warning and forecasting system ALBINA

The ALBINA project, funded by the cross-border cooperation program Italy-Austria (2016-2019) and supported by the EGTC Europaregion Tirol – Südtirol – Trentino/Tirol – Alto Adige – Trentino, has set up a joint avalanche warning system for Tyrol and the Autonomous Provinces of South Tyrol and Trentino. In recent decades, cross-border mobility between the three regions has increased especially for backcountry recreation. Within the project, existing but separate warning and forecasting systems have been merged to cover the entire Euregio with one system (European Committee of the Regions 2018:18f). After the project has ended, a joint memorandum on a cross-border avalanche information system has been signed to ensure a continued operation of the service in the form of the Euregio Lawinen.report/Valanghe.report.³¹

³¹ <https://lawine.report/more/about>

Needs for action

Cross-border natural hazard management

Climate change has exacerbated the risks of natural hazards also for the Süd Alpen Raum in the form of thunderstorms, massive snow-storms and rainfall and long-lasting droughts, which affected infrastructure, protective forests and harvests. A cross-border natural risk management, entailing an improved integration and joint planning of measures, is expected to facilitate quicker and more efficient responses (Regionalmanagement Osttirol 2021:29).

4.2.6 Cultural heritage / landscape

Status quo

Joint Agreement by Spatial Planning State Councillors of Tyrol, South Tyrol and Trentino 2016

In order to create appropriate framework conditions and promote cross-border activities related to architectural qualities and cultural landscapes, the state councillors of Tyrol, South Tyrol and Trentino signed an agreement encompassing the following measures (EVTZ Tyrol, South Tyrol and Trentino 2016):

- Biannual political enquete to assess the effects of measures on architecture and landscape and develop future strategies,
- Annual meeting of authorities responsible for building culture (Baukultur) to exchange experiences and coordinate measures,
- Organising conferences and publications on economic effects of measures to promote building culture, effects on the construction sector, agriculture, tourism and trade, affordable housing in the context of traditional and new Alpine architecture.

Memorandum of Understanding on safeguarding mountain traditions and cultures

Signed in 2020, the memorandum “Protocollo di intesa tra il Friuli Venezia Giulia e la Carinzia - Vicinie agrarie” between the Autonomous Region of FVG and the Austrian Province of Carinthia addresses the safeguarding of mountain traditions and cultures that have developed in the areas close to the Austrian border.³²

Via Iulia Augusta - Via della musica | Straße der Musik³³

The Via Iulia Augusta is an old roman connection from Italy to Austria which is nowadays used for hiking and soft tourism. During Interreg V A Italy-Austria 2014-2020 the project „Via della musica, Straße der Musik“ was launched to enhance the cooperation of existing cultural activities in the area, as well as to foster tourism in the region. Partners included Fondazione Luigi Bon (Lead Partner), L'Unione Territoriale Intercomunale della Carnia, Comune di Malborghetto-Valbruna; Association Via Iulia Augusta, and Municipality of Kötschach-Mauthen.

³² <https://www.consiglio.regione.fvg.it/cms/hp/informazioni/0571.html>

³³ <https://www.via-iulia-augusta.at>

4.3 Austria – Slovenia

4.3.1 Spatial planning in general

Status quo³⁴

SUSPLAN – Sustainable spatial planning in mountain areas

The Interreg IV A Slovenia-Austria project SUSPLAN (2009-2012)³⁵ was designed to improve conditions and procedures for spatial planning and a more balanced and sustainable development in the Slovenian-Austrian mountain region (SUSPLAN consortium 2012). Partners included the Mountain Community of Carnia (FVG), the Directorate for Urban Planning of the Veneto Region (FVG), the Central Directorate for Regional Planning, Local Autonomy and Security of the FVG Region, the Mountain Community Torre (FVG), the Mountain Communities of Gemona, Iron Canal and Canal Valley, and the Mountain Community Western Friulia.

Through joint activities, available information and geographic data was gathered in an information system (Mountain Information System SIM) and used to produce and analyse maps for the entire project area. A common definition for sustainable spatial planning and development was developed and common sustainability criteria for the evaluation of spatial development plans were defined. These criteria were to be integrated into the respective planning methods, tested in regional pilot projects and jointly evaluated. Currently, SUSPLAN online resources such as the Wiki on planning-related terms (Comelicopedia) or an interactive map to report places of interest in the Friuli foothills are no longer accessible.³⁶

Part of SUSPLAN were two international conferences on instruments for sustainable development of mountain regions³⁷ (May 26th 2011, Tolmezzo) and on demographic changes in rural areas (October 17th/18th 2011, Ossiach).

4.3.2 Spatial development in general

Status quo

Slovenia-Carinthia Joint Committee

Between the State of Carinthia and Slovenia, a Joint Committee (Gemeinsames Komitee Kärnten-Slowenien / Skupni odbor Slovenija-avstrijska Koroška³⁸) has been re-established in 2014 as a successor of the Contact Committee Slovenia-Carinthia, which has been discontinued in 2004. The Joint Committee meets annually to discuss issues and initiate projects of cross-border relevance, particularly in the fields of transport, environmental protection and spatial planning. Permanent Working Groups have been established on “Spatial connectivity,

³⁴ Also see the ISA-MAP project description in 4.8.1.

³⁵ <http://www.simfvg.it/attivita/susplan>

³⁶ http://www.simfvg.it/doc/susplan_ccf/pubblicazione_ccf.pdf

³⁷ https://www.interreg.net/de/news.asp?news_action=300&news_image_id=499905

³⁸ <https://www.ktn.gv.at/Service/News?nid=33404>

environmental protection and efficient use of natural resources”, “Networking of people” and “Economy and tourism, culture, agriculture and rural development”. Joint declarations outline cooperation and future activities between Carinthia and Slovenia.

Cross-border inventory for the Slovenian-Austrian border region

In the framework of PHARE CBC/Interreg II A (1994-1999), an inventory of the Slovenian-Austrian border region was carried out. In the course of a socio-economic assessment, “it became evident that the methodology and statistical sources for data collected on both sides of the border vary considerably. This project therefore involved the preparation of a cross-border inventory and a cross-border strategy in order to develop a robust basis for multi-annual planning of cross-border cooperation activities, the annual review of the MIP and for further physical, environmental or socio-economic planning purposes” (Guillermo-Ramirez/Nikolov 2015:23).

GREMA – Cross-Border Masterplan Lower Carinthia

The project GREMA³⁹ was carried out in subregions of the Interreg III A program area Austria - Slovenia and was intended to promote conditions for a successful regional development (Austrian Compliance Report 2019). Project activities included a broad analysis of regional situation, but also of the general conditions and existing supraregional projects influencing future development. Since projects such as the construction of the Koralm railroad will be of particular importance for future development, development scenarios and their possible effects on various areas of life essential to the region were elaborated. Furthermore, the potentials of the region, especially as a future business location, were outlined. Based on these results, development goals were elaborated for the region in the sense of a development strategy.

4.3.3 Protected areas / Protection of open spaces

Karawanken@Zukunft.EU / Karavanke@Prihodnost.eu⁴⁰ – nature based economy in the European future region Karawanks

With funding from the Operational Program Slovenia-Austria 2007-2013, the project Karawanken@Zukunft.eu/Karavanke@Prihodnost.eu set out to identify natural and development potentials as well as guidelines for sustainable development and nature conservation for the Karawanks mountain range. It envisaged to promote a process of joint, cross-border use and administration of the Karawanks natural potential, thereby implementing the objectives of the Alpine Convention. At a cross-border level for the Karawanks region, activities included

- Analysis of potential and identity,
- Networks and communication,
- Activation and safeguarding of natural potentials in the form of small-scale investments.

Additional cross-border projects addressed the issues of nature-based tourism and trail maintenance (“Nature experience” project) and green economy (“future-ideas@karawanks.eu”).

³⁹ <https://mobilitaetsprojekte.vcoe.at/grema-grenzueberschreitender-masterplan-fuer-den-raum-unterkaernten>

⁴⁰ <http://www.karavanke.eu/index.php?t=news&id=36&l=de>

At the end of the project, a networking platform “Friends of the Karawanken” was established to ensure a continued support for sustainable development of the Karawanks region and further expand cross-border cooperation. Currently (2021) – it seems that the network has discontinued its activities.

4.3.4 Transport

Status quo

Slovenian-Carinthian mobility projects (Interreg project Trans-Borders)

As part of the Interreg Central Europe project Trans-Borders⁴¹, a cross-border season bus line has been established between Lavamünd and Maribor. Additionally, a financing model for cross-border passenger transport services between Carinthia and Koroška has been elaborated and is being further pursued through various approaches (Regional Development Plan and SUMP for Koroška Region, Joint Committee Slovenia-Carinthia).

4.3.5 Water management

Status quo

goMURra project – cross-border water management plan⁴²

Traditionally, a strong cooperation and joint activities exist along the 34 km long border river Mur within the scope of the Austrian-Slovenian Commission for the Mur. The Interreg V A project goMURra is routed in this context, involving decision makers at the national, regional and local level. From 2018 to 2021 seven partners from Austria and Slovenia elaborated a Management Plan 2030 to improve flood risk management as well as the ecological aspects of the river system.⁴³

4.3.6 Tourism

Status quo

Karawanken/Karavanke UNESCO Global Geopark⁴⁴

The Karawanken/Karavanke Geopark is a cross-border geopark that encompasses 14 municipalities from Austria and Slovenia. Focus of the Geopark is the promotion of nature-based tourism and culture of the region.

The main goals of the Geopark are:

- Cross-border cooperation and regional development/regional policy

⁴¹ https://www.interreg-central.eu/Content.Node/TRANS-BORDERS.html#Outputs,_deliverables_and_results

⁴² Also see description for the CONSPACE project and its cooperation between Austrian, Italian and Slovenian authorities in 4.8.1.

⁴³ The project area is situated close to the Alpine Convention perimeter, <https://www.gomurra.eu/das-eu-projekt-hochwasser-sicherheit-mur-gomurra/>

⁴⁴ <https://www.geopark-karawanken.at/>

- Conservation of natural resources
- Awareness raising/education/positioning of the Geopark
- Economic valorisation of the Geopark

4.3.7 Cultural heritage/landscape

Status quo

CULTH:EX CAR-GOR – Borderless cultural experience Kärnten – Gorenjska

The central objective of the Interreg IV A Slovenia-Austria project CULTH:EX CAR-GOR⁴⁵ (2009-2012) was the development of sustainable strategies to improve the relationship of the owners of the built heritage to their own heritage and property and to promote conservation and sustainable development of the cultural heritage. The project was designed to improve cross-border cooperation between institutions in the field of heritage protection, provide information and advice on the revitalisation of objects of the architectural heritage and evaluate the use and the preservation of the built cultural heritage.

Side effects of the project included

- strengthening of the cultural identity of the local population in the region.
- sparking a dynamic movement, which enables sustainable solutions for professional platforms.
- creation of new tourism sectors, especially cultural and business tourism.
- sustainable use of the heritage, which in the long term halts the loss of cultural heritage values.
- creation of new jobs in heritage-related sectors.
- preservation of the architectural heritage and cultural landscape as an important factor for sustainable development.

4.4 Austria - Switzerland⁴⁶

4.4.1 Spatial development in general

Status quo

Agglomeration Program Rheintal

In the Swiss Alpine Rhine valley, the Agglomeration Program Rheintal is developing guidelines, strategies and measures for integrated settlement, mobility and landscape development. Initiated in 2017, the agglomeration program has also addressed various issues of cross-border relevance⁴⁷, including the project “Freiraum”, promoting and linking cross-border open spaces in the Rhine Valley (see below), the flood management project “Rhesi”, an implementation step

⁴⁵ <https://www.ktn.gv.at/DE/repos/files/ktn.gv.at/Abteilungen/Abt3/Dateien/Orts-%20und%20Regionalentwicklung/K-Interreg%20Projekte/CULTH%5fEX%2epdf?exp=69998&fps=8c6926045d3fa31c08c9840b2fd321dce1629009>

⁴⁶ Also see chapters 0 and 0

⁴⁷ <https://www.agglomeration-rheintal.org/de/projekte.html>

towards implementing the Development Concept Alpine Rhine (Entwicklungskonzept Alpenrhein) (see below) and Velotal Rheintal, a project promoting cycling on a cross-border basis (see below).

Terra Raetica - Interreg Council

The districts Imst (A), Landeck (A), Vinschgau (Autonomous Province of Bolzano/Bozen-South Tyrol/IT) and the canton of Graubünden (CH) are linked by a long tradition of cross-border cooperation, which dates back to 1997. This cooperation was subsequently intensified during the Interreg III A Italy-Austria program (2000-2006) and in the subsequent Interreg IV A Italy-Austria program period (2007-2013) with the establishment of an Interreg Terra Raetica Council in 2007, supervising 41 large and 63 small Interreg projects. In the last program period of Interreg V A Italy-Austria (2014-2020), Terra Raetica was defined as a community-led local development (CLLD) area. Its aim is to increase the quality of life and maintain the competitiveness of the region by defining a local development strategy that promotes an independent development through a bottom-up approach. Within the Terra Raetica Council, working groups such as Cultura Raetica, Natura Raetica, Humana Raetica, Mobilita Raetica and tourism are dealing with issues such as economy, innovation and training, tourism, leisure infrastructure, natural heritage, cultural heritage, mobility and energy, health, accessibility and job market on a cross-border basis.

4.4.2 Protected areas/protection of open spaces

Status quo

Freiraum Rheintal

The "Open Space Rhine Valley" project promotes the preservation, development and networking of cross-border open spaces in the Rhine Valley. In a project-oriented open space planning, cross-border map bases have been developed in 2016. One of its results is a cross-border nature and recreation map "Old Rhine", a joint effort between Swiss municipalities and the Austrian municipalities Lustenau, Hohenems, Diepoldsau, Altschachen and Mäder.

4.4.3 Water management

Status quo

International Rhine Regulation – Rhessi project Recreation and Safety

A state treaty of 1892 between Austria and Switzerland laid the foundation for the International Rhine Regulation⁴⁸, which is jointly chaired by the Republic of Austria and the Swiss Federation, each represented by two delegates. Its mission is to provide flood protection for the 26 km stretch between the Ill confluence at Feldkirch and Lake Constance.

One of its current projects is the flood protection project RHESI, that integrates flood protection (based on regional dam failure scenarios) with a regional added value in terms of drinking water provision, ecological and recreational benefits and the amelioration of agricultural plots. The

⁴⁸ <https://rheinregulierung.org/organisation>

project has been developed in a cross-border participatory process⁴⁹ between Switzerland, Austria and Liechtenstein, involving authorities, stakeholders and residents.

4.4.4 Tourism

Status quo

Velotal Rheintal

Velotal Rheintal⁵⁰ is an initiative of the Province of Vorarlberg, the St. Gallen canton as well as the municipalities of the Province and of St. Gallen Rhine Valley. The aim is to promote cycling east and west at a cross-border level between Switzerland and Austria.

The valley floor in the Rhine Valley offers good conditions for using the bicycle. Velotal Rheintal wants to point out the already existing network of cycle paths and improve and expand it in the future. Velotal Rheintal focuses not only on recreational cyclists, but also on cross-border cycling in everyday life, especially for commuters in combination with public transport.

The municipalities on both sides of the Rhine expect to benefit from increased networking and the mutual exchange of experiences.

4.4.5 Commerce and retail

According to an interview partner, a coordination took place in the early 2000s between the Province of Vorarlberg and the St. Gallen Rhine Valley in regard to retail development.

4.5 Austria - Germany

4.5.1 Spatial planning in general

Status quo

German-Austrian Commission on Spatial Planning (DÖROK)

The "Agreement between the Austrian Federal Government and the Government of the Federal Republic of Germany on Cooperation in the Field of Spatial Planning" (Federal Law Gazette No. 87/1974), signed in 1973 and initially valid for 10 years, dates back to a time well before the Alpine Convention. Subsequently, the German-Austrian Commission on Spatial Planning (DÖROK) was established. This commission, consisting of 18 members, was very active in the 1970s and 1980s and led to a large number of cross-border agreements and cooperation (Chilla 2018:8). In this sense, the Commission thus already took up the spatial planning coordination and cooperation agreed in the Alpine Convention and the Spatial Planning Protocol. Its tasks included the elaboration of proposals and recommendations as well as the coordination and harmonisation of measures.

⁴⁹ https://rhesi.org/media/pages/service/publikationen/1794628128-1575888367/1109_rhesi_partizipative_projektentw_2_final.pdf

⁵⁰ <https://velotal-rheintal.com/ueber-uns/>

Resolution on cross-border participation in hearing procedures ("Bergener Resolution")

With the involvement of the Bavarian State Ministry of Economic Affairs, Transport, Infrastructure and Technology, the Department of Spatial Planning at the Office of the Salzburg Provincial Government and the Government of Upper Bavaria, the Euregio Spatial Planning Expert Working Group developed cross-border participation in hearing procedures (on LEPs, regional plans/programs, cross-border spatially significant projects) and adopted it in 2004 with the "Bergener Resolution". This involvement is seen as part of an open procedure and, in addition, Euregio is also informally involved in the hearing procedures (Salzburg: siting ordinance; Bavaria: regional planning procedure).

Based on a number of controversial spatially significant projects, targets and a catalogue of criteria for the settlement of large-scale retail projects were developed on a voluntary basis (BMU 2019:73).

The resolution has not played a significant role in the Euregio in recent times, as the topic has lost its urgency due to a saturation and consequently the decline of new large-scale retail projects. Currently, there are no major settlement procedures in the region. Rather, it can be observed that full-range retailers are increasingly returning to the city centres, as they find favourable locations due to pandemic-related closures.

Participation scheme for spatial planning in the Euregio Salzburg - Berchtesgadener Land - Traunstein

A mutual administrative participation scheme in the Euregio Salzburg - Berchtesgadener Land - Traunstein was agreed on a voluntary basis, partly at the municipal level, e.g. in the form of coordination of urban land use planning (ibid.:73). Furthermore, cross-border participation in the consultation procedure was agreed in the Euregio Salzburg - Berchtesgadener Land - Traunstein (ibid.).

This participation relates not only to retail settlement but also to tourism and other major planning and spatial development plans (LEP, regional plan) and includes the Euregio, districts, Government of Upper Bavaria and the Office of the Salzburg Provincial Government.

The expert working group on spatial planning and regional development is one of 12 expert working groups on cross-border issues that are also spatially relevant (including agriculture and forestry, mobility, nature and the environment, tourism). It exchanges views on planning instruments, on questions of securing land for mobility infrastructure and other planning-related topics such as housing or resource efficiency. In addition, it contributes to the preparation of the new Border Region Strategy (see 0) in the form of the evaluation of development concepts and the Salzburg master plan.

Information of contracting parties on projects with special effects on the Alpine region

In addition to coordination within the framework of the preparation or updating of spatial development plans and participation in spatial planning procedures, information is exchanged in the case of projects with likely cross-border impacts with regard to projects requiring approval under immission control law (large-scale retail shops, construction of power plants on border streams, approval of lifts, cross-border Alpine paths) (ibid.:62). The information exchange is also confirmed by the Austrian Compliance Report (2019:115) in regard to shopping centre projects.

Affected territorial authorities are being consulted and informed through Euregio-structures or through direct contacts. Contacts are taking place between Bavaria and Austrian provinces and in the framework of the International Lake Constance Conference.

With regard to Interreg projects, it is noted that due to the heterogeneous partner structure, their outputs do not necessarily reach government agencies directly (ibid.). However, when evaluating projects, efforts are made to inform public authorities about important developments and findings. This is partly ensured when government agencies, while not in the role of official partners, provide the necessary national co-financing (BMU 2019:62). An exchange is also reported in regard to the Alpine Convention platforms and working groups.

Cross-border participation in regional spatial development plans

Participation in the consultation process has taken place between Tyrol and Bavaria in the drafting of the spatial development plan "ZukunftsRaum Tirol" (BMU 2019:73).

Establishment of specifications for contiguous areas

At the regional planning level, cross-border effects and interrelationships are considered in Regional Plan 18 Südostoberbayern with regard to the cross-border effect of the Salzburg higher-order centre⁵¹ and in Regional Plan 16 Schwaben with regard to the joint higher-order centre Lindau - Bregenz (BMU 2019:16).

4.5.2 Spatial development in general

Status-quo

Border Region Strategy 2021-2027 for the Euregio Salzburg - Berchtesgadener Land - Traunstein

The border region strategy 2021-2027 for the coming EU funding period (Euregio Salzburg – Berchtesgadener Land – Traunstein 2021) includes an analysis of cross-border strengths and weaknesses and the development of cross-border approaches and project ideas. Thematic focus topics include

- Climate neutrality through circular economy at municipal and regional level
- Strengthening the economic position through cross-border (further) education offers
- Sustainable tourism

Additional topics addressed in the strategy include safety and disaster management, nature and environment including agriculture and forestry, climate protection in the building, water management and energy sector.

Interreg IV A small-scale projects

Cross-border cooperation in the field of regional development takes place in diverse Interreg IV A small-scale projects on the level of the Euregios Bayerischer Wald - Böhmerwald & Regionalmanagement OÖ. EUREGIO Inn-Salzach & Regionalmanagement OÖ, Euregio

⁵¹ German spatial planning uses the central-place-system to assess the role of urban centres for their surrounding settlement structure. It classifies cities into higher-order, middle-order and lower-order resp. small centres, depending on their role in providing service and development functions for their citizens as well as their catchment area.

Salzburg & Berchtesgadener Land - Traunstein, Euregio Inntal-Chiemsee-Kaisergebirge-Mangfalltal, Euregio Zugspitze-Wetterstein-Karwendel and Euregio via salina (cf. Verwaltungsbehörde Interreg Bayern-Österreich 2011; Fohim et al. 2018). Topics include economy and transport, tourism, education and qualification, culture and sports, nature and environment, social affairs as well as health and youth.

Cooperation between authorities, interest groups, economic partners, tourism organizations and research and educational institutions at the regional level has therefore already become a standard procedure. Equally important is the cooperation between municipalities, associations and voluntary organizations in the immediate border area. Simplified processing criteria have had a favourable effect. The Euregios have been given full authority to advise project sponsors, set up project selection committees, issue invitations to tender and carry out accounting checks (ibid.).

Interreg IV A Project Euregional Spatial Analysis (EuLE)

Among the Interreg projects, the project "Euregional Spatial Potentials, Spatial Indicators and Spatial Scenarios as a Basis for Decisions on Innovative Spatial Development in Southeast Upper Bavaria/Salzburg", carried out from 2008 to 2011, deserves special mention. The project objectives for this intensively interwoven border region included:

- Development of cross-border data bases & spatial indicators as a basis for sustainable planning strategies for regional development.
- Application and subject-oriented development of planning bases in important cross-border issues (S-Bahn).
- Preparation of decision-making aids for a cross-border region of short distances.
- Evaluation of regional infrastructural spatial potentials (infrastructural residential attractiveness) for the densified urban-rural area.
- Derivation of future challenges of spatial development and infrastructure planning from existing spatial scenarios.
- Promotion of cross-border networking and cooperation.

The results of the EuLE project were subsequently taken up in the preparation of the master plan for the core region of Salzburg (see below, e.g. guiding principles for landscape development). The urban development concept of Freilassing, in turn, establishes a link to the Salzburg master plan.

After the EuLE project identified networking areas and housing potential along rail axes, the Euregio S-BGL-TS has been working since 2015 to involve municipalities and building authority in the process. As a result, a cross-border Interreg IV A project was planned, supported by the Province of Salzburg and the Bavarian counties. However, the project was rejected by the Bavarian side at the municipal level.

The cross-border housing issue is currently being increasingly noticed on the Bavarian side, and individual communities such as Kirchanschöring are developing housing concepts as an alternative to single-family housing. One challenge in the border region is the difference in housing subsidies between the Salzburg and Bavarian sides, especially the fact that renovation subsidies are often underutilized.

Euregio via salina Integrated border region development

Euregios are required to orient themselves towards strategy-based, integrated cross-border spatial development in the coming programming period. In the Interreg small-scale project “Integrierte Grenzraumentwicklung”, the Euregio via salina with its cooperation partner Regionalentwicklung Vorarlberg, the Euregio Zugspitze-Wetterstein-Karwendel, the Euregio Inntal as well as the Regional Management Schwaz with its associated partners Bad Tölz-Wolfratshausen and Miesbach are cooperating with a number of other associated partners to jointly develop essential foundations for the elaboration of Euregio strategies.⁵² The Euregios via salina and Zugspitze-Wetterstein-Karwendel expect to derive recommendations for strategies that are ready for decision-making.

Masterplan Cooperative Spatial Concept for the Salzburg core region

As part of the Interreg IV A program, the Austrian Province of Salzburg and the Bavarian counties of Berchtesgadener Land and Traunstein have cooperatively developed a spatial concept for the cross-border core region of Salzburg (Land Salzburg/Regio Berchtesgadener Land – Traunstein e.V. 2013). The masterplan was elaborated between 2008 and 2011 and adopted by the three political entities between 2011 and 2013. The project addressed four open key topics of the Euregio development concept (housing, economy, transport, landscape and open space) and, together with the municipal level, assessed the spatially effective projects planned for the short to medium term, identified functional areas and sites for specific uses, and defined pilot projects and measures to be implemented. Part of the process was the elaboration of a trend, business-as-usual scenario as well as a strategic and normative development scenario for the Salzburg core region.

The measures outlined in the master plan are supposed to be implemented through appropriate planning instruments at municipal, regional and provincial level.

Needs for action

Better coordination of funds and cross-program regional strategies

Weizenegger & Lemberger (2018:129ff), using the example of the Upper Allgäu, identify non-continuous funding conditions and funding objectives and different instruments on both sides of the border. For one area, several steering and funding instruments would intertwine, funding and territorial settings would overlap, and the selection procedures for LEADER projects, for example, would differ, which would make the interaction particularly complex in border regions. There is a discrepancy between the increasingly large territorial areas of the LAGs and the constant staffing in management and funding agencies (ibid.:149).

To reduce the administrative burden, the authors suggest simplifying and harmonizing the rules between funds. Furthermore, there is a need for a better coordination between funds and a structure for support and qualification for project promoters. It would be desirable to link cross-border strategies with regional and local strategies and to establish multifunctional programs

⁵² <https://www.rm-tirol.at/projekte/projekte-2014-2020/einzel/project/integrierte-grenzraumentwicklung/>

within the framework of the European Structural and Investment Funds in the sense of the Community-Led Local Development approach.

Related to this is also the demand for more scope for regional actors and the strengthening of regional governance in the context of LEADER community initiatives, but also in transnational cooperation projects (ibid:139).

Use the EGTC instrument more intensively

One interviewee emphasized the added value offered by the instrument of European Groupings of Territorial Cooperation (EGTCs). As public law entities, they are a legal entity in their own right and thus offer possibilities for action to implement territorial cooperation projects that working groups or association structures cannot provide. However, there is no EGTC in the German Alpine Convention area so far.

4.5.3 Protected areas/Protection of open spaces

Status quo

Protection and management of contiguous cross-border landscape units

In cooperation between Vorarlberg and Oberallgäu, agreements have been reached by local and regional actors as a non-binding guide for landscape development, management and use within the Interreg III B project Dynalp (BMU 2019:54). The agreements in the context of the Gottesacker plateau Landscape Development Concept and the Nagelfluh range Nature Park are to be followed up by creating incentives.

Cross-border protected area Alpenpark Karwendel

The Alpine Park Karwendel is a cross-border protected area, which on the Austrian side consists of the largest Tyrolean protected area, the Karwendel Nature Park, and on the German side of the Karwendel and Karwendel Foothills nature reserve. On the Tyrolean side, the nature park comprises various protection categories (protected area, landscape protection area, quiet area).

In addition, there are small-scale cross-border protected areas (e.g. RAMSAR).

Cross-border species and habitat protection

Cross-border cooperation between Bavarian and Tyrolean nature parks include the Interreg A-project “Vielfältiges Leben an den Gebirgsflüssen” (“Diverse Life on Mountain Rivers”). The Interreg small-scale project “Grenzüberschreitender Arten- und Biotopschutz” (2021-2022) addresses cross-border conservation of species and habitats in the Northern Alps. Habitats and species are to be highlighted and prioritised for which the nature parks have a special joint responsibility. What has so far only been done selectively and on an ad hoc basis is to be based in future on solid technical foundations and the results of ongoing and already completed projects are to be included. Within the framework of project implementation, the first step is to outline already existing plans, measures and activities in the individual nature parks. Existing information on species and biotope protection is to be compiled and prioritised. From this, recommendations for measures can be derived and the results are to be prepared for the public.

Cross-border pilot region “Berchtesgaden-Salzburg” with incorporation in landscape and land use plans (Ecological Continuum-Initiative, Interreg IV B project ECONNECT and Interreg V B project OpenSpaceAlps)

The Berchtesgaden-Salzburg region has been acknowledged by the Ministerial Conference of the Alpine Convention as a pilot region for ecological networking in the Alpine region. In the form of a cooperation agreement, five municipalities of the Berchtesgaden valley (Schönau a. Königssee, Bischofswiesen, Markt Marktschellenberg, Ramsau b. Berchtesgaden, Markt Berchtesgaden) have decided to draft a common concept, including an intermunicipal landscape plan (landscape framework planning) and separate land use plans for each municipality, entailing “priority areas for the biotope network”.⁵³

According to Pierrin et al. (2019:92ff), *“this approach is so far unique in the pilot regions of the Alpine Convention and can be regarded as exemplary”*. As a logical continuation of the results obtained to date, interconnected areas of particular importance for the ecological networking of extensively managed grassland areas have been integrated into landscape planning. In addition, all the objectives of the Species and Biotope Protection Program (ABSP) relevant to the network and the proposed measures to improve the ecological continuity of watercourses from intermunicipal watercourse development planning have been combined in a new thematic map.

Visitor management in sensitive natural areas

The Interreg small-scale project “Besucherlenkung in sensiblen Naturräumen” (2020-2022) assessed the potentials for joint approaches to visitor management and the management of cross-border protected areas and their further development for the Tyrolean Vilsalpsee and the Bavarian Allgäuer Hochalpen. Project results are planned to include a decision basis for a cross-border coordinated approach, which could potentially lead to the establishment of a cross-border nature park.⁵⁴

Needs for action

Coordination of protected areas across borders

Using the example of the Alpine Plan and the Tyrolean game reserves, Haßlacher et al. (2018:31) state that protected areas in the German-Austrian Alpine region are not defined in a cross-border coordinated manner. Other protected areas are continued across national borders only in exceptional cases. While on the Bavarian side many landscapes are largely protected by protection zone C of the Alpine Plan (e.g. Allgäu Alps, Ammer and Wetterstein Mountains as well as Chiemgau Alps), this protection is not continued on the Austrian side, particularly in regard to the Tyrolean Game Reserves (Job et al. 2020:D8). This contradicts coordinated open space protection and the idea of ecological connectivity. *“(High) mountain landscapes, which are defined by natural space and not by administrative borders, are only secured in a dispersed manner and not in a coordinated manner in terms of planning, which makes a much more*

⁵³ <https://www.gemeinde.berchtesgaden.de/media/Flaechennutzungsplan/FNP-Begrueendung.pdf>

⁵⁴ <https://www.rm-tirol.at/projekte/projekte-2014-2020/einzel/project/besucherlenkung-in-sensiblen-naturraeumen/>

intensive cross-border cooperation in spatial planning and spatial planning in this respect seem imperative in the future" (Haßlacher et al. 2018:31).

In the Interreg V B project OpenSpaceAlps, the Alpine Plan approach is being applied for the pilot region Berchtesgadener Land/Tennengau for all three Alpine Plan zones (A, B, C), considering also open space protection and agricultural priority areas.

In the foothills of the Alps, the process to establish the nature park Salzachauen planned by the Province of Salzburg lead to a conflict within the Euregio as the Bavarian side did not feel sufficiently involved in the cross-border conceptualization process.

4.5.4 Reduction of land take/Soil protection

Status quo

Cross-border land management - prerequisite for sustainable settlement development in the Salzburg area

The project "Cross-border land management - prerequisite for sustainable settlement development in the Salzburg area" refers to the Masterplan Salzburg and builds on the Interreg IV A project EuLE. The cross-border project area with an area of approx. 516 square kilometers and approx. 273,000 inhabitants (as of 2013) represents the central settlement core of the Masterplan Core Region Salzburg. Increasing settlement pressure, demographic change, rising residential floor space per capita, the trend toward smaller households and urban sprawl represent current challenges in spatial and settlement development. A future careful handling of the available building land and a cross-border land management are considered as indispensable in order to use social, ecological, building and landscape structures in a resource-saving and sustainable way.

The main objective of the project is the elaboration of hitherto unavailable planning bases for municipalities and authorities in order to address the future challenges of the European Region Salzburg with regard to settlement pressure and land competition in a joint land management. For this purpose, new spatial analytical approaches and thematic spatial indicators were developed using methods of geographic information processing.

The project included the following work steps:

- Assessment of the cross-border comparability of existing data bases and the technical resilience of indicators derived from them.
- Evaluation of spatial indicator concepts, GIS analysis models and evaluation criteria for the large-scale derivation of building land potentials in the existing stock.
- Development of indicators on land consumption; among other things, also for the localization of possible land inefficient trends.
- Development of a concept to compare demographic and building developments on a large scale: e.g. analysis of historical developments as a basis for scenarios.

- Evaluation of spatial indicators for settlement development (infrastructural location qualities) with GIS-based methods taking into account cross-border data availability⁵⁵.

As a result, the project provided comprehensive data bases for the integrative consideration of land consumption, demographic development and infrastructure. Project partners included the Province of Salzburg, the Bavarian State Ministry of Finance, Regional Development and Community, the government of Upper Bavaria and Euregio Salzburg - Berchtesgadener Land - Traunstein.

Bavarian-Austrian Land Saving Forum 2015

The Bavarian Land Saving Forum (Flächensparforum), a biennial event organized by the Bavarian Land Saving Alliance (Bayerisches Bündnis zum Flächensparen), took place in Bad Reichenhall in 2015 as a cross-border event with contributions and participants from Austria. The goal was a cross-border exchange of experiences on land saving (Compliance Committee of the Alpine Convention 2019:20; Badura et al. 2018:39), addressing administration, local politics and planners.

Needs for action

Due to the ongoing settlement development, open space protection is a suitable field of action for spatial planning cooperation with regard to the expansion and harmonization of instruments as well as the exchange of experience. Experts suggested to elevate the previous municipal action to a supra-municipal level.

4.5.5 Water management

Status quo

Transboundary flood protection in the Saalach valley

In 2001, the 15 Austrian and Bavarian communities in the Saalach catchment area signed a resolution and a voluntary commitment to the ecological improvement of the Saalach river course. The resolution deals, among other things, with spatial planning aspects such as the improvement of ecological structures, longitudinal permeability and the preservation, protection and restoration of retention space. It goes back to an initiative by the city of Bad Reichenhall as part of its activities as Alpine Town of the Year in 2001. Subsequently, numerous measures have taken place that serve both ecological improvement and flood protection (BMU 2019:17).

Transboundary water management measures

In recent years, cross-border coordination and cooperation in water management has taken place in the form of cross-border flood protection on the Salzach and Saalach rivers (Flood Conference, Joint Declaration) and a bank extension on the Saalach river coordinated between the Salzburg and Bavarian water management authorities.

⁵⁵ Cited: <http://giplus.de/projekte/projektinfogruelf/>

4.5.6 Transport

Status quo

Route identification procedure for the access route to the Brenner Base Tunnel

As part of the route-finding procedure for the northern run-up to the Brenner Base Tunnel on the German side, Tyrol was involved in the regional planning procedure: *"From the point of view of cross-border cooperation, talks were held with the Office of the Tyrolean Provincial Government in November 2019 and May 2020. As part of the cross-border participation, comments were received from two Tyrolean municipalities as well as the Office of the Tyrolean Provincial Government and the Tyrolean Chamber of Commerce."*⁵⁶

In January 2021, the regional planning procedure was concluded with a positive assessment of spatial compatibility for four of the five routes.

Tourist cross-border local transport connections

Due to the close interdependence also in leisure traffic, cross-border local transport connections such as the Außerfernbahn, the bus from Oberaudorf to Bernau a. Chiemsee as well as the bus connection Kufstein-Bayrischzell have been (re-)established.

In the case of the Außerfernbahn, Bavaria and Tyrol have agreed for the first time in 2020 on a joint tender for local rail passenger transport services from 2025. The cross-border coordination is intended to improve rail connections between Bavaria and Tyrol and achieve a modal shift effect. The agreement also includes the completion of electrification on the Bavarian side by the end of 2021.⁵⁷

Mobility concept Bad Hindelang – Tannheimer Tal – Pfronten

The region is characterised by intensive transport interconnections and burdened by individual motorised traffic. To address this, a cross-border mobility concept is currently being elaborated that identifies needs of action both in regard to timelines (short-, medium- and long-term), but also in regard to spatial level (local, regional, supra-regional)⁵⁸. In order to improve climate-friendly mobility, the concept is focussing on service options and their feasibility.

A close exchange with the Interreg-project "AB266 Attraktivierung der Regionalbahnen"⁵⁹ (attractivation of regional railways Außerfernbahn, Mittenwaldbahn/Werdenfelsbahn between Innsbruck, Munich and Kempten) is foreseen.

⁵⁶

https://www.regierung.oberbayern.bayern.de/mam/dokumente/bereich2/pfb/raumordnung/rov/2021/2021_01_28_landesplanerische_beurteilung_rov_bnz.pdf

⁵⁷ https://www.meinbezirk.at/reutte/c-lokales/das-angebot-der-bahn-soll-verbessert-werden_a3881241

⁵⁸ <https://www.rm-tirol.at/projekte/projekte-2014-2020/einzel/project/mobilitaetskonzept-bad-hindelang-tannheimer-tal-pfronten/>

⁵⁹ <https://extranet.allgaeu.de/ab266-attraktivierung-der-regionalbahnen>

Needs for action

Regional/supraregional development, traffic calming and restriction of private transport

Regarding the implementation of Art. 9 of the Spatial Planning Protocol, it is noted that German spatial plans and programs only partially provide for measures to improve regional and supra-regional development. Furthermore, measures for traffic calming and, if necessary, for the restriction of motorized traffic are missing here (Alpine Conference, Compliance Committee 2011:25).

4.5.7 Energy

Needs for action

Consultation on energy projects with cross-border effects

The 2011 Compliance Committee Report (Alpine Conference 2011:7) saw a need for improving early notification on energy projects with cross-border effects, e.g. between Austria, Switzerland and Germany.

4.5.8 Tourism

Needs for action

Managing competition in tourism development

In view of the economic competition between municipalities, valleys, regions and countries, Haßlacher et al. (2018:25) call for an Alpine-wide discussion in regard to the remaining open spaces. Spatial planning would have to regain significant importance and a cross-state consensus on development goals would have to be found.

In the border region between southeastern Upper Bavaria and Salzburg, the development of spas and the associated competitive situation posed a spatial planning challenge a few years ago (Reichenhall, Berchtesgaden, Golling, Saalachtal, Paracelsus-Bad).

4.5.9 Commerce and retail

In the study area, expert opinions on retail development and purchasing power flows have been conducted for quite some time, which also address cross-border relations (see SABE V below). Currently, this includes a study by the city marketing Kufstein on the outflow of purchasing power to Kiefersfelden/Rosenheim and the associated significant border traffic, as well as an expertise commissioned in 2015 by the Tyrolean Provincial Government on the future of retail.⁶⁰ According to the Austrian Compliance Report (2019:115), Bavaria is duly informing Tyrolean authorities in the planning process of shopping center projects.

⁶⁰ https://www.piu.gv.at/data.cfm?vpath=dokumente_aussen-/studie-eh-weiterentwicklung/endbericht-weiterentwicklung-einzelhandel-tpdf

Status quo

The “Bergener Resolution” (see chapter 0) is mainly addressing projects related to commerce and retail.

Cooperation between Bavaria and Upper Austria on large-scale retail projects

According to an agreement signed on 08.08.2007 on intensified cooperation between the Office of the Upper Austrian Provincial Government and the Free State of Bavaria, all settlement and large-scale retail expansion projects will be subject to a spatial planning review. In the case of projects that are expected to have an impact across borders, cooperation between Bavaria and Upper Austria will be intensified as follows:

- Early mutual participation in the spatial planning review procedures.
- Exchange of experience on the control instruments available to spatial planning and their effect.
- Exchange of information on plans that have become known and on the respective status of project development.

The agreement responded to a need for coordination with regard to settlement and expansion projects of large-scale retail trade. According to the signatories, a race to the bottom should be avoided in favour of functioning retail and local supply structures in the town centres (Land Oberösterreich 2007).

Salzburg-Bavaria structural study of retail trade interrelationships (SABE-V)

The SABE-V study (CIMA 2005) was the first comprehensive study of retail trade in the state of Salzburg and the districts of Traunstein and Berchtesgader Land. The following recommendations for action were formulated on the basis of a purchase flow analysis, a sector mix analysis and town and city centre delineations:

- targeted, selective location of retail, preferably to strengthen town centres,
- Euregio-wide retail trade coordination (criteria catalogue, restrictive designation of new large-scale projects),
- Thinking in terms of cross-community/cross-border shopping areas,
- and endowment of a Euregio-wide local and urban core innovation fund.

Needs for action

An interviewee sees the lack of consideration of the retail trade across the border as a shortcoming. This topic is currently not coordinated in planning and an “arms race” can be observed on both sides of the border (e.g. drugstores). It would be worthwhile to look at product-specific flows, e.g. in the case of refuelling and shopping traffic (drugstores, cheese in the Lower Inn Valley).

Comparable cross-border commuter statistics

One interviewee sees a benefit in comparable commuter statistics between Germany and Austria. These are available for the Austrian, but not for the German national territory for the spatial reference level of 500 m grid cells. Accordingly, cross-border evaluations of commuter catchment areas end at the municipality level.

Reduce tourism cluster risk in winter tourism

In order to counteract a cluster risk, one interviewee suggested to balance tourism flows between Bavaria and Tyrol in winter tourism.

4.6 France – Italy

For French border regions, the Cross-border Operational Mission (MOT, Mission Opérationnelle Transfrontalière⁶¹), an association created in 1997 by the French government, is focussing on cross-border territories, issues and locally adapted responses. Its mission includes providing expertise at the level of cross-border territories, serving as a networking platform and resource centre and promoting the interests of cross-border regions at national and European level.

In the framework of the funding program “Petites Villes de Demain” (PVD, “Little towns of tomorrow”), MOT carried out a study on small Alpine towns near borders⁶², including the towns of Sospel, Breil, and Tende in the French Alpes-Maritimes.

4.6.1 Spatial planning in general*Status quo**Cross-border cooperation scheme Nice Côte d’Azur – Genoa – Torino – Monaco*

Implementing the requirement to elaborate cross-border cooperation schemes under the French MAPTAM⁶³ law (see 0), the border metropole of Nice Côte d’Azur cooperates with the metropolises of Genoa, Torino and Monaco since 2018 and has elaborated a cross-border strategy and action plan 2020-2030 (Mission Opérationnelle Transfrontalière 2019, Metropole Nice Côte d’Azur 2020).

4.6.2 Spatial development in general*Status quo**Interreg V A program ALCOTRA*

Strategically, the Interreg V A France-Italy program (ALCOTRA - Latin Alps COopération TRAnsfrontalière)⁶⁴ (French Compliance Report 2019:69, Region Sud Provence Alpes Cote d’Azur 2020) is designed to promote innovation, a safer environment, the valorization of natural and cultural resources and social inclusion. Since 1990, the program co-financed roughly 600 projects with ca. 550 Mio. EUR EU-grants. At the same time, it is supposed to address climate change issues, sustainable mobility and youth employment and education in the cross-border area. Actions in these priorities will be complemented by efforts to foster closer co-operation of

⁶¹ <http://www.espaces-transfrontaliers.org/la-mot/les-territoires-transfrontaliers/>

⁶² http://www.espaces-transfrontaliers.org/fileadmin/user_upload/documents/Documents_MOT/Etudes_Publications_MOT/PVD/Introduction_petites_villes_aux_frontieres.pdf

⁶³ LOI n° 2014-58 du 27 janvier 2014 de Modernisation de l'Action Publique Territoriale et d’Affirmation des Métropoles

⁶⁴ https://ec.europa.eu/regional_policy/en/atlas/programs/2014-2020/italy/2014tc16rfcb034

administrations. The objective is to facilitate integrated and sustainable development of the border region encompassing on the French side the regions Rhône-Alpes (Savoie, Haute Savoie) and Provence-Alpes-Côte d'Azur (Alpes de-Haute-Provence, Hautes-Alpes, Alpes-Maritimes) and in Italy the Piemonte (Torino and Cuneo) and Liguria region (Imperia, Autonomous Region of Valle d'Aosta) (see Source: www.Interreg-alcotra.eu).

Figure 3).

To achieve these strategic objectives, the program aims at increasing the number of joint innovation projects, developing innovative models for sustainable public buildings, improving territorial planning and the prevention and resilience towards environmental risks, increasing sustainable tourism, improving habitat management, increasing the number of strategic actions towards sustainable mobility, promoting the attractiveness of mountain and rural areas for families and young people, and increasing the education and training offer of the cross border area.

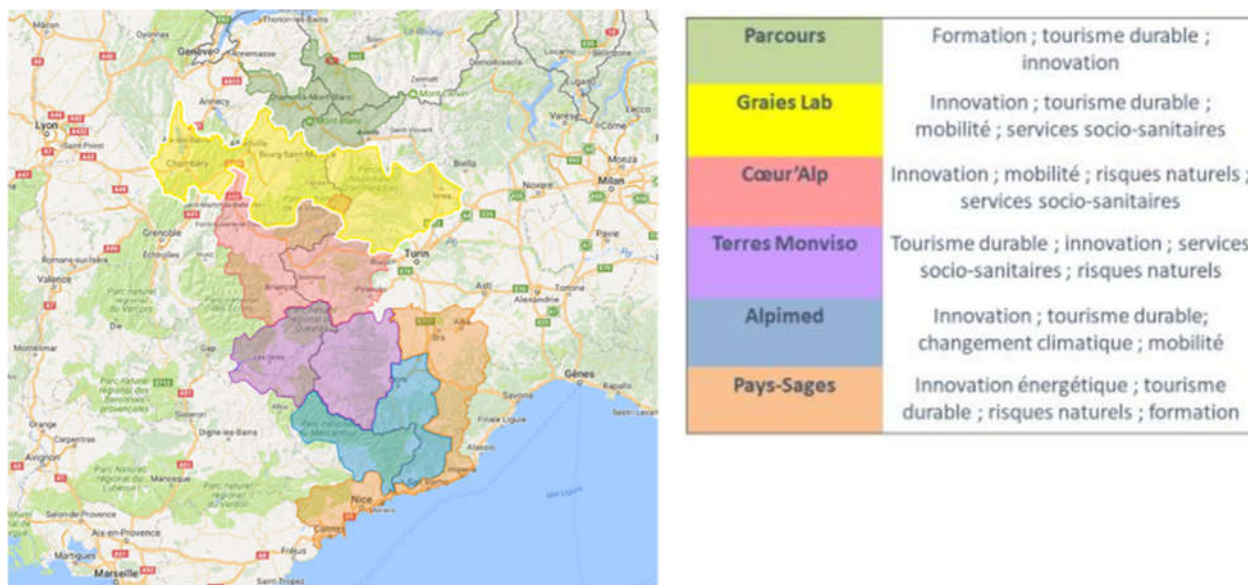
The ALCOTRA program foresees integrated plans at the territorial level that display a strong territorial or thematic strategy. These can

- contain up to five simple projects, namely one project for the coordination and communication of the proposed strategy and four simple projects,
- have an implementation period of four years,
- have a coordinator chosen from among the partners of the integrated plan,
- have a maximum of ten partners, each partner can have three delegates.

The ALCOTRA program differentiates two types of integrated plans:

- Integrated Territorial Plans (PITER), focussing on economic, social and environmental development of a cross-border territory through the implementation of a common strategy. They are multi-thematic (meaning they can be part of different axes and objectives of the program) and can be implemented in a territory consisting of a maximum of three contiguous territorial units (departments/provinces).
- Integrated Thematic Plans (PITEM), focussing on standardised approaches and pooling tools between different stakeholders in a given sector (e.g. on natural hazard management and risk communication (PITEM RISK), or on innovation capacity, competitiveness and sustainability (PITEM CLIP) and in a cross-border perspective, with a view of coordinated and effective action in the long term. They are mono-thematic and are composed of single projects that refer to a theme and specific objective of the program.

Additionally, mono-thematic cross-border projects such as AD-VITAM, which addressed risk prevention and developed operational systems for prevention, forecasting and warning to be applied by operational actors in the ALCOTRA territory such as spatial planning authorities, are carried out with ALCOTRA funding.



Source: www.Interreg-alcotra.eu.

Figure 3: ALCOTRA territory and PITER for the 2014-2020 period.

Currently, programming procedures are underway for the 2021-2027 funding period.⁶⁵

ALPIMED-strategy "Interconnections in the heart of the Mediterranean Alps"

In the framework of the Interreg V A ALCOTRA-program, the ALPIMED strategy sets out to promote cross-border synergies with a focus on developing common services and increase innovation in the Mediterranean Alps in the fields of tourism, crafts, agriculture and mobility. Main partners include Métropole Nice Côte d'Azur, the chambers of commerce and industry of Nice Côte d'Azur (NCA), Cuneo and Ligurie, EGTC European Parc Alpi Marittime Mercantour, Region Ligurie, Communauté d'agglomération de la riviera française (CARF), Parco fluviale Gesso & Stura, Department Alpes-Maritimes and the Province of Cuneo. Worth mentioning is the cross-border cooperation between the chambers of commerce Nice Côte d'Azur (NCA), Cuneo and Ligurie in the ALPIMED framework.

For the ALPIMED partnership, no governance structure comparable to the Conférence des Hautes-Vallées (see below) for CœurAlp has yet been established.

Specific projects are:

- ALPIMED Innov, promoting cooperation between companies, territorial actors, inhabitants and research centres, disseminating innovation and promoting an ecosystem of applied innovation (see below)
- ALPIMED Clima
- ALPIMED Patrim
- ALPIMED Mobil

Integrated Territorial Plans (PITER) in the ALPIMED-project encompass up to 10 partners around a coherent and functional geographical area, including the territorial units of Haut-Savoie, Savoie,

⁶⁵ <https://www.Interreg-alcotra.eu/fr/Interreg-alcotra-2021-2027>

Hautes-Alpes, Alpes de Haut-Provence, Alpes Maritimes on the French side and Valle d'Aosta, Torino, Cuneo and Imperia on the Italian side.

Following the natural disaster of storm Alex (October 2020), actions that have initially been planned in the ALPIMED program have been reoriented towards new priorities.

Espace Mont-Blanc

Since 1992, the French regions of Savoie, Haute Savoie, the Italian Aosta valley and the Swiss canton Valais cooperate in the Espace Mont-Blanc under the leadership of the “Conférence Transfrontalière Mont-Blanc” to implement joint projects in the fields of transport, tourism, landscape protection and agriculture. The “border cooperation initiative for the protection and enhancement of the region” is active in a variety of spatially relevant topics, including tourism, natural hazards, cultural heritage and climate change. Contractual arrangements in regard to cross-border cooperation are particularly relevant for the French side; they address topics such as tourism, agriculture and spatial planning in general.

Concrete initiatives include:

- the realisation of actions in the framework of the Transboundary Integrated Plan (PIT) 2007-2013, financed by the European Program for French-Italian cooperation (ALCOTRA)
- Integrated Territorial Plan PITER PARCOUR “Pathways: A heritage, an identity, shared paths” (PITER PARCOUR UN PATRIMOINE, UNE IDENTITÉ, DES PARCOURS PARTAGÉS), aiming to promote cooperation between French-Italian Alpine border territories. The PITER was established in order to create cross-border synergies for the benefit of an increasingly integrated tourism offer, easier sustainable mobility and an innovative educational program in schools.
- launching priority actions in the framework of the Stratégie d'Avenir Pour le Mont Blanc (“Strategy for the Future of Mont Blanc”)
- the future establishment of an EGTC
- and the AdaPT Mont Blanc project (see 0), addressing climate change adaptation through spatial planning in the Espace Mont-Blanc

Stakeholders involved in the Espace Mont-Blanc include municipalities, regional/cantonal governments, technicians, economic operators and environmental associations.

Observatoire du Mont Blanc

The Mont Blanc Observatory (OMB)⁶⁶ is a territorial monitoring tool created in 2012 as part of the PIT Espace Mont-Blanc Base Camp project. The OMB responds to the Sustainable Development Scheme (SDS) adopted in 2005 by Espace Mont-Blanc, with the aim of monitoring programs and actions envisaged, in particular giving stakeholders reliable and transparent information on the state of the territory and on the application of the principles of sustainable development.

The OMB has the essential role of indicator-based observation of the state of the Espace Mont-Blanc cross-border territory and its natural environments as well as the concrete application of

⁶⁶ <http://observatoire.espace-mont-blanc.com/>

the recommendations, strategies, action plans and measures of the SDS. Its objective is to identify and evaluate their effects on the territory, thus functioning as a monitoring and alert system.

The observatory performs the following functions:

- provides a set of statistical data and baseline analyses, intended to cover all aspects of the socio-economic and environmental state;
- common knowledge instrument (reference framework) either for the implementation of actions and decision-making or at the service of local economic and social actors;
- tool for analysis and communication through the sharing and valorisation of territorial data between regional stakeholders (public services, companies...);
- supports the actors involved in carrying out the actions provided for by the SDS, by offering a homogeneous and coherent perception of the situation and the development of the Espace Mont-Blanc;
- evaluates the effectiveness of SDS actions and provide guidance on results and desirable improvements through the publication of periodic reports to stakeholders and the public.

Conference of the French-Italian Alps (CAFI)

In 1998, the Conférence des Alpes Franco-Italiennes (CAFI) was established between the French departments of Alpes-Maritimes and Alpes-de-Haute-Provence, Hautes-Alpes, Isère, Savoie and Haute-Savoie, the Italian provinces of Imperia, Cuneo and Turin, and the Autonomous Region of Valle d'Aosta. In the early 2000s, CAFI has commissioned extensive studies on cross-border spatial development⁶⁷, focussing on transport, regional added-value chains and tourism complementarity in the region.

In recent years, CAFI activities have come to a halt. However, as the recent Quirinal Treaty signed between Italy and France on November 26, 2021 foresees the establishment of a cross-border cooperation committee to strengthen cross-border cooperation (incl. ecological transition), the CAFI process might be reactivated.

Conference Hautes Vallées/Territoire des Hautes Vallées

Based on a history of cooperation dating to the early 1990s, the intermunicipal structures of Pinerolo, the Sangone and Susa valleys, the Grand Briançonnais and the Maurienne, have formed the "High Valleys Conference"⁶⁸, a voluntary instrument that combines in a single set of reference the political and technical dimension of cross-border areas. 14 local authorities in Italy (Piemonte) and France (Auvergne-Rhône-Alpes, Provence-Alpes-Côte d'Azur) have joined the territorial governance structure. A respective association was formed in 2007. It also serves as a governance structure for the CoeurAlp initiative and the PITER "Hautes Vallées - Coeur des Alpes" (2014-2020) and ensures the continuity of political support, technical collaboration and networks of actors after the deadline of the projects.

⁶⁷ <https://www.departement06.fr/les-programs-europeens-dans-les-alpes-maritimes-pour-la-programmation-2014-2020/structuration-de-la-cooperation-franco-italienne-2755.html>

⁶⁸ <http://www.espaces-transfrontaliers.org/bdd-territoires/territories/territory/show/conference-des-hautes-vallées/>; <http://altevalli.eu/>

On the basis of the key issues identified, the results achieved and the potential links for the following EU programming periods, the local authorities participating in the Conference decided to renew the commitment to cooperation in 2005.

The Conference Hautes Vallées promotes the following objectives with a spatial planning dimension:

- Local governance processes for sustainable development;
- participatory planning, bottom-up process, identification of projects carried out by the territories);
- integrated economic added values, territorial systems of cross-border tourism, agricultural and forestry sectors, better use of resources (water, etc.);
- policies and interventions of territorial cohesion across borders.
- The programming - integrated spatial design also meets the following needs:
 - Identify areas of territorial cooperation of significant size and coherent geographical, socio-economic, administrative aspects;
 - Implement development policies aimed at the exploitation of local resources and the stimulation of synergies and relationships with other regions and with other bodies and institutions (municipalities, provinces, departments, regions), and territorial planning.

According to an interview partner, it is important to distinguish the territorial governance „Territoire des Hautes-Vallées“ with its focus on elected officials and the financial tool of the Interreg ALCOTRA cross-border program. The interview partner identifies the following success factors for the territorial governance of the „Territoire des Hautes-Vallées“:

- Common history (tradition of cooperation, shared culture, republic in the midst of monarchies),
- Geographic proximity and common characteristics,
- Habit of cooperation between elected officials and technicians dating back to 1990, including the establishment of a position dedicated to international cooperation in 2009,
- Shared infrastructure (Briançon hospital, ski resorts) and projects (Lyon-Torino railway link),
- Financial programs such as ALCOTRA.

Respective obstacles include:

- Periods of institutional reforms, e.g. the evolution of inter-municipal entities based on the French law on the new territorial organisation (Loi Notre, August 7th 2015) and the Italian mountain communities, which could weaken cross-border structures and cooperation.
- Differences in partner structures, particularly staff capacities.

The metropolises functioned as an important factor for continuity in periods of weak intercommunal structures. Topics of cross-border cooperation include

- tourism,
- natural risks (cross-border exchange of information, methods, pilot sites, while planning and implementation remains at the scale of territories)
- and sustainable mobility (with the Briançon hospital representing the most advanced example for cross-border mobility planning between France and Italy).

In regard to future perspectives, the financial capacities and structure of a EGTC is seen as beneficial to locally manage cross-border activities such as waste management, cross-border ski resort Voie lactée / Via Lattea Montgenèvre – Clavière, cross-border mobility in the form of a shuttle between the international train stations of Modane and Susa as well as developing a cross-border cyclo-touristic product.

PITER CoeurAlp

Initiated by the association of the Hautes Vallées Conference, the PITER CoeurAlp aims to concretize the established regional cross-border cooperation and strategy by strengthening attractiveness, economy, governance and local life through four axes:

- Boost the fabric of local businesses by encouraging innovation,
- Offer alternative and sustainable mobility solutions,
- Contribute to the resilience of the territory through new practices for managing natural hydrological risks,
- Ensure a quality standard of living with adapted and innovative services of general interest.

Through the Alpine pass Col du Montgenèvre, the PITER features a real territorial dimension, characterised also through the town partnership between Modane and Bardonnechia in the context of the Lyon-Torino railway project.

Pay-sages – Wise country

The project aims to initiate balanced and common development dynamics between strong regional centers and peripheral areas of the ALCOTRA territory through linking the socio-economic development of the interior regions (back of the Ligurian and French coasts, mountainous regions of the Upper Tanaro Valley and Haute Langue) with powerful economic territories (Côte d'Azur and Riviera dei Fiori) in order to trigger dynamics of mutual support. Objectives include the efforts to realise a polycentric functional cross-border space that is opposed to the traditional vision based on the contrast of urban and rural space (PAYS ECOGETIQUES project).

Around the issue of landscape protection and qualities, interventions (e.g. PAYS-SAGES Pays aimable, PAYS CAPABLES) include participation and awareness raising, training activities to local communities and a strategic tourism plan.

Needs for action

For the ALPIMED initiative, a need has been identified to establish a governance structure similar to the Hautes Vallée Conference to more directly involve partners and citizens in future programs.

4.6.3 Protected areas/protection of open spaces

Status quo

Integrated cross-border plan for the UNESCO Biosphere Reserve Monviso

The Parco del Po Cuneese and the Parc naturel Régional du Queyras, within the ALCOTRA European Program for cross-border cooperation (Alpi Latine COoperazione TRAnsfrontaliera),

have implemented the Integrated cross-border plan, PIT (Piano Integrato Transfrontaliero/Integrated Cross-border Plan) “Monviso: l’uomo e le territoire”⁶⁹ with the aim of developing the Monviso area by strengthening relations between the people and the territory. The PIT Monviso activities started in 2010 and ended in 2013, including participation and networking to protect and enhance local resources and promote “slow tourism”.

The PIT cross-border territory stretches from the French mountain areas of Guillestrois and Queyras (the north-eastern part of the Département des Hautes-Alpes), through Colle dell’Agnello, to the Roero hillside across Valle Maira, Valle Varaita, Valle Po, Bronda and Infernotto and to the area around Saluzzo, to Racconigi and Savigliano (north–western side of the Cuneo Province).

PITER Terres Monviso

Initiated in 2018 within the ALCOTRA program and including the Cuneo Province and the Departments of Alpes de Haute-Provence and Hautes-Alpes, the PITER “Terres Monviso” aims at

- ensuring cross-border governance on the territory by integrating all the actors in charge of the development of green economies (Eco).
- developing a communication strategy and common promotion of the territory in order to improve tourist positioning of the cross-border territory in the international market (T(ou)r).
- preventing and supervising the natural risks of the territory in order to secure traffic in the mountains (Terres Monviso – Risk[K]).
- promoting access to medical and social services for residents living in remote areas (Terres Monviso – InCL).

A challenge for this particular PITER could be the imbalance of the population it represents – roughly 30.000 on the French side and 120.000 on the Italian side.

EGTC Parc européen Parco europeo Alpi Marittime – Mercantour

The EGTC was established to facilitate and to promote cross-border cooperation between its members. It aims to facilitate and promote cross-border cooperation on the territory of the two parks. Following the specific competences of its members, the EGTC implements projects on biodiversity protection, protection of the cross-border landscape and common natural and cultural heritage, environmental education and bilingualism, sustainable agriculture, sustainable tourism and sustainable mobility.

An Action Plan is defined every 5 years, outlining specific interventions for the restoration of the natural and cultural heritage. Additional responsibilities include the promotion and management of the territory’s inscription in the list of the UNESCO World Heritage and the management of EU-financed projects.

⁶⁹ <http://www.monviso.eu/eng/pit.aspx>

Biodiv'Alp - Protecting and enhancing biodiversity and Alpine ecosystems through a partnership and a network of cross-border ecological connectivity

The Integrated Thematic Project (PITEM) Biodiv'Alp⁷⁰, involving the Regions of Sud Provence-Alpes-Côte d'Azur, AuvergneRhône-Alpes, Liguria and Piedmont, focusses on the protection of biodiversity and Alpine ecosystems. It entails the creation of a cross-border partnership aimed at combining efforts and strategies useful for the conservation of habitats and species with shared and concrete methodologies and actions, also involving regional economic stakeholders. Several sub-projects specifically address cross-border topics, e.g.

- Protecting transalpine biodiversity through major cross-border coordination (COEVA).
- Managing biodiversity reserves by harmonizing the methods of management of protected Alpine areas in regard to identifying the factors of degradation and the relative management methods (GEBIODIV). This sub-project also produced a cross-border analysis of environmental observatories.
- Protecting species and ecosystems through transalpine ecological connectivity with conservation/creation/restoration of ecological corridors (BIODIVCONNECT).

4.6.4 Transport

Status quo

According to the French Compliance Report (2019:71), early consultation of other Contracting Parties is taking place particularly in regard to the transport network and energy infrastructure.

CoerAlp en mouvement (PITER Interreg Alcotra)

In the framework of the Les Hautes Vallées Smart Destination strategy, the project "Hautes Vallées Mobilité – CœurAlp en Mouvement"⁷¹ - aims to reduce car-dependency and develop mobility alternatives through new solutions for connection and information between territories and more environmentally friendly modes of travel. The aim is to combine external access and already existing intermodal approaches with new solution intended for businesses, residents, workers and tourists alike.

Thus, based on the sharing of territorial diagnoses and cross-border consultations, the partners jointly carry out actions in favour of the implementation of more sustainable public transport, innovative transport services, organised and spontaneous carpooling as well as the development of bicycle and e-bike travel modes.

Activities include improving access to information and strengthening cross-border coordination of intermodality. The results of the actions and experiments are expected to feed into diffusible and transferable cross-border soft mobility strategies.

⁷⁰ <https://www.regione.piemonte.it/web/temi/ambiente-territorio/biodiversita-aree-naturali/piano-integrato-tematico-pitem-biodivalp>

⁷¹ <https://www.Interreg-alcotra.eu/fr/decouvrir-alcotra/les-projets-finances/coeur-en-mouvement>

PITER ALPIMED MOBIL

Under the ALPIMED umbrella, this thematic project aimed to promote sustainable mobility in the cross-border area between the Provinces of Cuneo and Imperia and the Department of the Maritime Alps with a focus on mobility needs of inhabitants, commuters and tourists. The project studied the flows related to different types of mobility (bike, pedestrian, motorized and public transport-related) in order to promote the use of the Cuneo/Ventimiglia/Nice rail line, triggering changes in mobility behaviour involving communication campaigns and the creation of multi-modal centres and promoting the use of more sustainable means of transport (bikes and electric shuttles, vehicle charging stations near railway stations).

The PITER ALPIMED MOBIL focusses on co-building models of intervention on its territory in order to facilitate the emergence of a development scheme at cross-border scale: better management of natural resources and a particular attention to climate change; valorisation of the natural patrimony through eco-tourism; maintaining of a cross-border mobility and utilisation of innovation and access to information technologies to support the local economy.

4.6.5 Natural hazards

Status quo

Coeur resilient

As one strand of the PITER Hautes Vallées Coeur des Alpes strategy, the coeur resilient project⁷² aims at limiting the vulnerability of the territory by strengthening its capacity to prevent risks and react to natural hazard events. The focus lies on the tourism sector as the region's main economic sector. Activities include the cross-border sharing of critical factors and data analysis. The cross-border added value lies in the identification of common elements of emergency management in differing administrative systems.

ART_UP_WEB

The objective of the Alcotra project ART_UP_WEB (2016-2019) was to increase the resilience of cross-border territories by using a web platform. The project aimed at providing local authorities and, subsequently, users of the cross-border territory, with shared and integrated natural risk management tools.

The Italian and French parts of the region feature different services and procedures for risk management. The implementation of a robust and common policy for the prevention of natural hazards also depends on the available data. Therefore, the main output was the realization of integrated management tools for improving the resilience of cross-border territories using available computerized data, in particular for road management.

The Art_Up_Web project included, among other things, the experimental implementation of:

- a decision-making support tool for the management of natural risks, allowing risk management stakeholders access to all available data and information;

⁷² <https://www.Interreg-alcotra.eu/fr/decouvrir-alcotra/les-projets-finances/coeur-resilient>

- a section of the CLV (Local Avalanche Commission) web platform dedicated to avalanche risk scenarios, with regard to events that interact with roads, infrastructure etc.;
- a methodological prototype for the characterization and analysis of the resilience of territories based on the analysis of the resilience of road networks.

4.6.6 Climate change

Status quo

ALPIMED Clima

The CLIMA-project and the associated PITER ALPIMED⁷³ in the framework of ALPIMED (see above) intends to develop convergences of behaviour and practices between the competent actors of the transboundary area in order to agree on a strategy of climate change adaptation that also benefits the economy and biodiversity. The CLIMA project aims to improve territorial planning of public institutions for adaptation to climate change by improving the knowledge of both the resources and the impacts they suffer, identifying efficient and sustainable solutions that will provide concrete tools and raise awareness to facilitate the necessary change of practices.

Under the leadership of the Metropolis Nice Cote d'Azur, seven regional partners cooperate to achieve the following objectives:

- Consolidate and provide climate data in order to raise awareness of the impacts of climate change among all actors in the territory
- Experiment to understand and ensure the development of territorial planning tools including practices to combat climate change
- Become exemplary in terms of good environmental practices and as an actor in the fight against climate change
- Support mountain economies in the face of climate change
- Gather stakeholders in the Mediterranean Alps around common objectives to combat climate change

Envisaged achievements include

- Strategic and territorial studies.
- Experiments to reduce resource consumption and protect the environment, notably water resource management for agriculture. Based on a survey among farmers on their access to water resources as well as a diagnosis on farm structures and investment needs, short-term needs for water resources can be anticipated.
- Actions to raise awareness and engage the public in climate action.
- Adoption of a cross-border climate strategy: This key action of ALPIMED CLIMA represents a decision tool for political management, including legal aspects, in order to elaborate a document with realistic commitments to be signed by ALPIMED partners as well as private and public actors of the territory. It is based on existing climate plans and strategies in the French and Italian Alps as well as the Climate Action Plan 2.0 of the Alpine Convention.

⁷³ <https://imredd.fr/en/projet/clima-en/>

- Definition of a climate model at the scale of the Mediterranean Alps. In this regard, a common FR-IT climate scenario was elaborated for the whole ALPIMED territory. It constitutes a base to model climatic components such as temperature or precipitation and is used with a focus on ski resorts and agriculture.

AdaPT Mont Blanc

With a focus on in the regional context of Valais, Valle d'Aosta and Vallée de Chamonix, AdaPT Mont Blanc⁷⁴ is a strategic project of the Espace Mont-Blanc cross-border cooperation initiative (see above), aimed at providing a cross-border approach to address critical issues and find common responses to climate change. The overall objective of the project is to develop spatial planning and management tools for climate change adaptation. These tools are meant to be integrated and adopted by public institutions in the Espace Mont-Blanc at local and regional levels, through a participatory process and a cross-sectoral approach.

The Espace Mont-Blanc, through all the tools, initiatives and mechanisms implemented under the project, offers local administrators and technicians the opportunity to share knowledge on global warming, benefit from a common reference framework and exchange good practices. In particular, the following results have been achieved:

- Development of specific climate scenarios.
- Implementation of a participatory process involving more than 200 local administrators and technicians from the three countries.
- Mont Blanc Observatory (OMB), a support tool for monitoring cross-border strategies by sharing information from the three countries, which are often characterised by different organisational arrangements.
- The cross-border "Toolbox - Boîte à outils", which is the core output of the project and consists of an online platform containing all the actions, good practices and pilot cases developed by AdaPT Mont Blanc. The Toolbox will still be updated and populated by the platform administrators and the users following the end of the project.

ARTACLIM - Adaptation and resilience of Alpine territories in the face of climate change

The cross-border research-action project ARTACLIM⁷⁵ aimed to promote the introduction of adaptation measures to climate change in spatial planning of public administrations in the French-Italian border area.

Objectives included:

- Develop, experiment and validate methodologies and tools that make the effects of climate change evident and measurable in the territories and allow to define shared adaptation strategies.

⁷⁴ <http://www.espaces-transfrontaliers.org/ressources/projets/projects/project/show/adapt-mont-blanc-adaptation-de-la-planification-territoriale-aux-changements-climatiques-de-lespa/>

⁷⁵ <http://artaclim.eu/index.php/it/>

- Provide local and regional authorities with the appropriate tools to introduce lasting adaptation measures and actions into planning processes, in order to increase the resilience of their territories.
- Develop a general methodology that is reproducible and transferable to other local authorities in the Alps and beyond.

Results included

- Knowledge of climate change,
- Adaptation indicators,
- Vulnerability studies, analysis tools and participatory approach,
- Training for adaptation to climate change,
- Spatial planning strategies,
- Tools to support the assessment and management of territories.

Needs for action

Municipal and regional planning responses to climate change

According to Cremonese et al. (2019:101), the climate change scenarios described at the local scale for the Mont Blanc region suggest an immediate urgency to intervene at the level of municipal and regional spatial planning to cope with the evolution of the mountain landscape. Action is necessary on issues such as: availability of water resources, evolution of agriculture, safety in the mountains, seasonal evolution of the tourist offer and quality of the built environment.

4.6.7 Cultural heritage/landscape

Status quo

Habit.A

Encompassing the border regions of the Province of Cuneo and the Departments of Hautes Alpes and Alpes de Haute Provence, the Interreg ALCOTRA project Habit.A (Abitare le Alpie del Sud nella prospettiva dei cambiamenti climatique/Habiter les Alpes du Sud face au changement climatique) aims to re-functionalise the existing building heritage and to guide new construction. It developed quantitative and qualitative criteria and indicators to assess habitats in regard to climate change. The project focuses on three aspects⁷⁶:

- Planning: Habit.A aims to integrate new indicators and evaluation procedures within the existing evaluation tools in use in Italy and France to support building incentive policies with high environmental energy quality standards. For the French project area, the tools are supposed to be included in a planning path (SCOT); in the Italian case, they will be tested within a new protocol for rural buildings, which will evaluate them as a reward parameter in the calls for tenders of the RDP (Rural Development Plan) of the Piedmont Region.

⁷⁶ <https://www.habit-a.eu/focus/>

- Awareness raising: Using the example of 10 testimonial architectures from the cross-border area, information and training activities have been carried out.
- Know-how: Through different cross-border formats, actors and decision makers were sensitised and trained on issues of architectural and landscape quality in the context of climate change.

4.7 France – Switzerland

4.7.1 Spatial development in general

Status quo

Swiss agglomeration programs are an important pillar of the Federal Swiss agglomeration policy and address issues of transport and settlement development. They aim at fostering metropolitan collaboration, cooperation and governance within functional urban areas that may override national and cantonal boundaries (Swiss Compliance Report 2019:43). Federal funds are allocated to the implementation of agglomeration programs drafted beforehand by the concerned cantonal and local partners as well as for the development of new infrastructures and innovative projects.

Agglomeration program Greater Geneva Area

In the Swiss-French border region, cross-border consultations are taking place in regard to projects related to the agglomeration program Greater Geneva Area among the partner institutions Cantons Geneva, Valais, the Nyon District and the French Genevois Metropolitan Area.⁷⁷ The Charter of the Geneva Agglomeration Project was approved in 2012 (Zollner et al. 2018:36).

The example of the Greater Geneva Area shows how cross-border metropolitan planning initiatives can contribute significantly to vision sharing and mutual learning (Perrin et al. 2019: 21). In order to face the challenges associated with the cross-border spatial dynamics, and in particular to meet transport infrastructure needs between the Swiss and the French parts, an additional planning level has been developed at the city-region scale. The Greater Geneva Area (Grand Genève) is a result of 45 years of dialogue between the Swiss and French governing bodies. The Greater Geneva Spatial Scheme is supposed to guide the planning orientations at the lower levels and to strengthen the overall and cross-border spatial coherence.” (Perrin et al. 2019: 56 ff).

According to an interview partner, the Greater Geneva Agglomeration Program can be seen as a best practice example for cross-border spatial development in the Alps.

Conseil du Léman – Lake Geneva⁷⁸

The Conseil du Léman is an association for cross-border cooperation between France and Switzerland. It was founded in 1987 and consists of the Swiss cantons of Geneva, Vaud and Valais and the French departments of Ain and Haute-Savoie. Under the label “Un territoire en action”, the cross-border cooperation between France and Switzerland is creating a network

⁷⁷ <https://www.grand-geneve.org/mediatheque/projet-agglomeration-2016/projet-de-territoire>

⁷⁸ <http://www.conseilduleman.org/presentation/organisation-du-conseil-du-leman>

between local partners within the framework of the Lake Geneva Region. The association focuses on five topics: mobility, economy, tourism, culture and environment.

Radioscopie des polarités du sillon alpin

In 2018, the Urban Planning Agency of the Grenoble region (L'Agence d'urbanisme de la région grenobloise) conducted an Exploratory Study on Urban Poles along the line Grenoble, Chambéry, Annecy and Genève, the so-called Sillon Alpin (Alpine trench, separating the French pre-Alps from the French central Alps. The study focussed on the interactions and dynamics between these four major urban poles and the lower-hierarchy urban network. The study proposed a web of centralities composed of 82 municipalities for the region including the Swiss agglomeration of Geneva (L'Agence d'Urbanisme de la Region Grenobloise 2019).

4.7.2 Protected areas/protection of open spaces

Status quo

Corridor contracts to reconnect natural spaces in the Franco-Valdo-Geneva conurbation

The region is dominated by agricultural and natural areas (80 percent) and an extremely dense core settlement. It is under pressure due to the dynamics of peri-urbanisation and urban sprawl. Since 2010, a number of partly cross-border corridor contracts have been signed in the "Grand Genève" region in order to preserve these spaces and their connections, and several more such contracts are in the planning stages (Plassmann et al. 2016:63). Cross-border corridors with contractual arrangements include:

- Corridor Vesancy-Versoix (Contracting parties: Communauté de communes du Pays de Gex (FR), Republic and Canton of Geneva, Region Nyon for Vaude (both CH))⁷⁹,
- Corridor Champagne Genevois (Communauté de communes du Genevois (FR), Republic and Canton of Geneva (CH))⁸⁰,
- Corridor Arve-Lac (Annemasse - Les Voirons Agglomération (FR), Republic and Canton of Geneva (CH))⁸¹.

4.7.3 Water management

Status quo

Several state treaties between France and Switzerland are regulating the use of hydropower for cross-border rivers and catchment areas (Swiss Compliance Report 2019:43).

Envisaged Rhone River Framework Agreement

30 binational bodies have been established to address cross-border issues regarding the Rhone river between Switzerland and France. In 2020, the Swiss Federal Council has approved a negotiation mandate to elaborate a Rhone River Framework Agreement between Switzerland and France. The process is still ongoing and is intended to improve the overall view of the various

⁷⁹ <https://www.grand-geneve.org/concretement/realisations/nature-paysage/contrat-corridors-transfrontalier-vesancy-versoix>

⁸⁰ <https://www.grand-geneve.org/concretement/realisations/nature-paysage/contrat-corridors-transfrontalier-champagne-genevois>

⁸¹ <https://www.grand-geneve.org/concretement/realisations/nature-paysage/contrat-corridors-transfrontalier-arve-lac>

issues related to the transboundary management of the Rhone and facilitate the identification of new challenges, notably in the context of climate change. The Swiss delegation intends to work towards a general agreement on the transboundary waters of the Rhone that complements existing and future institutions and agreements and does not affect their competences and activities.

4.7.4 Transport

Needs for action

For the Métropole Lémanique area, the Swiss Spatial Concept proposes the establishment of a joint cross-border commuter train system encompassing the existing systems of Geneva and Lausanne (Schweizerischer Bundesrat 2021:72).

4.7.5 Energy

Status quo

PlanETer – Territorial Energy Planning

The project⁸² developed a methodology for territorial energy planning for the Mont Blanc area, involving communities in the Chamonix Mont Blanc valley and the municipality of Martigny (Switzerland).

4.8 France - Monaco

4.8.1 Spatial development in general

Status quo

According to the Monaco Compliance Report (2019:51 and 58), Monaco and its neighbouring French municipalities are cooperating in joint projects on land use (housing, road infrastructure). Early consultation with neighbouring French municipalities is reported to take place regarding urban development projects (ibid:51).

4.8.2 Services of general interest

Status quo

A cooperation example is the creation of the ZAC SAINT ANTOINE (Zone d'Aménagement Concertée), a joint brownfield development on a former SNCF property by the city of Cap d'Ail in France and Monaco (2007 –2013). Joint projects include social housing, commercial areas, school and sports facilities and a public square and landscape public space.

⁸² <http://www.espaces-transfrontaliers.org/ressources/projets/projects/project/show/planeter-planification-energetique-territoriale/>

4.9 Germany - Switzerland

4.9.1 Spatial planning in general

Status quo

Cross-border participation in spatial development plans

Swiss border areas with Germany, Austria, France and Italy were taken into account when drafting the Spatial Concept for Switzerland (Schweizerischer Bundesrat et al. 2012). Accordingly, one of the general principles of action of the Spatial Concept is that Switzerland should coordinate its spatial development ideas in partnership with neighbouring countries and the EU. It also calls on the cantons to cooperate with the neighbouring countries, among others, on development strategies for the action areas. Cross-border references are seen, among other examples, in the Trinational Basel Metropolitan Area⁸³, the Zurich Metropolitan Area and the role of the cross-border Basel-Mulhouse Airport.

Participation in the consultation process has taken place with Germany in the reviewing process of the cantonal St. Gallen Structure Plan (Richtplan-Anpassung 08, BMU 2019:73).

4.9.2 Spatial development in general

Status quo

International Lake Constance Conference (Internationale Bodenseekonferenz IBK)

The Lake Constance region is one of the Alpine areas with the most longstanding and intensified cross-border cooperation (Scherer/Strauf 2021). Established in 1972, the International Lake Constance Conference is an institutionalized cooperation between the Swiss cantons Schaffhausen, Zürich, Thurgau, St. Gallen, Appenzell Ausserrhoden, Appenzell Innerrhoden, the Principality of Liechtenstein, the Austrian Province of Vorarlberg and the German Federal States Baden-Württemberg and Bavaria.

The IBK has adopted a guideline that outlines the principles of cooperation and the vision for 2030. This framework is concretised through strategic priorities for short- and medium-term actions (4-5 years). Current projects in the framework of the IBK-Strategy 2018-2022 include the participatory drafting process of a spatial perspective for the Lake Constance area (Raumbild Bodensee⁸⁴) as well as the elaboration of a Target Spatial and Transport Vision (Zielbild Raum und Verkehr, see below).

Further activities and projects include:

- Lake Constance regional statistical platform (Statistikplattform Bodensee⁸⁵)
- Dach+ projects (Interreg A Alpenrhein – Bodensee – Hochrhein), see below
- Model Project of Spatial Development (MORO) Metropolitan Border Regions (2013)

⁸³ Situated outside the Alpine Convention perimeter, the Regio Basiliensis is a reference for intensive cross-border cooperation, e.g. in the form of a cross-border tramway line.

⁸⁴ <https://denkraumbodensee.org/aktuelles/raumbild-bodensee/>

⁸⁵ <https://www.statistik-bodensee.org/startseite.html>

Target Vision Space and Transport (Zielbild Raum und Verkehr)

In order to improve the coordination of metropolitan functions in the Lake Constance region and to reconcile intensifying land use conflicts, the IBK has commissioned its Spatial Development (ROK-B) as well as its Transport Commission with the elaboration of a Target Spatial and Transport Vision⁸⁶, outlining goals and needs for action for four spatial typologies with a focus on core elements of existing spatial concepts as well as projects of member countries. Strategic core messages and maps have been published in early 2022 (Internationale Bodensee-Konferenz 2022), feeding into a discussion process among IBK-boards and Lake Constance parliament members.

DACH+ - Future spatial development in the border area Germany – Austria – Switzerland – Liechtenstein

In the Interreg IV A project DACH+⁸⁷, partners of the Lake Constance Spatial Planning Commission and the regional spatial planning authorities established an online map service on selected cross-border spatial information such as population development, airport accessibility, car-ownership, commuter balance, tourism, employment statistics, landscape fragmentation, agricultural structure, spatial plans at regional level, public transport accessibility of settlement areas, protected areas and energy.

Additionally, the project encompassed

- development, discussion and evaluation of forecasts on the overarching challenges and their concrete spatial consequences as well as of spatial alternatives in the border area;
- development, substantiation and communication of common planning principles with regard to a common spatial development concept and to possibilities of integration in the spatial planning processes among partners;
- and promotion of cooperation via the implementation of accompanying workshops and symposia.

The DACH+ final report “Leitvorstellungen und Planungsprinzipien DACH+“ (Guiding and planning principles DACH+, stadtländ 2015) focussed on spatial perspectives in regard to rural areas, energy and landscape, settlement transformation and high-frequency facilities. The spatial observation established within DACH+ has not been continued after the project’s wrap-up.

Climate change and adaptation in the DACH+ region

The project⁸⁸ - funded through the Interreg V A Alpenrhein – Bodensee – Hochrhein program - focussed on the discursive development of conceptual proposals for spatial planning in the DACH+ region for adaptation to climate change as well as the documentation of best practice examples. The project focussed on the pilot areas of Vorarlberg, the cantons of St. Gallen and Schaffhausen, and the Hochrhein-Bodensee region. The project partnership included the Regional Association Hochrhein-Bodensee, the Province of Vorarlberg, cantons St. Gallen and Schaffhausen and the Swiss Federal Office for Spatial Development (ARE).

⁸⁶ https://www.bodenseekonferenz.org/bausteine.net/f/9462/ibk_zielbild_raum_verkehr_2021_web_einzelseiten.pdf?fd=3

⁸⁷ <http://www.dachplus.org>, various project results for download at <https://dachplus.org/service/download/Interreg-iv/allgemein>

⁸⁸ <http://klima.dachplus.org/projekt.htm>

Working steps and results of the project included:

1. Spatially relevant climate effects in the DACH+ region: Analysis of regional climate models and regional studies in regard to their relevance for spatial planning;
2. Effects on the DACH+ region: Vulnerability analysis of the region and its land uses to effects of climate change;
3. Application at regional level: Analysis of spatial planning approaches to climate change in functional urban regions and rural areas/Discussion how to respond at the level of cantonal and regional plans;
4. Conceptual proposals: Identification of needs for action in spatial planning/collection of best-practices.

Lake Constance Spatial Planning Commission (Raumordnungskommission Bodensee ROK-B)

Through cross-border cooperation, the Lake Constance Spatial Planning Commission is tasked⁸⁹ – among other things - with establishing a joint spatial observation (monitoring), the creation of a harmonised data pool, harmonising spatial planning standards, orienting development of the landscape surrounding the lake towards coordinated objectives, improving regional coordination of spatially relevant projects and integrating transport infrastructure measures into desired spatial development.

International Parliamentary Lake Constance Conference (Internationale Parlamentarische Bodensee-Konferenz IPBK)

The International Parliamentary Lake Constance Conference IPBK was founded on 17 June 1994 in Bregenz (AT). It comprises the state, provincial and cantonal parliaments of Baden-Württemberg, Bavaria, Vorarlberg, Liechtenstein, Appenzell Ausserrhoden, Appenzell Innerrhoden, St. Gallen, Schaffhausen, Thurgau and Zurich.

The aim of the Parliamentary Conference is to represent the concerns of the population of the Lake Constance region, to increase the attractiveness of the region as a business location and to sustainably secure the natural foundations. It promotes the exchange and cooperation between the respective parliaments as well as between the parliaments and the governments or the International Lake Constance Conference IBK, initiates projects and introduces topics to the IBK.

The Parliamentary Conference deals with cross-border issues of the entire Lake Constance region, especially in the fields of education, energy, research, health, water protection, culture, agriculture, regional planning, security, social affairs, sport, tourism, environment, transport, economy and labour, science as well as future regional development.

Lake Constance Metropolitan Area (Metropolitanraum Bodensee)

In order to raise awareness for the economic role of the Lake Constance area and to promote effective lobbying and investment in the economic region of East Switzerland – Lake Constance – Rhine Valley, business associations from the cantons of Appenzell, Ausserrhoden, St. Gallen and Thurgau have initiated the Metropolitanraum Bodensee platform⁹⁰. The initiative and

⁸⁹ Statute at: [https://www.bodenseekonferenz.org/bausteine.net/f/9657/ROKBStatut\(Stand2011-01-01\).pdf?fd=2](https://www.bodenseekonferenz.org/bausteine.net/f/9657/ROKBStatut(Stand2011-01-01).pdf?fd=2)

⁹⁰ <https://www.regio-stgallen.ch/metropolitanraum.html>

terminology responds to the category of metropolitan region laid out in the Swiss Spatial Development Concept – the region is lobbying to be included in the Swiss list of metropolitan regions (currently Zurich, Geneva-Lake Lemman, Basel).

Based on a Charta signed in 2020, the initiative addresses topics such as accessibility, economic competitiveness, knowledge infrastructure and culture and recreation. It considers itself as complementary, not as a competitor to the Lake Constance Conference. The Canton St. Gallen, in coordination with the Province of Vorarlberg, is chairing the Metropolitanraum Bodensee platform since 2019.

Needs for action

For the Zurich metropolitan area, the Swiss Spatial Development Concept calls for an intensified cross-border cooperation and networking of ETH, universities and Universities of Applied Sciences as well as improving their networks with economic stakeholders, combined with efforts to establish the metropolitan region as a venue for international congresses (Schweizerischer Bundesrat 2012:66).

4.9.3 Transport

Status quo

NEAT Steering Committees and coordination of Alpine transit corridors

Regarding the run-up to the New Railway Links through the Alps (NRLA/NEAT), a steering committee has been set up between Switzerland and Germany ("Lenkungsausschuss zur Behandlung von Fragen der Umsetzung der Vereinbarung betreffend den Zulauf zur neuen Eisenbahn-Alpentransversale (NEAT)") to facilitate the necessary and timely infrastructure provision (Swiss Compliance Report 2019:43). The committee is based on the Treaty of Lugano 1996. In a state treaty, Germany committed itself to capacity improvements on the 182 km run-up stretch between Karlsruhe and Basel as a part of the Rhine-Alps-Corridor (see 0).⁹¹

Need for action

Zurich International Airport: expansion and noise emission

A longstanding controversial issue between Switzerland and Germany, specifically the German States of Bavaria and Baden-Württemberg, are the noise emissions related to the operation of Zurich International Airport and its pending expansion plans. A state treaty between Switzerland and Germany limiting the maximum amount of flight movements did not reach an agreement in the German and Swiss parliamentary process and was abandoned in 2002. In the meantime, a unilateral German implementation ordinance (220. DVO on LuftVO) regulates minimum cruising heights and time periods for overflights, while attempts are ongoing to come to an agreement on a new state treaty.

⁹¹ https://www.swissinfo.ch/ger/europaeischer-bahn-gueterkorridor_deutschland-mit-neat-zubringer-im-verzug/42111740

4.9.4 Energy

Location search for a permanent repository for nuclear waste

Based on the Swiss Nuclear Energy Act, the National Cooperative for the Disposal of Radioactive Waste (NAGRA) is currently conducting a location search for the Swiss geological repository for nuclear waste. The short list of locations includes sites close to the Swiss-German border (Jura East, north of Lägern, Zurich Northeast) and consequently Germany and its southern border regions are given the opportunity to contribute to the process.⁹² A site proposal by NAGRA is expected in 2022 and the decision on the site selection is expected by 2030.⁹³

Need for action

Cross-border energy plans

According to an interview partner, energy plans are a potential future need for action in regard to sectoral plans. Challenges include the transition, the phasing-out of fossil fuels and the resolution of cross-border conflicts. As borders follow topographical features such as ridges, border areas are often suitable locations for wind turbines. In the Lake Constance region, there is currently an informal cross-border understanding that wind turbines should be located more than 10 km away from the shoreline.

4.10 Italy - Slovenia

4.10.1 Spatial planning in general

Status quo

ISA-MAP - Harmonisation of regional data resources for cross-border planning

The goal of the ISA-Map project (Interreg III B CADSES 2003-2006)⁹⁴ (Austrian Compliance Report 2019:107) was to set up instruments (tools as well as harmonised geographical datasets) needed to support cross-border spatial planning among FVG (IT), Carinthia (AT) and Slovenia. The aim was to establish a transnational spatial data infrastructure that provides a basis for spatial planning tasks, disaster management concerns and regional policy decisions.

Also see description for the SUSPLAN project involving Austria, Italy and Slovenia in 0.

⁹² <https://www.nagra.ch/de/deutscher-bundesumweltminister-lobt-sachplanverfahren>

⁹³ <https://www.nagra.ch/de/standortsuche>

⁹⁴ https://www.oerok.gv.at/fileadmin/user_upload/Bilder/2.Reiter-Raum_u._Region/1.OEREK/OEREK_2001/Sammelmappe/1-2isamap.pdf and http://www.agit.at/s_c/papers/2006/5532.pdf

4.10.2 Spatial development in general

Status quo

Joint Committee Friuli Venezia Giulia – Republic of Slovenia

Established in 2016, the joint committee⁹⁵ comprised of high-ranking governmental representatives provides an institutional framework for enhancing connections and resolving issues in the Italian-Slovenian cross-border area, including spatial planning. Between annual plenary sessions, working groups have been established to address issues such as Transport, Energy, Environment and Land Use Planning (Tavolo tecnico 1) or Agriculture and Rural Development (Tavolo tecnico 2).

CONSPACE - Common Strategy Network for Spatial Development and Implementation

"Ten regional authorities in charge for spatial planning from five countries, four of them EU members (Austria, Croatia, Hungary, Italy and Slovenia), joined the Interreg III B Cadses project CONSPACE (Common Network for Spatial Planning and Implementation) in 2002. Following the European Spatial Development Perspective (ESDP) policy options the project partners intended to develop a common understanding of a regional development perspective with a specific focus on (1) the polycentric structure of the region, (2) its natural and cultural heritage and (3) the interconnection of its regional transport networks to the TEN and TINA⁹⁶ corridors.

To develop an understanding for the potentials of polycentric development in the CONSPACE macro region, the project partners elaborated on the differences to the classic central place concept which is in use in all planning systems of the project partners, and which intends to provide a specific territory with a pre-defined set of central goods to secure a pre-defined level of services. The rules behind are social rules and the implications on policy decisions are to correct failures of the market.

In contrast, polycentric regional development aims at optimized development of locations and facilities to improve the competitiveness of a region by regional policy decisions, competitive actions of stakeholders and a cross-sectoral planning approach. The rules behind are market rules and the expected results depend on effects described by "new economic geography". The resulting functional and locational differentiation makes the decisive difference to the classical central place concept. At the same time the approach requires strong cooperation of functionally differentiated locations across administrative boundaries which are of high relevance for many spatial planning instruments as well as for political decision-making.

The findings and conclusions of the research activities were consolidated in the "CONSPACE perspective", which collects proposals for the elements of a strategic action plan for several fields of actions and addresses the strategic tasks for joint polycentric development" (Seidenberger 2012:49).

⁹⁵ <https://www.gov.si/en/news/minister-dr-cerar-in-predsednik-ad-fjk-fedriga-potrdila-pomen-skupnega-odbora-slovenija-furlanija-juljska-krajina-za-povezovanje-cezmejnega-prostora/>

⁹⁶ Transport Infrastructure Needs Assessment (= TEN plus additional network components within the candidate countries for accession).

TRANSLAND 2007 - Sustainable and integrated territorial development of the Italian-Slovenian cross-border area

The project TRANSLAND⁹⁷ (2005-2007, carried out in the framework of the CBC Program Italy-Slovenia 2007-2013) was based on the information acquired and the critical aspects identified by the project “TRANS-PLAN” and puts forward a shared vision of planning and development of the cross-border territory. Project partners included the municipalities of Doberdob, Gorizia, Ajdovščina, Brda, Cerklje, Idrija, Kanal ob Soči, Kobarid, Miren-Kostanjevica, Šempeter-Vrtojba, Tolmin and Vipava, the city municipality of Nova Gorica, the Mountain Communities of “Gemonese, Canal del Ferro e Val Canale” and “Torre, Natisone e Collio”, the Province of Gorizia and the Slovenian Ministry of Environment and Spatial Planning.

Specifically, the project focussed on encouraging participation – through the active involvement of local actors and stakeholders – which led to the definition of joint sustainable development proposals. The planning process started with sharing territorial analysis methods and integrating and implementing data by means of a cross-border Territorial Information System (TIS). The aim was to put forward proposals, lines of action and rules of sustainable development at a broader scope, in the framework of territorial planning and development policies both in Italy and in Slovenia.

The project specifically aimed at

- consolidating the position of the area in a wider European context,
- building on the results of the “TRANS-PLAN” initiative for the setting up and capitalising on a cross-border TIS,
- promoting an efficient management of common resources,
- intensify public participation in the territorial planning and management process,
- raising awareness of the importance of sustainable development as well as promoting the sharing of knowledge and experience (information, data, studies, research, methodologies) about the territory and the environment, to implement joint, coordinated actions.

The project’s mission was to assess and evaluate the development of the territory and the trends under way in the cross-border area, for the creation of a vision of sustainable spatial development and the definition of alternative scenarios.

EGTC-GO - joint strategy for the development of the area of Gorizia, Nova Gorica and Šempeter-Vrtojba

The European Grouping of Territorial Cooperation GO (EGTC GO) and the Integrated Territorial Investment (ITI), both funded by the Interreg V A Italy-Slovenia Program, paved the way for the implementation of integrated policies in the cross-border area comprised of Gorizia (IT), Nova Gorica (SI) and Šempeter-Vrtojba (SI). In 2011, the municipalities of Gorizia, Nova Gorica and Šempeter-Vrtojba established a joint strategy for the development of the area coordinated by the EGTC-GO (DG REGIO 2019).

The strategic plan is based on three pillars:

- Promotion of tourism heritage and cross-border natural resources;

⁹⁷ http://2007-2013.ita-slo.eu/map_eng/32

- Sharing of health services;
- The Gorizia-Nova Gorica-Šempeter-Vrtojba railway line.

Along those lines, the 2014-2020 cooperation program approved an Integrated Territorial Investment (ITI) for piloting an integrated set of measures managed by the EGTC-GO. Different pilot actions have been implemented, notably to promote cultural heritage and to improve accessibility to healthcare services.

Regional Smart Specialisation Strategies for Veneto, Friuli Venezia Giulia and Slovenia

Regional Smart Specialisation Strategies for Veneto, FVG and Slovenia were established between 2017 and 2020 in the framework of the Italy-Slovenia Cross-Border Acceleration Bridge (CAB⁹⁸) (DG REGIO 2019:7). In shared priority sectors such as agri-food, ICT and creative industries, logistics, health and sustainable tourism, the future cooperation program should explore the development of cross-border synergies or clustering, having in mind that innovation is not limited to high technology and research activities but could also involve production processes or organisational patterns in the supply chain.

Needs for action

Framing of cross-border cooperation and strategies for functional areas

DG Regio (2019:19) identifies a lack of framing of cross-border cooperation between Italy and Slovenia in strategies at macro-regional, national, regional or sectoral level. Follow-up steps would include (DG Regio 2019:6)

- identifying existing and potential functional areas in relevant sectors (urban development, sustainable tourism, innovation, biodiversity, etc.) and for relevant targets (as ageing population, SMEs, etc.) and targeted strategies and priorities to overcome specific border obstacles and developing cooperation activities,
- drawing lessons from the ongoing strategic projects and the Integrated Territorial Investment (ITI) experience and identify measures for consolidation and further development,
- coordinating with the existing priorities under EUSALP and ADRION macro-regional strategies to create possible synergies.

Improving cross-border data

Based on an identification of areas for which important cross-border data on the Italian-Slovenian border region is missing, projects can be supported to fill these gaps by 2027, e.g. through cooperation with national statistical offices or by supporting regional data portals (DG Regio 2019:20).

Solutions

- Coordination mechanism for cohesion policy programs: A coordination mechanism involving managing authorities of relevant programs can promote exchange of information and cooperation and is proposed to address the stages of planning (e.g. designing

⁹⁸ <https://www.ita-slo.eu/en/cab>

complementarities), implementation (e.g. building on synergies and avoiding inefficient investments) and communication (DG Regio 2019:13).

4.10.3 Protected areas/protection of open spaces

Status quo

The Transboundary Ecoregion of the Julian Alps⁹⁹

Cooperation between Prealpi Giulie Nature Park (IT) and Triglav National Park (SI) dates back to 1996, when the Italian park was established. The partnership between the two protected areas was reinforced by EU projects, which supported relationships between cross-border partners (DG Regio 2019). Their already close cooperation expanded, resulting in 2007 in the initiative to form a transboundary park. Two years later the transboundary Julian Alps Ecoregion, which also includes Slovenia's Julian Alps MAB UNESCO Area, was officially awarded the EUROPARC Transboundary Certificate.

The primary aim of the cooperation is the protection of nature. In addition to this, the objectives include conservation of nature together with local culture. Therefore the two parks commit themselves to protect and to conserve biodiversity, landscape and cultural heritage.

GeoKarst – Establishment of the cross-border Geopark on the Karst

An ongoing Interreg Italia-Slovenia project, the objective of GeoKarst¹⁰⁰ (2020-2022) is to establish a cross-border geopark to facilitate cross-border land and resource management. The initiative capitalises on results of the previous CARSO-KRAS project¹⁰¹, which terminated in 2014 and promoted sustainable territorial integration of the Italian-Slovenian border Karst area with a focus on spatial planning and development of the Karst region.

The GeoKarst project envisages the adoption of a cross-border geopark by municipal and regional councils. Additionally, a cross-border management plan is supposed to ensure the project's sustainability, the conservation of the natural and cultural heritage as well as cross-border integration of stakeholders and touristic offers. Envisaged results also include the preparation of candidature documents for the inclusion of the park in the UNESCO Geoparks Network as well as the establishment of an EGTC organisation structure for the management of the cross-border geopark.

For consideration of Italian-Slovenian cross-border connectivity in regional spatial planning of the FVG Region see chapter 0.

4.10.4 Water management

Status quo

⁹⁹ Description based on: <https://www.europarc.org/nature/transboundary-cooperation/discover-our-transboundary-areas/julian-alps-transboundary-ecoregion/>

¹⁰⁰ <https://www.ita-slo.eu/en/geokarst>

¹⁰¹ <http://www.krascarso-carsokras.eu/en/project-description/short-description>

Italian-Slovenian Permanent Bilateral Commission for Water Management

A common relevant water body exists between Slovenia and Italy in the form of the international Soča/Isonzo river basin. Joint management plans and projects have been developed over the years (financed also by the Interreg A Italy-Slovenia program) under the coordination of the Italian-Slovenian Permanent Bilateral Commission for Water Management. Based on last reporting of the Water Framework Directive, joint monitoring of surface and groundwater sources should be continued and strengthened, notably in regard to risks related to the abstraction and pollution from human activities (description based on DG Regio 2019:12f).

4.10.5 Transport

Status quo

Integrated Sustainable Urban Mobility Plan (SUMP) for cross-border mobility¹⁰²

In 2012 Nova Gorica, together with five surrounding Slovenian municipalities and the adjacent Italian municipality of Gorizia, started the drafting process of a Sustainable Urban Mobility Plan (SUMP). The cross-border regional SUMP project was part of the Interreg Alpine Space project PUMAS - Planning Sustainable Regional-Urban Mobility in the Alpine Space.

A number of stakeholders were involved in the process: The local transport operator, architects, the local hospital and university and a shopping centre were consulted during the drafting of the vision, objectives and measures. The language difference was an issue at the stakeholder meetings: translating meant that more time was needed and a direct dialogue between the Slovenian and Italian staff and stakeholders was more difficult. Since a SUMP is not required by law in Slovenia nor Italy, the document will not be legally binding for any of the involved municipalities. Each participating municipality, however, is reserving budgets and will work on the implementation of the urban transport measures as agreed.

Since the SUMP operates at a regional scale, there are no measures involved that are specific to only one municipality. The measures fit into one of three groups: those with influence across the municipal border; those of regional importance; and those that address challenges present in all municipalities. However, differences in context remain, such as variations in the Slovenian and Italian legal and procedural regulations.

FORTIS – Strengthening institutional cooperation in the cross-border area

The Interreg Italia – Slovenia project FORTIS¹⁰³ (2020-2022) promoted institutional cooperation through joint innovative solutions for citizenship, aimed on the one hand at improving and promoting cross-border public transport services in favour of sustainable and efficient mobility, and on the other at promoting the exchange of experiences and harmonization of the civil motorisation procedures. Local partners include the city of Koper and the Ljubljana urban region.

Results include an action plan to optimize public transport in the cross-border area and its testing in pilot activities and a memorandum of understanding to extend and maintain the initiative.

¹⁰² <https://www.eltis.org/discover/case-studies/nova-goricas-integrated-sump-cross-border-mobility-slovenia>

¹⁰³ <https://new.ita-slo.eu/en/fortis>

4.10.6 Natural hazards

Needs for action

Synergies in risk prevention capacities and disaster management

According to DG Regio (2019:12), there is a need to gather detailed information on the actual level of vulnerability of the Italian-Slovenian border areas and specifically on existing risk management capacities, broken down by risk types. This would enable to identify complementarities and create synergies and boost cross-border investments e.g. in green infrastructures.

4.11 Italy - Switzerland

4.11.1 Spatial planning in general

Status quo¹⁰⁴

Comunità di lavoro Regio Insubrica - Working Community Region Insubrica

The Working Community Regio Insubrica promotes cross-border cooperation in the Swiss-Italian region of prealpine lakes and promotes awareness of belonging to a territory beyond institutional boundaries.

The Working Community Region Insubrica is oriented towards political dialogue and collaboration on a technical level. In addition, on a bilateral level, the Canton of Ticino has signed a Declaration of Intent on cooperation with Lombardy (2015) and Piedmont (2017), which act as programmatic support for cross-border collaboration in the Insubric area.

The Regio Insubrica Working Community, was established in 1995 in Varese, by the Canton of Ticino and the Provinces of Como, Varese and Verbano-Cusio-Ossola, to which the Provinces of Lecco and Novara were added in 1997. In December 2015, the Lombardy and Piedmont Regions became full members of the Regio Insubrica. The Community statutes have been adapted and currently the Canton and the two Regions constitute, through the Presidential Office (UP), the decision-making body of the Working Community. The Provinces remain members of the Steering Committee (CD), together with the City of Lugano, and maintain an important consultative role as well as contiguity with the territory. In addition to the two bodies, the Regio also records the participation of municipalities, public and private bodies rooted in the territory. The Working Community is active in four working groups: Territory; Environment and Mobility; Local Authorities; Economy, Work and Education; Tourism and Culture.

Comunità di lavoro Regio Sempione - Working Community Region Sempione

Founded in 1996, the Regio Sempione Working Community aimed to promote and increase cross-border cooperation in the Simplon region. The members of the Working Community are the mountain communities of Valle Ossola, Valle Anzasca, Valle Antrona, Antigorio Formazza, the mountain regions Goms, Brig-Aletsch, Visp-Raron West, the municipalities of Brig-Glis, Nates and Domodossola, the Verbano-Cusio-Ossola province and the Sierre region. The thematic

104 Also see Chapter 0 (Espace Mont Blanc) and Chapter 0 (Terra Raetica - Interreg Council)

working groups of the Simplon region addressed culture, research, education and communication, tourism, trade and industry, transport, spatial planning, joint infrastructure planning, nature conservation and landscape management, land and forestry as well as water supply and distribution, soil protection and hydrogeological planning.

The Regio Sempione Working Community is currently no longer active.

Conseil Valais-Vallée d'Aoste du Grand St Bernard

The Conseil Valais-Vallée d'Aoste du Grand St Bernard (CoVaVal) was established in 1990 with the aim of increasing cooperation and harmonising development of the territory of the two administrations. The committee was made up of representatives from the Canton of Valais and the Autonomous Region of Aosta Valley and had formed 4 working groups which addressed the following topics: Transport, communication, infrastructure, energy; Spatial planning, natural and built environment; economy, agriculture, tourism, frontier population; Culture, health, education, scientific research.

The working groups were funded by the Interreg IV A program Italy-Switzerland joint interventions up to the 2007-2013 program period.

Currently, CoVaVal is no longer active, its activities were finalized in 2015.

Need for action

According to the 2002 OECD Territorial Review of Switzerland, the increasing spatial differences within Switzerland are related to the economic capacities of bordering regions (ETH 2007:33). Prioritising cross-border spatial planning is thus particularly important in these areas, where measures to increase the economic capacities of bordering French and Italian regions are expected to have spill-over effects for Swiss regions as well and increase cooperation capacities at cantonal and municipal level. The strengthening of cross-border cooperation, however, has to be embedded in a stronger inter-cantonal cooperation on behalf of the federal government and the cantons (ibid).

4.11.2 Protected areas/open space protection

Status quo

According to the Swiss Compliance Report (2019:43), stakeholders are cooperating across borders in the framework of the former biosphere reserve Biosfera Val Müstair, e.g. in regard to the regional nature park management, landscape protection and biodiversity. In this context, the movingAlps project (Interreg III B 2001-2007) has been one example for cooperation.

Transboundary parks Parco naturale Alpe Veglia - Alpe Devero/Binntal Landscape Park

The Binntal Landscape Park borders the Parco Naturale Veglia-Devero, the oldest nature park in Piedmont and an ongoing exchange has been established between these neighboring parks¹⁰⁵. Both parks play an active role in the European network of cross-border parks TRANSPARCNET. In 2019, the European umbrella organization of parks EUROPARC recognised the Parco naturale Alpe Veglia - Alpe Devero and the Binntal Landscape Park as transboundary parks.

¹⁰⁵ <https://www.landschaftspark-binntal.ch/de/verein-projekte/projekte/grenzueberschreitende-zusammenarbeit.php?offer=28111>

Need for action

In 2018, the Swiss Federal Parks Ordinance (Pärkeverordnung) was changed to facilitate cross-border national parks. According to the modification, the core zone of a national park can be located in a neighbouring country, as long as half of the minimum core zone area is situated on Swiss territory.¹⁰⁶ Additionally, a state treaty between Switzerland and Italy regulating a potential national park in Ticino (Parco Locarnese) that would include Italian territory¹⁰⁷ was approved by the Swiss Federal Council under the precondition of a positive vote of all municipalities on the park proposal, which failed in the same year. While technically speaking not a need for action, the established legal framework for cross-border national parks is waiting to be implemented on the ground.

4.11.3 Water management

Status quo

Several state treaties between Italy and Switzerland are regulating the use of hydropower for cross-border rivers and catchment areas (Swiss Compliance Report 2019:43).

RESERVAQUA

Funded by the Interreg V-A Italy-Switzerland program, the RESERVAQUA¹⁰⁸ project focuses on the cross-border development of an integrated management strategy of mountain regions and rural areas in order to guarantee a sustainable use and qualitative protection of Alpine water resources, also for the benefit of the plains. Planned activities with a cross-border relevance include the analysis of water resources available at the level of the cross-border territory as well as the capitalization and development of available datasets and development of advanced GIS tools to support decisions with cross-border value and the elaboration of a 3D territorial model for the sustainable management of water resources in relation to climate change.

4.11.4 Transport

Status quo

NEAT bilateral agreement

Similar to the state treaty between Switzerland and Germany regarding the Rhine valley NEAT run-up, a 1999 state treaty resp. bilateral agreement¹⁰⁹ was signed between Switzerland and Italy to facilitate and ensure the timely capacity expansion along the Italian NEAT run-up (Swiss Compliance Report 2019:43). This addressed most notably the Ceneri Base Tunnel, which was opened for service in 2020.

¹⁰⁶ <https://www.bafu.admin.ch/bafu/de/home/themen/landschaft/mitteilungen.msg-id-69858.html>

¹⁰⁷ Necessary to achieve the 75 sqkm minimum area for Swiss National Parks, see <https://www.espazium.ch/de/aktuelles/kommt-der-nationalpark-im-locarnese>.

¹⁰⁸ <http://www.fondazionemontagnasicura.org/progetti-in-corso/reservaqua>

¹⁰⁹ <https://www.bav.admin.ch/bav/de/home/publikationen/bav-news/ausgaben-2020/bav-news-februar-2020/artikel-3.html>

Suburban Train from Mendrisio (CH)–Varese (IT) ¹¹⁰

Based on a 2011 agreement between the Republic and Canton of Ticino and the Lombardy Region, a coordinated management of the Mendrisio-Varese line and the establishment of the railway service in the Insubric Region is in place. Current activities are focussing on improvements of cross-border mobility between Ticino and Lombardy.

Since 2018, the international railway between Mendrisio and Varese is in use. The canton of Ticino and the region of Lombardy cooperated in the planning process. Between the border a five-kilometre-long new route was built to connect the Swiss and the Italian train systems. The trains are operated by TILO (Treni Regionali Ticino Lombardia), a common subsidiary of the Schweizerischen Bundesbahnen and Trenord.

SMISTO - Development of integrated and sustainable mobility between Ticino and Lombardy

The Interreg project SMISTO¹¹¹ aims to improve cross-border mobility between Lombardy and Ticino both in regard to public as well as private transport. In particular, it intends to

- increase the use of public transport thanks to better accessibility, integration and quality of services, reducing the number of journeys currently made by private vehicle
- and reduce the environmental impact of travel by private vehicle, through initiatives in favour of car-pooling, company shuttles and electric mobility.

Activities also include the planning and implementation of infrastructural improvements regarding the accessibility of public transport services as well as intermodality.

4.12 Liechtenstein - Austria/Switzerland**4.12.1 Spatial development in general***Status quo*¹¹²*Agglomeration Werdenberg-Liechtenstein*

The Werdenberg region (CH) is closely connected to the Principality of Liechtenstein - primarily through work and commuter relationships. In 2009 the agglomeration Werdenberg-Liechtenstein association was founded and commissioned with the development of a program to coordinate the development of settlement and traffic across borders and to optimize regional development.

Werdenberg-Liechtenstein was part of the 3rd generation of Swiss agglomeration programs. The Werdenberg-Liechtenstein agglomeration is supported by the Werdenberg municipalities and Sargans as well as all Liechtenstein municipalities. The Canton of St. Gallen and the Principality of Liechtenstein are also involved as members. In addition to strengthening cooperation, the aim of the association is to develop future agglomeration programs. Currently, the association will not take part in the 4th generation of the agglomeration program since the central planning of a cross-border suburban train cannot be realised. However, it is planned to apply for the next program generation.

¹¹⁰ https://de.wikipedia.org/wiki/Bahnstrecke_Mendrisio%E2%80%93Varese

¹¹¹ <https://regiosuisse.ch/projects/ext/370300000/smisto-sviluppo-della-mobilit-integrata-e-sostenibile-tra-ticino-e-lombardia>

¹¹² <https://www.sarganserland-werdenberg.ch/arbeitsgruppen/agglomeration-werdenberg-liechtenstein>

4.12.2 Climate change

Status quo¹¹³

Agglo Werdenberg-Liechtenstein: Public space and heat-adapted settlement development

As part of the last generation of the Werdenberg-Liechtenstein agglomeration program, the member communities from Liechtenstein and Switzerland dealt with the current topic of “public space, open space and heat-adapted settlement development”. In regard to settlement densification and adaption to climate change, high-quality public spaces and open spaces within the settlement areas were secured, further developed and supplemented. Municipalities from Vorarlberg (AT) were observing the process and took part in the project as guests. The results of the process support member communities in creating an attractive living space and are used to update municipal planning.

For additional forms of cooperation between the Principality of Liechtenstein and its neighbouring countries Switzerland and Austria as well as Germany in the Lake Constance Region (IBK, Target Vision, ROK-B, DACH+-activities, IPBK), see Chapter 0.¹¹⁴

4.13 National and state strategies and requirements for cooperation

This chapter outlines non-exhaustive examples for national requirements for cross-border cooperation that are addressed in national or federal spatial planning acts and strategies.

4.13.1 Austria

ÖREK 2030

The Austrian Spatial Development Concept 2030 (ÖREK 2030, Österreichische Raumordnungskonferenz 2021) is addressing cross-border cooperation in the following respects:

- Pillar 4 Further development of vertical and horizontal governance:
 - In this regard, the active participation in European strategies and processes of spatial development are seen as important. On the one hand in respect to formulating spatially relevant Austrian interests and integrating them in cross-border and transnational processes. On the other hand, European strategies and processes are important impulses that need to be integrated at national, state, regional and local level (ibid: 123). Objectives include (ibid:135):
 - Contributing to strategic documents and processes (Green Deal, Recovery and Resilience Facility, Territorial Agenda, New Leipzig Charta, Urban Agenda, ESPON, Biodiversity Strategy)
 - Contributing to EUSALP
 - Contributing to the formulation of transnational and bilateral program and strategy documents in the context of EU funding programs (IBW/EFRE, ELER,

¹¹³ https://www.hager-ag.ch/de/project/tfc524_dhz981_owr584/

¹¹⁴ Also see chapters 0 and

ESF) and use of funds for cooperative transnational and bilateral implementation projects

- Contributing to Working Bodies of the Alpine Convention
- Participating in regional and small-scale cross-border cooperation formats (EGTC, CH Agglomeration Programs)

Potential measures and ÖROK working formats include carrying out studies on the development of spatial structures and interconnections in bilateral and transnational regions that are relevant for Austria.

- To strengthen vertical and horizontal governance, supporting mechanisms are necessary in addition to existing formal coordination structures, including bilateral and transnational cooperation structures and processes (ibid:124).

One of six cross-cutting aspects that should be integrated in the specific implementation are cross-border and European spatial development (ibid:162).

Part of the ÖREK 2030 is the perspective of the next generation of spatial experts (Young Experts). One of six priority issues identified by the Young Experts is “Regional centres for all – establishing coordinated polycentric structures”. In order to achieve this, supra-regional and also cross-border development concepts are deemed necessary (ibid:169).

4.13.2 France

The Interregional Scheme for the Management and Development of the Alpine region (Comité de massif des Alpes 2006 resp. 2020) outlines three approaches to promote a cross-border dynamic between the French Alps and their neighboring countries:

- Improving connectivity: Opening more passes during the winter, improving service frequencies on cross-border railroad connections for passenger and freight,
- Promoting joint opportunities and land use in regard to tourism and culture, production systems, social services, education and research, labour market and prevention and management of natural hazards. A cross-border stakeholder network is regarded as desirable to promote cooperation on a continuous basis.
- Cross-border project areas: These can be established at territorial (references are the Agglomeration Franco-Valdo-Geneva, Espace Mont-Blanc, Conference Hautes Vallées) or state level (references are the Conference of the Département Alps-Maritimes and the Italian Provinces of Imperia and Cuneo). Additional cooperation structures are the Vanoise / Grand Paradiso and Mercantour / Alpi Maritime national parks.

In France, under the law on the modernization of territorial public action and the affirmation of metropolises (MAPTAM, Law No. 2014-58, see Mission Opérationnelle Transfrontalière 2016), a legal obligation is in place for border metropolises such as Nice Côte d’Azur to elaborate cross-border cooperation schemes with different scales of cooperation, including.:

- Inter-Metropolises : Nice, Torino, Genova
- Mid-territorial, e.g. Alpimed territory
- Thematic issues

4.13.3 Germany

The Concepts and Strategies for Spatial Development in Germany (Standing Conference of Ministers responsible for Spatial Planning in the Federal Ministry of Transport and Digital

Infrastructure 2016) addresses four priority areas for spatial development with the following references to cross-border cooperation:

- Enhancing competitiveness: Regional structures and developments are not taking place isolated and therefore neighbouring regions need to be taken into consideration, particularly cooperation in cross-border regions. Cooperation potentials in cross-border functional areas shall be exploited. Cross-border issues, planning approaches and coordination procedures must increasingly be placed in the focus of attention. A new spatial category that has been introduced are cross-border metropolitan regions (based on maps submitted by the Cross-border Metropolitan Regions Initiative (IMeG)), with Zurich as the only cross-border metropolitan region exerting influence on the German Alpine Convention perimeter. Additional locations within the perimeter that feature metropolitan functions are Innsbruck and Salzburg, the latter being an example for potential cross-border zones of influence with Rosenheim (ibid 14f). It is interesting to note that cross-border cooperation in this context focusses on metropolitan regions and areas, not explicitly rural areas (ibid 9).
Approaches to action include the strengthening of cross-border cooperation with adjacent neighbouring states e.g. in regional planning and intensifying cross-border spatial monitoring.

The Bavarian State Development Program (Bayerische Staatsregierung 2020) contains the following references to cross-border cooperation.

Section 1.4 Competitiveness

- 1.4.2 European Spatial Development: Bavaria shall contribute to the cooperation of federal and national states in Europe, particularly in the coordination of spatial development strategies. Spatial concepts for Bavaria shall take into consideration cross-border coordinated development strategies.
- 1.4.4 Cooperation and networking: Through cooperation and networking – also in a cross-border perspective - locational disadvantages shall be balanced, synergies for regional development shall be created, regional potentials shall be identified and used and innovation capacity shall be increased.

Section 2.1. Central places

- 2.1.11 Double and multiple central place functions Particularly cross-border central places (including with Austria) shall promote cross-border development and cooperation, without intervening with planning and projects of neighbouring countries.

Section 2.2 Spatial categories

- The Region 18 Südostoberbayern is designated as Bavarian part of the Salzburg agglomeration area

Section 7.1 Nature and landscape

- Due to their intact biotope network and comparably minor artificial barriers, the Alps are of outstanding importance for cross-border networks of biotopes.

4.13.4 Italy

For Italy, there are no specific legal references on spatial planning at the national level. The Italian national Law on Town and Country Planning (Legge urbanistica l.n. 1150/1942) has been updated and improved by the regions that have direct competence on territorial and urban planning and legislation on the matter. The law, however, does not pay specific attention to spatial planning at cross-border level.

At the regional level, Regional Territorial Plans for Italian Alpine border regions such as Piedmont, Lombardy, Valle d'Aosta, Trentino Alto Adige and Friuli Venezia Giulia cross-border cooperation in various thematic dimensions. The Piedmont Regional Territorial Plan (Piano Territoriale Regionale, Regione Piemonte 2011:30ff) for example dedicates a sub-chapter to cross-border cooperation, refers to existing or past cooperation in the form of cooperation structures (CAFI, COTRAO, Espace Mont-Blanc, Conferenza delle Alte Valli etc.) and underlines the region's intention to continue opening its territory to cross-border cooperation. Its Strategy 3 outlines the region's cross-border corridors for territorial integration e.g. in regard to mobility, communication and logistics infrastructure.

Also the proposal for an updated Regional Territorial Plan for Lombardy (Piano Territoriale Regionale, Regione Lombardia 2021, not yet in force) addresses cross-border cooperation and integration e.g. in regard to enhancing cross-border mobility between Lombardy and the Canton of Ticino (e.g. SMISTO project) and creating synergies between Alpine regions (ibid 118), strengthening transnational collaboration, cross-border and interregional cooperation in regard to macro-strategies and innovative governance models for the Alpine arc as well as enhancing socio-cultural cross-border relations (ibid 119).

Cross-border cooperation is characterized by its focus on voluntary approaches and its implementation in the context of territorial cooperation instruments (Interreg). Their thematic focus lies on cross-border protected areas (ALCOTRA, Piemonte/France, Regione Valle D'Aosta/France).

4.13.5 Slovenia

The 2004 Spatial Development Strategy of Slovenia (Strategija prostorskega razvoja Slovenije) incorporates cross-border strategies such as: integration of Slovenia into the European Space under equal terms, efficient connection of infrastructure networks, creation of conditions for equivalent participation in cross-border regions, Border areas – treated as areas with specific problems and potentials, strengthening of the accessibility of border areas and its connectivity to other regions, as well as the integration of nature into networks (green infrastructure) (Miklavčič 2018:9).

The Spatial Development Strategy stipulates that the conservation of biodiversity and natural values as well as the interconnection and interrelation of ecological networks shall be enabled by spatial development policies. It recommends an integrated consideration of natural ecosystems in Slovenian border areas in order to enable their interconnection and integration into international ecological networks and protected areas (Perrin et al 2019:38).

The Slovenian Spatial Planning Act of 2007 (Zakon o prostorskem načrtovanju, ZPNačrt) contains no reference to cross-border coordination or cooperation.

A new version of the Spatial Development Strategy is currently in the drafting process (see draft document Ministrstvo za okolje in prostor 2020). Compared to the previous national strategy, the role of cross-border areas and the importance of cross-border connections and cooperation will be recognized to a greater extent (Miklavčič 2021), e.g. in the form of a strengthening of border towns, forming cross-border wider urban areas (e.g. Gorizia, Carinthia) and joint development programs and projects to solve common cross-border problems and development challenges. The importance of provision of cross-border public services and the role of five cross-border functional urban areas located at the border with Austria, Croatia and Italy are explicitly mentioned in the draft of the new strategy.

The coordination of spatial planning, economic development and environmental aspects takes place within the framework of bilateral intergovernmental commissions with Germany (Bavaria), Austria and Italy (Slovenian Compliance Report 2019:55). In general Slovenia makes use of bilateral/multilateral commissions, projects and training programs as instruments for cross-border coordination and cooperation (ibid:56).

4.13.6 Switzerland

Article 7 of the Swiss Spatial Planning Act (RPG) calls on border cantons to cooperate with regional authorities across the border as far as measures are having potential cross-border effects. Cross-border cooperation on behalf of Swiss border cantons is thus a federally encouraged, but not mandatorily required activity. The Planning Obligation according to Art. 2 potentially includes cross-border cooperation in regard to “areas of functional-spatial interconnections”.

The Spatial Concept Switzerland, whose activity areas (Handlungsräume) mainly focus on the Swiss territory¹¹⁵, formulates three strategies (Schweizerischer Bundesrat et al. 2012). Spatially differentiated approaches include making better use of border locations through cross-border strategies and projects, illustrated through the mapping signatures

- “cross-border coordination of settlement and landscape”, for which the need for cross-border coordination is emphasized for transport and energy infrastructure.
- and “cross-border cooperation in nature and tourism” (ibid 37 and 46), with references to the good-practice example “Espace Mont-Blanc” (see 0).

In regard to Strategy 1 “Creating areas of activity and strengthening the polycentric network of cities and municipalities”, the federal level is expected to improve conditions for cross-border cooperation, e.g. by participating in European projects and supporting cantons, cities and municipalities in cross-border cooperation (ibid 40).

Concrete cross-border approaches are primarily pursued at the level of the Swiss agglomeration policy (Agglomerationspolitik), involving 50 agglomeration programs. Since 2014, cantonal structure plans (Kantonale Richtpläne) in border regions need to cooperate with neighbouring regions, particularly in the analysis of regional linkages and interconnections across borders (e.g. Canton Valais).

The Swiss Landscape Concept (Landschaftskonzept Schweiz, Objective 5.A Ecological Infrastructure, BAFU 2020:34) envisions a joint effort on behalf of sectoral policies at federal and

¹¹⁵ With extended activity areas stretching across the Swiss border to include neighbouring areas.

cantonal level to preserve, improve and further develop and link – also in a cross-border dimension - valuable natural and near-natural living spaces, promoted through technical information, consulting and subsidies. Consequently, these promotional factors need to be provided at a cross-border level as well.

Beyond these supporting provisions for cross-border cooperation, there are no formalised cross-border spatial plans.

4.13.7 Liechtenstein

The Liechtenstein Spatial Development Concept (Regierung des Fürstentums Liechtenstein 2020) considers a well-functioning cross-border cooperation as essential, given the small size of Liechtenstein. In regard to future cross-border cooperation, it outlines an intensified cooperation on mobility.

The spatial concept identifies various relational networks with bordering territories (Rhine Valley, Vorarlberg, Grisons), for which various activities are envisaged, including limiting transit traffic, improving cross-border public transport as well as infrastructure for cycling and pedestrians. The strategy of the Liechtenstein mountain area needs to be coordinated with the Austrian Province of Vorarlberg (ibid:37).

Infrastructure development and supply structures need to be coordinated with Switzerland. Particularly transport-intensive structures (e.g. retail) are to be coordinated at a cross-border level. The Specification of the outlined approaches is envisaged to take place in coordination with Liechtenstein's neighbouring regions.

Liechtenstein has no Spatial Planning Law, as a proposal for such a law has been turned down in a referendum in 2002. A study in 2002 has outlined areas of cross-border cooperation in the Alpine Rhine Valley (Strittmatter AG 2002:34f). In 2019, a study elaborated current challenges, measures and recommendations including cross-border spatial development for Liechtenstein, with a specific focus on mobility and urban development (Beck & Lorenz 2019).

4.13.8 Monaco

Monaco has the following specific regulations for urban development¹¹⁶:

- Ordonnance-Loi n° 674 du 3/11/1959 concernant l'urbanisme, la construction et la voirie,
- Ordonnance Souveraine n° 3.647 du 9/09/1966, modifiée, concernant l'urbanisme, la construction et la voirie,
- specific regulations are adopted by districts.

The Monegasque Government is committed to cooperating with neighbouring towns to harmonize development and urban infrastructure. Cross-border cooperation is encouraged.

4.14 Cross-border cooperation and instruments outlined in Compliance Reports

A screening of the 2019f Compliance Reports of the individual Contracting Parties (AT, CH, DE, FR, IT, LI, MC, SI), based on a questionnaire prepared by the AC Compliance Committee¹¹⁷,

¹¹⁶ <https://www.gouv.mc/Gouvernement-et-Institutions/Le-Gouvernement/Departement-de-l-Equipement-de-l-Environnement-et-de-l-Urbanisme/Direction-de-la-Prospective-de-l-Urbanisme-et-de-la-Mobilite>

¹¹⁷ Available in French, Italian, Slovenian and German at <https://www.alpconv.org/en/home/organisation/compliance-committee/>

gives an overview of the governmental perspective on cross-border cooperation in the framework of implementing the Protocol Spatial Planning and Sustainable Development (see Annex 1). Several of these reports have not been made public yet and have only partly been available for analysis (Part 2 concerning specific obligations of the protocols Section A: Protocol Spatial Planning and Sustainable Development).

Instruments applied for cross-border coordination of spatial planning include most notably joint projects, bilateral and multilateral treaties. Financial support instruments and capacity building/training are used rather sparingly.

Most effective forms of cooperation

The French Compliance Report 2019 (pg. 70) stresses that the traditional system and partnership agreements are most flexible in regard to the administration and implementation of plans, measures and projects. It also underlines the relevance of cross-border consultation in the framework of the EU-Directive 2001/42 in regard to SEA and EIA (ibid:69).

The Italian Compliance Report (2019:11f) and the Slovenian Compliance Report (2019:60) additionally stress the information exchange on EIA and SEA with other Contracting Parties based on the Espoo Convention. Cross-border consultations have e.g. been conducted in regard to the SEA of the Slovenian Spatial Development Strategy 2050, the National Program for the Development of Transport Infrastructures of the Republic of Slovenia and the National Radioactive Waste Management Program of the Republic of Austria and with Switzerland and France for the Food Risk Management Plan of the Po River Hydrographic District. Slovenia is reporting cross-border consultation at regional, project level (high speed rail, Karawanks tunnel).

The Swiss Compliance Report identifies joint projects and exchange of experience as success factors for cooperation. They create sustainable networks across the Alps and enable to profit from innovative solutions elsewhere and adapt them to individual situations and needs (Schweizer Bundesverwaltung 2021:38).

Monaco (Compliance Report pg. 52) stresses the relevance of bilateral cooperation with France, particularly Provence-Alpes-Côte d'Azur, the Département Alpes-Maritimes and the neighbouring French municipalities. Consultations are reported in the framework of urban development projects between Monaco and neighbouring municipalities.

Liechtenstein sees the best outcome of cooperation in the elaboration and financial support of concrete projects of horizontal and vertical cooperation. Liechtenstein informs neighbouring Contracting Parties on the issue of cross-border public transport and is being consulted at a cross-border level in regard to concepts and planning instruments.

According to the Austrian Compliance Report 2019 (pg. 106f), cooperation is effective mostly in regard to transport planning and cross-border protected areas, but also encompasses mandatory consultation in the implementation of EU Directives, research and studies on land use planning and river management as well as cooperation in the framework of Euregios and EUSALP.

The Slovenian Compliance Report (2019:56) states that cooperation works best in the framework of projects under the Operative Program for Cross-Border Cooperation 2007-2013 between Slovenia and Austria respectively Italy as well as Interreg IIIB in regard to environmental, tourist and cultural measures.

5. QUANTITATIVE ANALYSIS OF INTERREG PROJECTS AND REFLECTIONS

5.1 The transnational perspective on cross-border spatial development

As the Alpine region is the interface of several countries with different political cultures and statistical systems, it is not easy to reflect on cross-border spatial development on the transnational level. But even if standardised information and homogenized data is rare, this chapter takes Interreg cooperation data as a base for synthetic reflections that links back to those chapters based on desktop-research, literature and expert-interviews.

The following reflections are based on the financial and thematic configuration of the Interreg data (transnational and cross-border), provided by the KEEP-database. This data allows to take a comparative perspective on spatial development in cross-border and transnational contexts.

5.1.1 The Interreg perspective (transnational & cross-border)

The Alpine Convention Area is (partly) covered by several EU cooperation programs, namely six Interreg V-B (transnational)¹¹⁸ and nine Interreg V-A (cross-border)¹¹⁹ programs. However, only the Alpine Space Program has real Alpine-specific relevance in the field of Interreg V-B programs. The program implementation is characterised by differences in the number of projects per program area, in the overall budget as well as in the co-funding shares. Figure 1 provides an overview of the cooperation programs, before the following sections will go more into detailed.

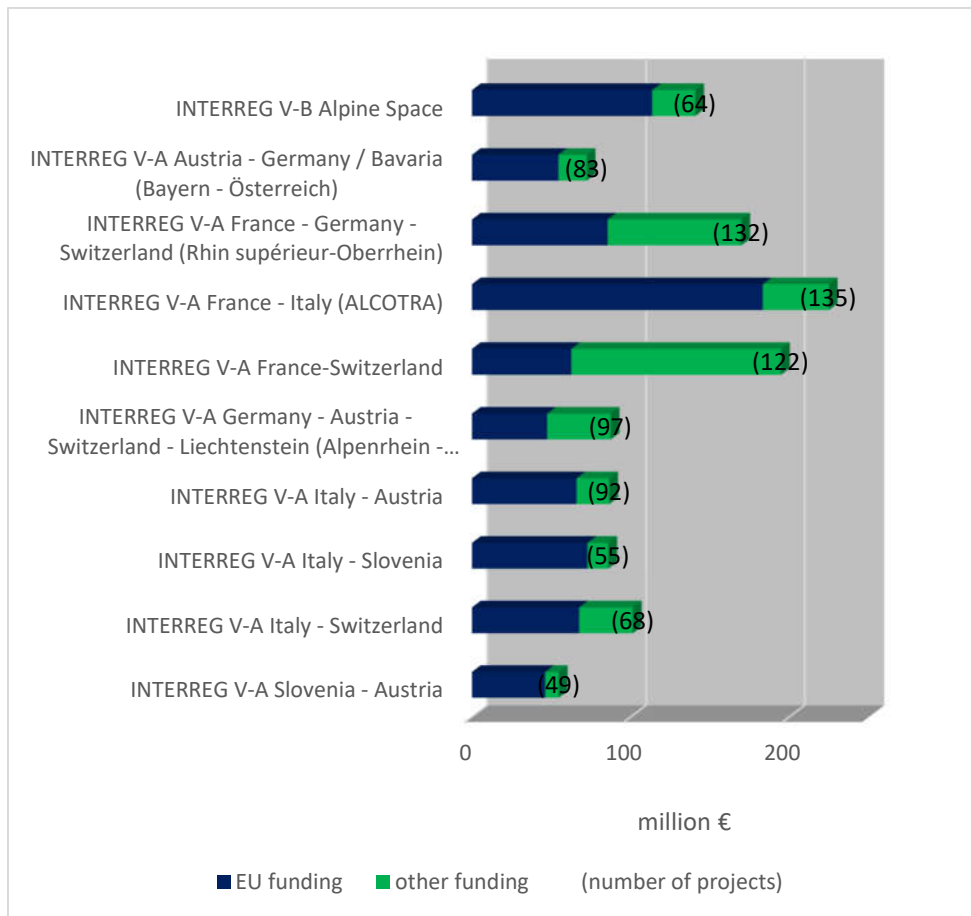
Source: keep database 2021 / Elaboration: FAU.

Figure 4 visualizes the following aspects:

- The transnational Interreg V-B Alpine Space Program (ASP) has a rather modest number of projects. Even if the ASP perimeter is by far larger than those of the cross-border programs, it covers only 64 projects compared with 92,5 projects on average in the Interreg V-A programs. One has to mention that the number of projects per cross-border program area varies significantly. However, the funding per ASP project is higher than that of the cross-border programs.
- The Interreg V-A programs France-Germany-Switzerland, France-Italy and France-Switzerland show the highest number of projects as well as the highest overall program budgets.
- Unsurprisingly, especially the program areas with Swiss, non-EU participation show a higher volume of non-EU-funding.
- The Interreg V-A programs with Slovenian participation are the areas with the lowest amount of projects but have the highest percentage of EU funding in their budgets.

¹¹⁸ Alpine Space, ADRION, Central Europe, Danube, Mediterranean, North West Europe.

¹¹⁹ ALCOTRA, Alpenrhein-Bodensee-Hochrhein, Austria-Germany, France-Switzerland, Italy-Austria, Italy-Slovenia, Italy-Switzerland, Slovenia-Austria.



Source: keep database 2021 / Elaboration: FAU.

Figure 4: Interreg V-B and Interreg V-A budget volumes and the shares of EU- and other funding in the Alpine Convention area.

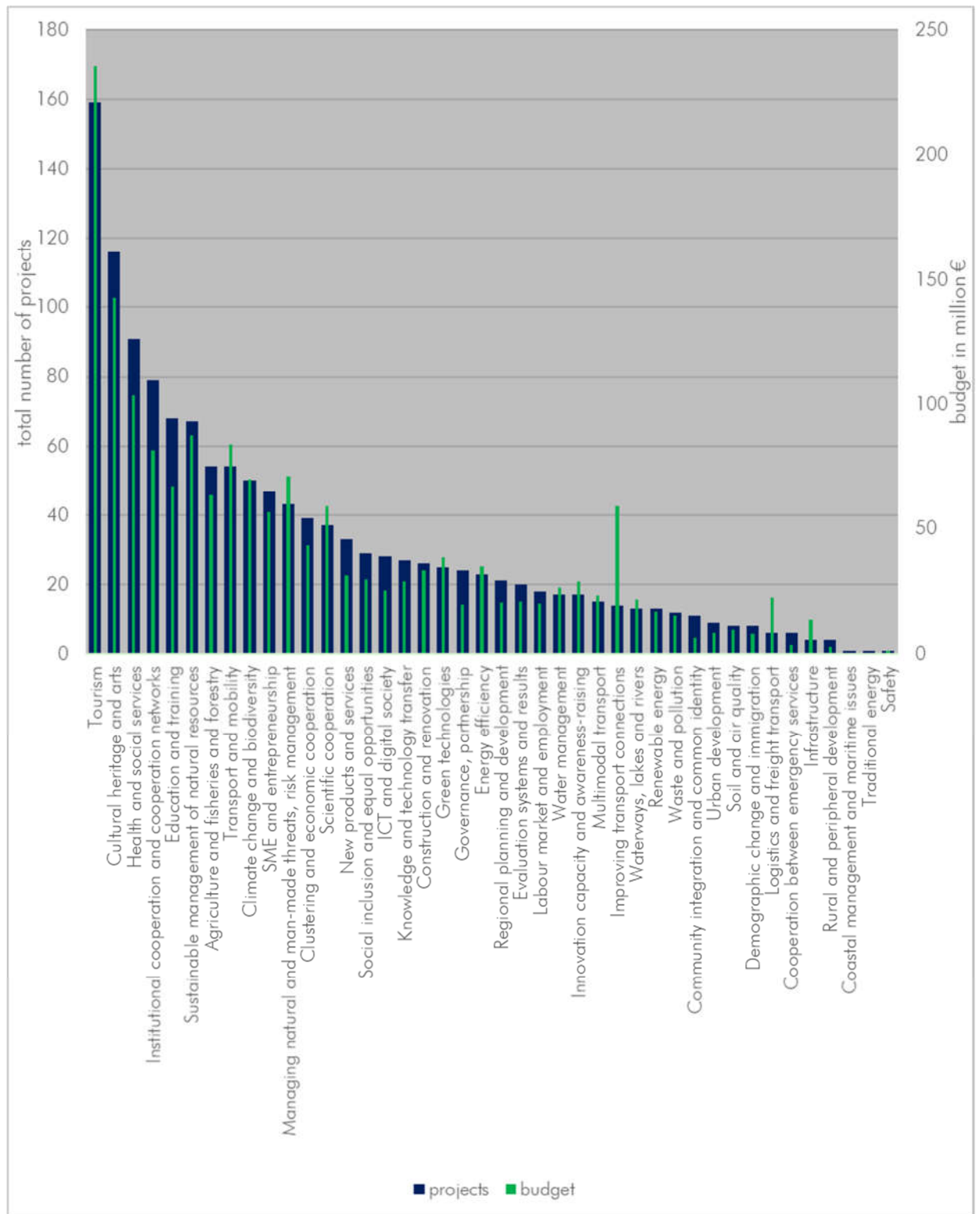
Taking a closer look into the thematic dimension of the different funding strands, there are important differences between the transnational and the cross-border programs. By analysing the EU database KEEP, it is possible to quantify the thematic project assignments and to provide a graphical overview of the dynamics for both Interreg V-B and Interreg V-A.

Source: keep database 2021 / Elaboration: FAU.

Figure 5 provides an overview of the thematic areas for all Interreg V-A projects regardless the program affiliation (blue, broader columns). The KEEP database allows up to three thematic assignments for each project.

In addition, the total budget volume per topic is shown as green, thin columns. Source: keep database 2021, Elaboration: FAU.

Figure 6 visualizes the same information categories for the Interreg V-B Alpine Space Program.



Source: keep database 2021 / Elaboration: FAU.

Figure 5: Thematic and financial focus of the nine Interreg V-A programs in the Alpine Convention area.

Source: keep database 2021 / Elaboration: FAU.

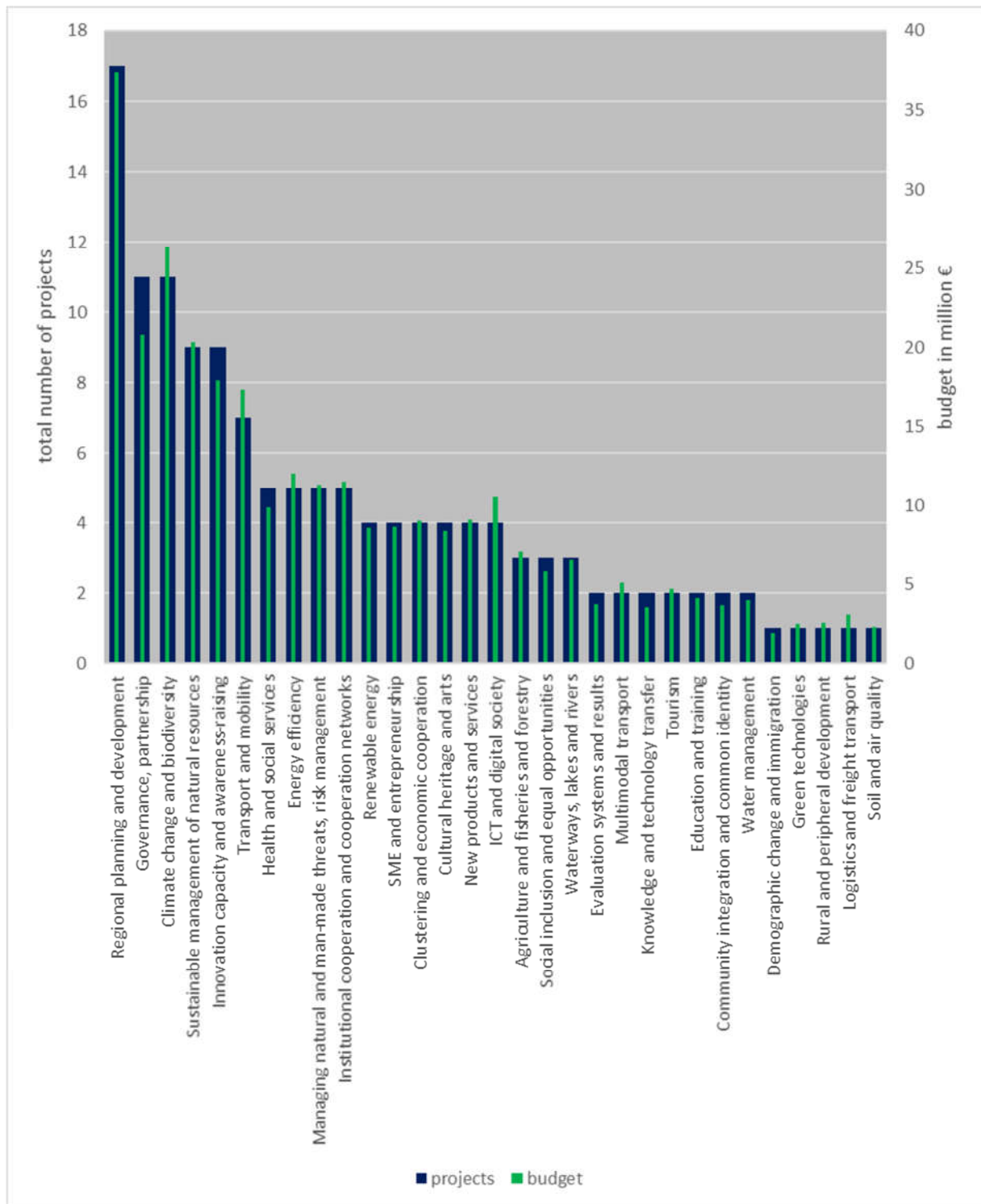
Figure 5 visualizes a total of 42 thematic assignments, thus a multifaceted picture of the relevant themes in cross-border cooperation. In addition, the relation between the number of projects and the financial resources of each theme vary largely. The following findings can be summarized:

- The TOP 5 topics in the Interreg V-A programs are: Tourism (rank 1), Cultural heritage and arts (2), Health and social services (3), Institutional cooperation and cooperation networks (4), Education and training (5).
- Topics with the most explicit reference to spatial planning and territorial governance themes are positioned as follows: Institutional cooperation and cooperation networks (4), Governance, partnership (20), Regional planning and development (22), Urban development (33), Rural and peripheral development (39).
- The thematic focus of the cross-border Interreg projects are linked to the political mandates of the actors involved. The prominent topics of tourism, cultural heritage and arts fit the political focus of the local level. Rather large-scale topics like multimodal transport, safety or cooperation between emergency services cannot be solved due to lacking responsibility and mandates.
- Projects dealing with topics like transport, mobility, logistics and freight transport are equipped with comparatively higher budgets.
- Projects dealing with topics like education, cooperation, inclusion and common identity come up with a comparatively lower project budget.

Source: keep database 2021, Elaboration: FAU.

Figure 6 visualizes the thematic focus of the Alpine Space program implementation that differs from the Interreg V-A programs in the thematic and financial dimension. It has to be mentioned, that there are only 31 possible thematic categories for assignment in the KEEP-database. As in the Interreg V-A programs, there are up to three themes for every project. The following observations can be formulated:

- The TOP 5 themes in the Interreg V-B Alpine Space Program are: Regional planning and development (rank 1), Governance, partnership (2), Climate change and biodiversity (3), Sustainable management of natural resources (4) and Innovation capacity and awareness-raising (5).
- The spatial planning and territorial governance themes are positioned as follows: Regional planning and development (1), Governance, partnership (2), Institutional cooperation and cooperation networks (10), Rural and peripheral development (29).
- On the transnational level, more overarching topics like regional planning and development, governance and partnership but also green topics and transport and mobility play a prominent role.
- The budgets show a similar picture as in the Interreg cross-border programs: Topics like transport, mobility, logistics and freight transport are equipped with a comparatively higher project budget. Climate change and digitalization also show relatively high project budgets.



Source: keep database 2021, Elaboration: FAU.

Figure 6: Thematic and financial structure of the Interreg V-B Alpine Space Program in the Alpine Convention area.

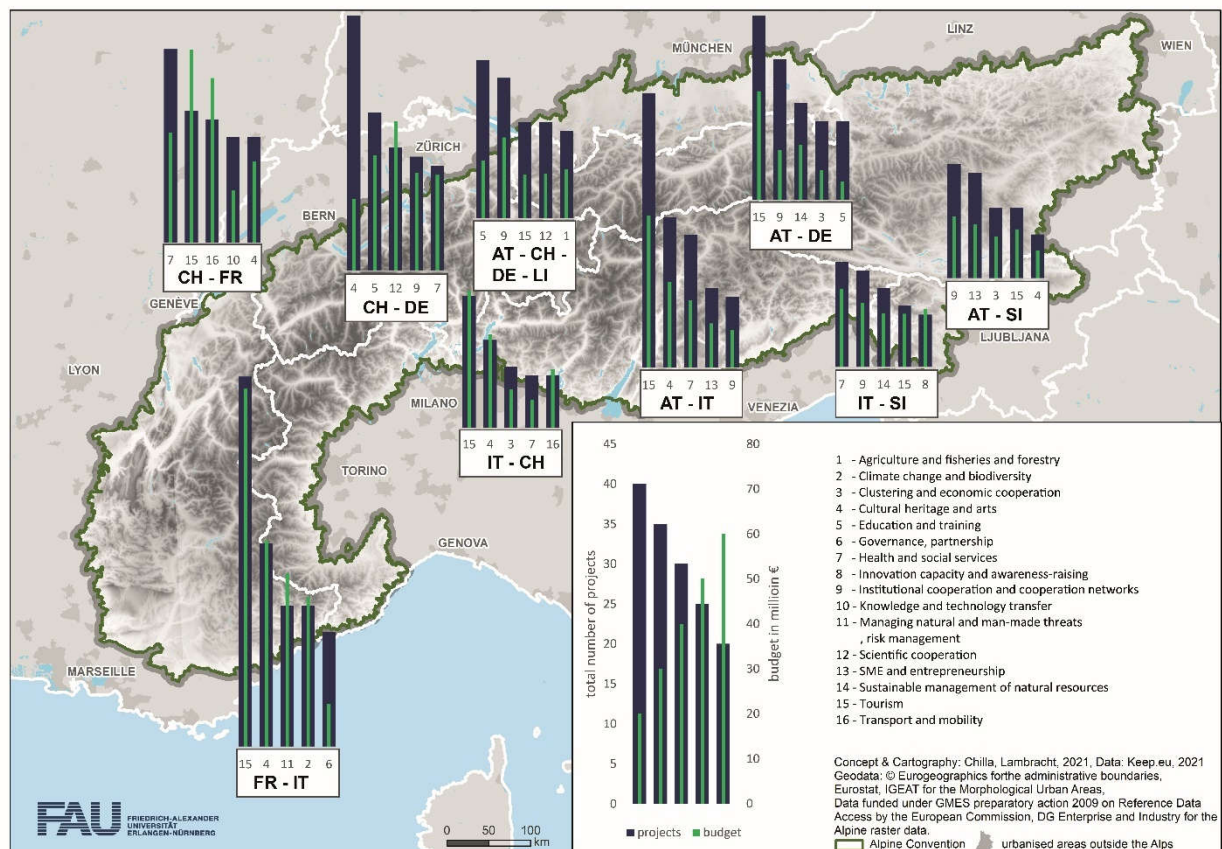
In regard to the effect of Interreg programs on spatial planning, the COMPASS analysis concludes that there is a lack of influence of these programs and their projects on national planning systems and strategies. It calls for a revitalized Interreg scheme which “*reaches into mainstream planning systems and strategies and builds capacity and trust in functional regions*” (ESPON 2018:xi). On an informal level, however, territorial integration in cross-border (such as Interreg A) and

transnational (Interreg B) regions is facilitating knowledge transfer and exchanges of good practices in territorial governance and spatial planning (ESPON 2018:52).

5.1.2 The comparative perspective

In addition to the thematic differentiation of all cross-border program areas, Source: keep database 2021 / Elaboration: FAU.

Figure 7 differentiates the main topics for each program area. The comparative perspective on cross-border programs complements the previous qualitative overview by means of standardised information.



Source: keep database 2021 / Elaboration: FAU.

Figure 7: Top 5 thematic focus in the different Interreg V-A program areas.

Austria-Germany

The Interreg V-A cooperation between Austria and Germany has some obvious thematic priorities, in particular with regard to tourism and institutional cooperation. In addition, economic, ecological and social topics play an important role.

The situation can be described as follows:

- The strong focus on tourism correlates with the natural and territorial context. In close proximity to metropolitan regions (Munich, Salzburg, Innsbruck), a highly attractive and accessible landscape traditionally draws a high number of tourists. Sustainable tourism management and smart tourist guidance as well as the further development of infrastructure play a major role, and also sustainable management of natural resources.

- Against the above-mentioned background, path dependency in Interreg dynamic plays a role. Already in previous funding periods (Interreg III & IV), several projects aimed at cross-border nature conservation through, for example, national park cooperation or habitat protection. That kind of cooperation can bridge gaps or mismatches in official administrative activity on the domestic level.
- The high prominence of projects with a focus on “institutional cooperation and networks” might be surprising for a region without language barrier etc. A series of further documents mentions the ‘Need for action’ to improve networking among cross-border institutions (see the document and interview analysis). The institutional approaches to cross-border issues differ on either side of the border.
- As mentioned earlier in the study, cross-border institutions are often linked to national economic institutions, which incorporate thematic priorities such as clustering and economic cooperation.

Austria-Italy

The border region between Austria and Italy is divided into an eastern and a western area, which have to deal with different issues. Furthermore, the region comprises EGTCs (Tirolo - Alto Adige - Trentino as well as EGTC Senza Confini). Both EGTCs fuel a closer institutional cooperation between cross-border actors, but also between national actors on the Austrian and Italian side, as shown by the EUMINT project and also the participation in the Fit4Cooperation program.

The cooperation focus is embedded in a particular context:

- The high relevance of tourism is not surprising given the dense touristic infrastructure and very high infrastructural accessibility.
- The prominence of the cooperation projects with a historical focus has to be seen against the background of a particular history of (North-/South-)Tyrol.
- The presence of the transalpine ‘Brenner-corridor’ is of overall importance. The focus on ‘SME and entrepreneurship’ has to be seen in this context. The location on the largest European freight-transport routes additionally holds a high potential of economic opportunities, not only on the transnational scale but also for border region. Mobility issues are addressed in projects like CROSSMOBY or EMOTIONWay, as illustrated in the document analysis.

Austria-Slovenia

The Austrian and Slovenian border region has a modest number of projects and a smaller budget compared to the other Interreg cooperation areas, also due to the rural context. The thematic focus on institutional cooperation and cooperation networks reflects that the cooperation is still in a comparably early stage compared to other areas. This confirms the findings from the document analysis and expert interviews. The SUSPLAN project from the previous Interreg IV funding period set the course for sustainable cross-institutional and cross-border planning. This course seemed to be confirmed in the most recent funding period INTERREG V. Besides institutional cross-border networking, many projects in the field of ‘SME and entrepreneurship’ but also ‘clustering and economic cooperation’ were realized. There are some previous Interreg projects,

especially the GREMA project (Cross-Border Masterplan Lower Carinthia) which cover these topics.

Also in this case, the territorial context explains some of the thematic focus. The high attractiveness of the rural regions in the border area explains the high level of project implementation in the areas of tourism and cultural heritage. As mentioned in the qualitative part of the study, there are some projects which are based on the importance of cultural heritage (e.g. CULTH:EX CAR-GOR – Borderless cultural experience Kärnten – Gorenjska).

Austria-Switzerland-Liechtenstein

This border region comprises two Interreg V-A program areas, namely Interreg V-A Italy-Austria and the Interreg V-A Austria-Switzerland-Liechtenstein (Alpenrhein-Bodensee-Hochrhein).

The geographic context is characterized by Lake Constance, the High Rhine valley and by mountainous regions.

With the establishment of a CLLD in the multilateral border region between Austria, Switzerland and Italy, topics such as 'institutional cooperation', 'tourism', but also 'education and training' were pushed already in the funding period 2014-2020. The current picture still reflects this.

In the north-western part of the border area, there are also some flagship projects that confirm the result of the quantitative analysis. For example, the Velotal Rhine Valley Initiative aims to further develop the Rhine Valley in terms of tourism and infrastructure. The area between Vorarlberg on the Austrian side and St. Gallen on the Swiss side is focusing on Education and training and also Agriculture and fisheries and forestry. There are many University and college partnerships, as well as projects of scientific cooperation. With the Rhine-Valley and Lake Constance, there are two big natural habitats, which are further developed in renaturation and sustainable agriculture, as the International Rhine Regulation and its following projects show.

Switzerland-Germany

In the Swiss-German border region, two programs are in place, namely INTERREG V-A France-Germany-Switzerland (Rhin supérieur-Oberrhein) and Interreg V-A Germany-Austria-Switzerland-Liechtenstein (Alpenrhein-Bodensee-Hochrhein) programs.

The cooperation dynamics between Switzerland and Germany show particularly high numbers for the topic cultural heritage and arts. The explanation for such high values lies not in territorial characteristics but are based on contingent priority setting.

The focus is furthermore on economic and educational networks as well as institutional networks and collaborations and partnerships in the health and social sectors. The document analysis mentions as 'Need for action' for this border region an intensification of the networking of scientific cooperation with economic cooperation. The high density of universities and R&D in this region fits the focus on 'education and training' as well as 'scientific cooperation'. This tendency is confirmed by the composition of the thematic foci of the Interreg V-A program areas. The prominence of 'Health and social services' is typical for regions with a higher agglomeration density.

Italy-Switzerland

The border region between Italy and Switzerland includes important transport corridors between the north and south of Europe (Gotthard, Montblanc). It is not surprising that many of its regions are part of the EGTC Rhine-Alpine-Corridor and one of the top thematic foci is 'Transport and mobility'. The fact that the number of projects in this field seems to be rather low is linked to the transnational character of the projects. Additionally, the cross-border region between Ticino and Lombardy forces higher project-density in cross-border transport and mobility in the next years (see the results from the document analysis).

The other main thematic foci in this cross-border region are 'Tourism', 'Cultural heritage and arts', 'Clustering and economic cooperation' as well as 'Health and social services'. The qualitative analysis shows that economic cooperation in the border regions is an important policy priority in general. The proximity to the metropolitan area of Milano has to be mentioned in this context. The prominence of the tourist topic is typical for the combination of high transport accessibility and prominent touristic destinations.

France-Italy

The composition of the thematic foci with regard to the projects is strongly influenced by the Interreg V program ALCOTRA in the Italian-French border area. With 135 projects in the funding period 2014-2020 and the highest budget and funding volume, this program area is the most active in the Alpine Convention area. The thematic foci addressed in for the funding period Interreg V are 'tourism', 'Cultural heritage and arts', 'Managing natural and man-made threats, risk management', 'Climate change and biodiversity' and 'Governance, partnership'. Further information about this area and the Interreg V program ALCOTRA is commented in the document analyses.

This border region is a highly rural border area with strong natural obstacles and accessibility problems. In this context, the focus on 'tourism' can be regarded as a potential economic solution, in particular in proximity to the metropolitan area of Torino.

The focus on 'tourism' and 'cultural heritage and arts' can also be explained with the attractive rural parts of this region. As explained in the document analysis, the Habit.A project and the high proportion of projects with a thematic focus on 'Cultural heritage and arts' is not surprising.

Italy-Slovenia

Similar to the Slovenian-Austrian border area, also the Slovenian-Italian border area has a comparatively low number of projects and total budget density. The share of third-party funding is also low compared to other Interreg V-A border areas. Nevertheless, these projects play an important role for topics of cross-border spatial planning and regional development, as the document analysis reveals.

The share of projects in the different thematic foci is rather balanced compared to other border regions, but it is noticeable that the topic 'tourism' is not amongst the first three thematic foci. The TRANSLAND project from a previous Interreg funding period had a main focus on cross-border cooperation networks and seems to have had a lasting positive influence on the topic of 'institutional cooperation and cooperation networks' in the following funding periods as well.

The EGCT GO as well as the regional Smart Specialization Strategy have the identical thematic profile as these results from the quantitative Interreg analysis. The focus on 'health and social services' is typical for an area in proximity to urban agglomerations, in this case Udine and

Trieste. The prominence of 'institutional cooperation and cooperation networks' as well as 'Innovation capacity and awareness-raising' is typical for a comparably young cooperation area. Tourism and sustainability have to be seen as important foci in proximity to the Triglav national park.

Switzerland-France

The border region between France and Switzerland shows a different profile from the other cooperation programs. 'Health and social services', 'Transport and mobility' as well as 'knowledge and technology transfer' are themes that play a major role in this cooperation. This must be seen against the background of a highly urbanized border-region. With the Greater Geneva Region and Basel region, two of Europe's most metropolitan border regions are located in this perimeter. At the same time, there are also more rural areas with accessibility problems (e.g. canton of Valais). The region has the second highest total number of projects, and it also has the highest percentage of third-party funding in comparison to the EU funding, due to the particular status of Switzerland as non-EU member.

6. SUCCESS FACTORS AND OBSTACLES

Apart from the current status of cross-border cooperation, the analyzed literature also contained references to challenges, success factors and obstacles.

Factors influencing cross-border cooperation include natural similarities, common functional areas and historic and cultural factors (ibid:66f). The thematic focus depends on regional geographical specificities (mountains, rivers) and the main features of settlement structures. The COMPASS analysis has identified the following problems in borderland areas for cross-border cooperation in spatial planning and territorial governance (ibid:67):

- Low population density, low industrial activity, high natural value, which in combination creates the challenge for spatial planning to stimulate development and at the same time preserve natural heritage;
- Low population densities and larger distances to population cores highlight the relevance of cross-border services of general interest;
- Regulations at national level that influence effective bottom-up cooperation;
- Administrative obstacles in regard to responding to environmental risks and natural hazards.

EU-supported instruments and programs (Interreg, Euroregions, EGTC) stimulate cross-border cooperation. However, given the limited period of funding, there is the risk that cooperation structures are only temporarily and not permanently in place. Additionally, the COMPASS analysis concluded that cross-border cooperation is addressing and affecting different sectors, but rarely is it adopting an integrated approach to cross-border spatial planning (ibid).

In regard to spatial planning in the German-Swiss border region, Bächtold et al. (2012:15) identify the following challenges:

- Past mistakes and omissions,
- Existing double structures, particularly regarding infrastructure with corresponding disruptive effects, resource and financial requirements,

- Low acceptance for future-oriented, cross-border solutions due to incongruent cross-border living spaces and border-oriented administrative units,
- Low acceptance for cross-border benefit-burden-compensation,
- Different perception of problems and conflicts,
- Inconsistent data – differing requirements,
- Different conceptions of planning – different planning cultures,
- Challenges in addressing complexity,
- Uncertainties in regard to planning environment, external factors (society, economy, environment, state), values and objectives and political values, political and planning-related objectives, future decisions in other areas, plans of other planning authorities with potential effect on one's own planning system (ibid:17),
- Lack of procedures and instruments to reduce complexity, which manifests itself and needs to be resolved particularly in border regions (ibid:18),
- Conflict resolution,
- Quality control,
- Non-binding character.

Additionally, challenges for spatial planning in border regions according to Caesar & Pallagast (2018:23f) include:

- Bordering regions are often not even addressed in plans and concepts.
- At European and national level, border regions are addressed through persuasive instruments (monitoring, pilot projects) targeted at the public discourse, but lacking legal obligations and financial incentives.
- Different governance structures on both sides of borders as well as legal and administrative discontinuities (European Committee of the Regions 2021; ESPON 2018:67) and institutional barriers (ibid:74; Medeiros 2018:239f), often resulting in a lack of equivalent structures across the border for certain planning tasks.
- Under-representation of the municipal level when drafting border-regional strategies.
- Spatial planning is often not entitled to act on relevant issues of cross-border cooperation (e.g. transport).

In regard to protection and development policies, the ESPON COMPASS analysis identified legal, administrative and planning frictions along borders, leading to a lack of well-coordinated policies and projects.

A map produced by German spatial observation illustrates for the Austrian-German and Swiss-German border regions the level of cross-border integration in terms of accessibility, cultural differences, legal/administrative differences, socio-economic differences and language (Duvernet et al. 2021:6). Particularly the Austrian-German border is perceived to be only a minor obstacle on both sides of the border. Yet, it is interesting to note different perceptions e.g. in regard to legal and administrative differences. These are seen more negatively by those interviewed in Austria and Switzerland than in Germany.

For the ALCOTRA program 2014-2020, obstacles have been identified and recommendations for improving the impact of cross-border programs have been elaborated (Region Sud Provence Alpes Cote d'Azur 2020b:2ff). Identified obstacles include administrative, legal/institutional, economic, human, cultural factors, lack of knowledge and specific obstacles in the operation of

PITER and PITEM. Specific obstacles relevant from a spatial development perspective include e.g. lack of regulatory consistency, legal obstacles related to EGTC, statistical (spatial) observation, networking and communication between projects, improvements in regard to capitalization (e.g. Mission Opérationnelle Transfrontalière / Region Sud Provence Alpes Cote d'Azur 2020).

Recommendations include the establishment of funds for micro-projects, the clustering of topics and projects and “governance checks” to support territories to integrate their territorial strategies (ibid:6).

These challenges and detrimental factors may potentially have led to the fact that there is generally a lack of cross-border cooperation in spatial planning in the EU, also compared to other domains such as culture, education, tourism, environmental protection and infrastructure development (Bächtold et al. 2012:52). Despite cross-border cooperation taking place in these spheres, it rarely leads to an integrated approach to cross-border spatial planning. Bächtold et al. concede that while cross-border spatial coordination of different sector policies is not by itself a goal of cohesion policy, it nevertheless can become an outcome as a result of a long tradition of joint Interreg cross-border cooperation (ibid:67).

Based on an analysis of 10 cross-border cooperation projects carried out within the Fit4Co project, Engl et al. (2019:21ff) identified a broad range of success factors that were categorized into 14 project aspects (see Annex 2).

6.1 Expert interviews

In order to complement the results of the document screening, expert interviews were conducted by ifuplan and members of the WG Spatial Planning and Sustainable Development with 22 spatial planning experts from Austria, Italy, France, Germany, Switzerland and Slovenia (see Annex 3). The interviews proved to be very valuable to gather additional examples of cross-border cooperation and the results were incorporated in chapter 4.

Additionally, the interviews provided an opportunity to collect feedback on the relevance of specific success factors and obstacles as well as topics for intensified cross-border cooperation. The following results are based on the feedback of 20¹²⁰ interview partners.

It is important to note that these results are not to be interpreted as representative or statistically valid. They merely represent an indication of the relevance of individual success factors, obstacles or needs of action.

6.1.1 Success factors

The interview partners were asked to assess the relevance of individual success factors (see chapter 0) on a scale from 5 (very high) to 1 (very low). If interview partners were unable to comment on individual aspects, these factors received “0”. A rating between two grades (“between 2-3”) has been counted as medium value (in this case 2.5).

¹²⁰ 2 expert interviews addressed only specific questions and not the entire questionnaire in Annex 3.

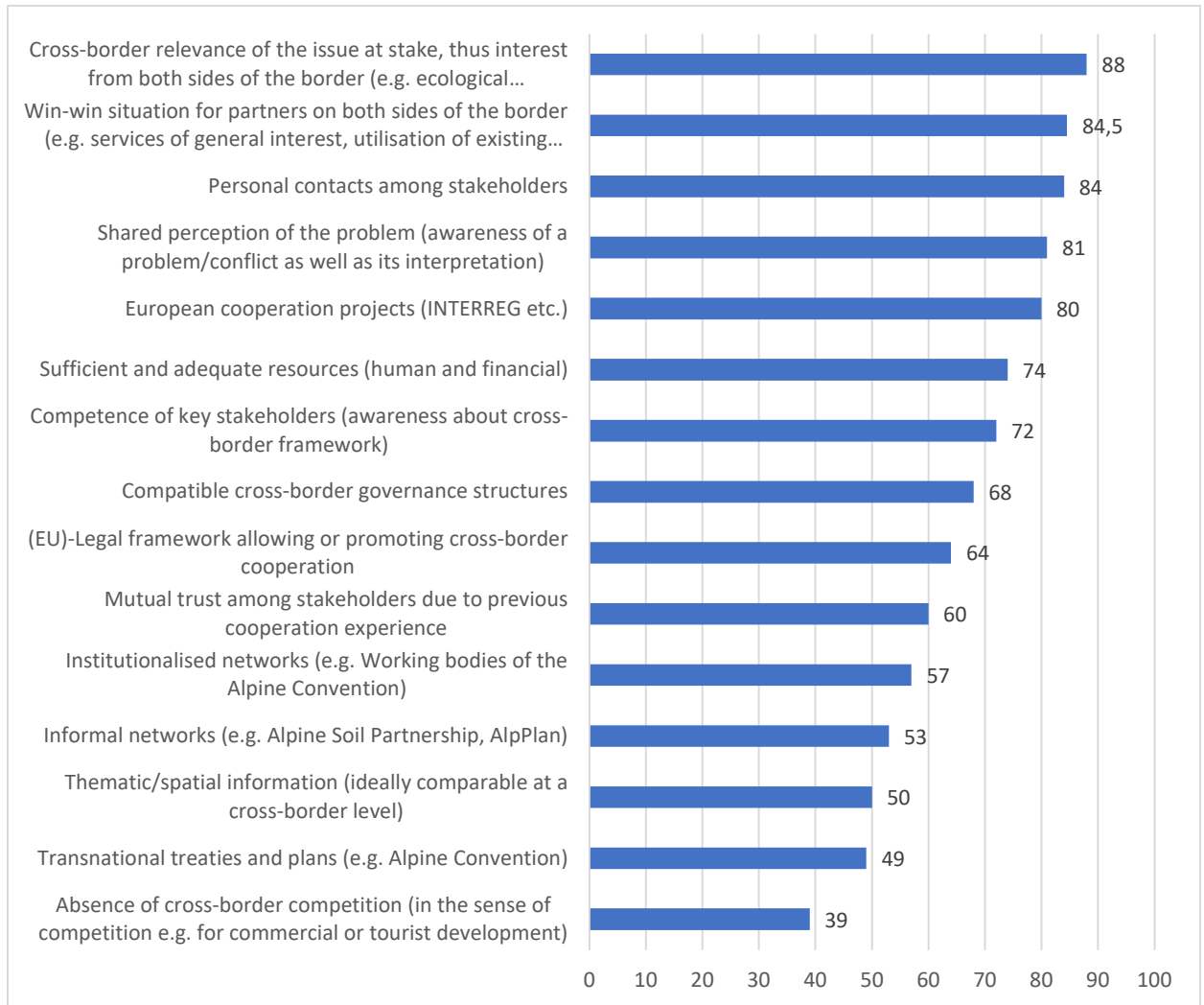


Figure 8: Success factors as ranked by interview partners.

The three most important factors are the cross-border relevance of the issues at stake, a win-win situation arising from cross-border cooperation and personal contacts among stakeholders (Figure 8).

Additional factors supplemented by single interview partners are “Simple, coherent, operational setup”, “Appropriate organizational form”, “Common history” and “Networks and cooperation structures that are aligned with funding”. Interview partners also commented on individual success factors (Table 1) – these assessments only serve as additional information; they are by no means representative.

Table 3: Comments by interview partners in regard to success factors.

Success factor	Comments by interview partners
Personal contacts among stakeholders	They facilitate the initiation of any form of collaboration and guarantee to receive answers to formal and informal requests.
Competence of key stakeholders (awareness about cross-border framework)	Understanding of processes Includes political, but also technical level
Mutual trust among stakeholders due to previous cooperation experience	Regular political changes

Compatible cross-border governance structures	Missing regional level in Slovenia Good balance in partners (size of collectivities) They can represent the starting point but do not guarantee effective/concrete cooperation
Sufficient and adequate resources (human and financial)	Cost sharing at territorial level
Informal networks (e.g. Alpine Soil Partnership, AlpPlan)	Regional/local networks make a difference. Very useful but not essential.
Institutionalized networks (e.g. Working bodies of the Alpine Convention)	CAPACITIES-project => border of AC not well defined Very useful but not essential. eg. GECT (European Parc), cross-border groupment of CCI)
Cross-border relevance of the issue at stake, thus interest from both sides of the border (e.g. ecological connectivity, mobility, flood management)	Mobility through mountain passes, ecological corridors, risk, sustainable tourism (Mont-Blanc, Mont-Viso) Starting point for all forms of cross-border collaboration. E.g. railway line Nice-Cuneo, risk management (storm Alex)
Win-win situation for partners on both sides of the border (e.g. services of general interest, utilization of existing infrastructure)	Not the central point.
Shared perception of the problem (awareness of a problem/conflict as well as its interpretation)	
Absence of cross-border competition (in the sense of competition e.g. for commercial or tourist development)	Relative relevance.
Thematic/spatial information (ideally comparable at a cross-border level)	Important not for initiative, but for the process Very useful but not essential. Important, but not necessarily a precondition; can be an important output of cross-border cooperation
(EU)-Legal framework allowing or promoting cross-border cooperation	Very important in regard to implementation; Financial framework really relevant important at a later stage; EGCT, GEIE or other structure (association, ...) Very useful but not essential. E.g. Water Framework Directive, Floods Directive EU policy framework is also relevant, e.g. Territorial Agenda, MRS, Urban Agenda, Leipzig Charta
Transnational treaties and plans (e.g. Alpine Convention)	Offers a framework, but not a motivation in itself Very useful but not essential. Cross-border cooperation scheme Helpful and beneficial, but not a must
European cooperation projects (Interreg etc.)	Important from the financial perspective Nice, but inconsequential It is the framework in which cooperation can produce the best results. Esp. cross-border Interreg programs for concrete cooperation between neighboring regions

6.1.2 Obstacles

According to the same methodology, interview partners were asked to rank obstacles according to their relevance on a scale from 5 (very high) to 1 (very low). If interview partners were unable to comment on individual aspects, these factors received "0". A rating between two grades has been counted as medium value.

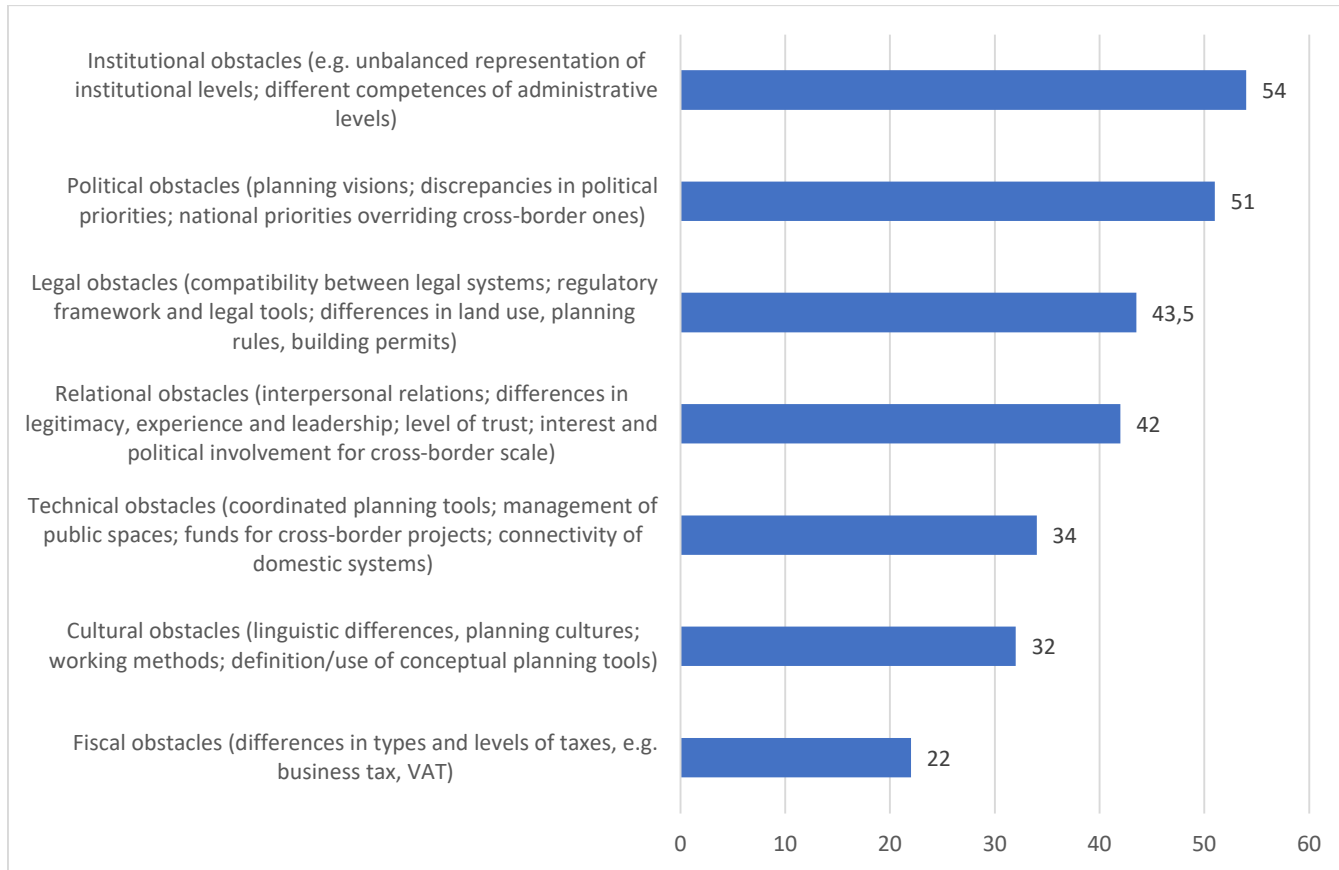


Figure 9: Obstacles as ranked by interview partners.

Institutional and political obstacles are seen as most relevant, followed by legal and relational obstacles (Figure 9). Additional obstacles raised by interview partners include “durability of networks once financial resources fade out” and “Covid”. Additional comments in regard to specific obstacles are illustrated in Table 4.

Table 4: Comments by interview partners in regard to success factors.

Obstacles	Comments by interview partners
Institutional obstacles (e.g. unbalanced representation of institutional levels; different competences of administrative levels)	Not a big obstacle, solutions can be found
	Could hinder cooperation, but can also have a positive side
	Cantons would prefer to communicate at federal state level, but are rather located at the German level of counties or district governments => important to meet "on equal footing"
	Periods of institutional reforms
	Absence of specifically tasked bodies/administrative units/coordination bodies is considered a relevant obstacle

Legal obstacles (compatibility between legal systems; regulatory framework and legal tools; differences in land use, planning rules, building permits)	<p>The Slovenian system is slow => duration for permits and planning processes</p> <p>Tendency to align between CH and EU (differences in tendering requirements)</p> <p>Relevant when it comes to implementation</p>
Technical obstacles (coordinated planning tools; management of public spaces; funds for cross-border projects; connectivity of domestic systems)	
Cultural obstacles (linguistic differences, planning cultures; working methods; definition/use of conceptual planning tools)	<p>Exist, but not an obstacle</p> <p>Cultural connections across borders, e.g. Slovenians often speak the other languages / Slovenian minorities living cross border, jobs cross border</p> <p>Language very important</p> <p>Advantage that Swiss border regions are bilingual</p> <p>Different administrative planning cultures rather relevant</p>
Political obstacles (planning visions; discrepancies in political priorities; national priorities overriding cross-border ones)	<p>Election periods</p> <p>Focus on national level, regional level ignored</p> <p>Politics can be provincial, but also thematically very pragmatic</p> <p>Periods of elections</p> <p>National priorities often out-compete cross-border issues</p>
Fiscal obstacles (differences in types and levels of taxes, e.g. business tax, VAT)	<p>Relevant when it comes to implementation</p>
Relational obstacles (interpersonal relations; differences in legitimacy, experience and leadership; level of trust; interest and political involvement for cross-border scale)	<p>Sometimes politicians are not interested in the cross-border scope</p> <p>Motivated key actors needed</p> <p>Limited interest and political involvement for the cross-border perspective</p>

6.1.3 Future needs for action

Interview partners were also asked to identify topics that from their perspective would require a stronger cooperation in the future. Their assessment is illustrated in Figure 10. If interview partners confirmed that a topic requires a stronger cross-border cooperation, the topic received one point – e.g. the count of 14 for transport means that 14 out of 20 interview partners see a need for stronger cooperation in the transport sector. Other topics for which around half of the interview partners see a need for stronger cooperation include climate change, natural hazards, tourism, energy, protected areas, SGI and spatial planning and development in general.

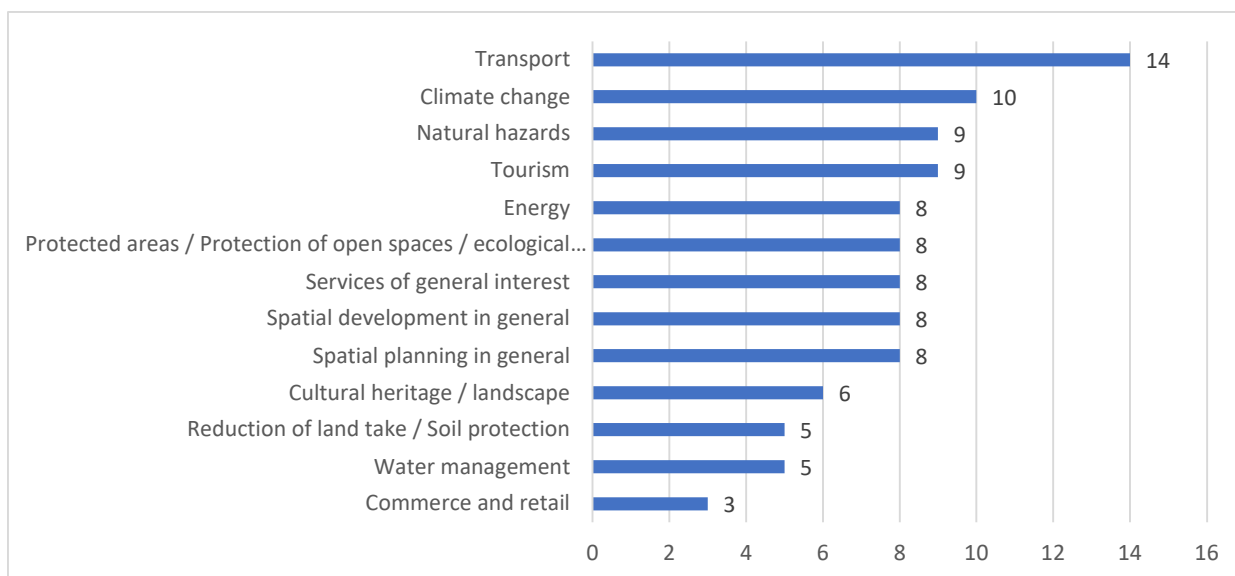


Figure 10: Future needs for action as perceived by interview partners.

In regard to the individual topics, the interview partners underlined aspects and current impediments that are paraphrased in the following Table 5. “Political reasons, different legalization, no cross-border management plan, no common organizational form yet” and “Limitations due to financial and administrative constraints” have been identified by two interview partners as an impediment for cooperation on all topics.

Table 5: Remarks and current impediments in regard to topics for stronger cross-border cooperation.

Topics	Selected remarks	Current impediments
Spatial planning in general	<ul style="list-style-type: none"> Effects of climate change Shared and useful analysis tools and planning criteria at a cross-border scale Lack of ownership of initiatives at the political level Exchange of experience, scientific and technical contributions to improve planning tools in terms of effectiveness, operability, coherence, sharing of cross-border territorial objectives on topics of common interest Land take, landscape/natural scenery/regional identity 	<p>Different regulations and standards</p> <p>Cooperation has taken place, but lack of political ownership has hindered the uptake of lessons learned</p>
Spatial development in general	<ul style="list-style-type: none"> Stronger governance to better, more directly, earlier involve partners and citizens, and to have more direct impacts on territories Extend local scales (massifs, local high-valleys, ...) to Piemonte (Genève, vallée de l'Arve,) to have a territorial planning perspective (Alpine Space), e.g. Nice, Gêneva, Torino and their corridors to the mountains 	
Protected areas / Protection of open spaces / ecological connectivity	<ul style="list-style-type: none"> Cartographies and common rules for the elements of the ecological network with transboundary value Establishment and management of border-crossing protected areas Securing of transnational large-scale ecological corridors Economic usage of open spaces for renewable energy production (PV, solar, biomass) 	

Reduction of land take / Soil protection	<ul style="list-style-type: none"> • Shared and useful analysis tools and planning criteria at a cross-border scale • Apart from the application of the Alpine Convention Soil Protocol I see a reduced scope of intervention for cross-border cooperation compared to local action • Mitigation / avoidance of spill-over effects in neighboring regions 	Legal and political obstacles
Transport	<ul style="list-style-type: none"> • Managing flows and reducing air quality impacts on major transalpine traffic corridors • Cross-border planning of passenger transport • Mountain border areas (Valle d'Aosta) would benefit (also SGI) from more effective connection to more economically developed areas. • Indispensable for sustainable and climate-friendly mobility systems and transport infrastructure • Other perspective: Travel distance from locations of SGI • Cross-border transport connectivity • Integration with settlement development (Valais southbound, Lake Geneva towards France, end of motorways) • Trans-European Corridors 	<p>High cost of structural interventions, technical constraints, lack of economic return for intervention, lack of interest on the European side to include the border of Valle d'Aosta => TEN-T system</p> <p>Insufficient financial capacities and structure (EGTC or other suprastructure) to locally manage cross-border actions</p>
Energy	<ul style="list-style-type: none"> • Joint development of new sustainable technologies would benefit large areas • Energy-oriented spatial planning • In regard to bottlenecks and CO2 reduction 	Cooperation already in place, but the process is not supported effectively by the political level and hindered by administrative constraints (division of competencies, lack of personnel, etc.)
Services of general interest	<ul style="list-style-type: none"> • Activation of new cross-border public transport services 	<p>Sharing SGIs requires contractual arrangements and financial compensation</p> <p>Insufficient financial capacities and structure (EGTC or other suprastructure) to locally manage cross-border actions</p>
Commerce and retail	<ul style="list-style-type: none"> • Limited scope for territorial cooperation • Avoiding cross-border traffic generation due to large shopping/outlet centers at borders • Connecting local providers, organization of sales of local products 	
Tourism	<ul style="list-style-type: none"> • Creation of cross-border tourist packages and balance the flows/Connecting local providers and the tourist offer • Cycling infrastructures and related services • Skepticism for a communal Alpine approach to position the Alps in wide promotion markets • E.g. climate-friendly, public touristic mobility offers • Cross-border ski resort, cyclo-touristic product • Job creation through cross-border cooperation 	Insufficient financial capacities and structure (GECT or other suprastructure) to locally manage cross-border actions

Water management	<ul style="list-style-type: none"> • River basin management and flood risk management at border-crossing river systems (including underground flow of the Reka river) • Water supply for Central Europe 	Up-scaling is limited by financial and administrative constraints
Natural hazards	<ul style="list-style-type: none"> • Understand, predict and communicate increasing effects of risks • Critical issues that require common actions and projects for the safety and protection of the territory from instability, shared at a transnational level (see the effects of the 2018 Vaia storm on Veneto, Trentino, FVG, and regions of Switzerland, Austria and Slovenia). • Coordinated risk management systems for border-crossing natural hazard processes 	
Climate change	<ul style="list-style-type: none"> • Strategy and coordinated action for adaptation to climate change • Planetary emergency requiring joint and coordinated transnational counter actions • Climate-neutral and climate-resilient spatial development requires strengthening cross-border spatial development (esp. regarding border-crossing functional city regions and adaptation of border-crossing, shared resources such as river basins) • Interdisciplinarity/reciprocal learning 	It is a theme that has emerged strongly as a priority emergency only in recent years
Cultural heritage / landscape	<ul style="list-style-type: none"> • Preserving regional identities 	

Asked for which issues they see the most urgent need for action, the interview partners responded as illustrated in Figure 11.

Climate change:

- Combination with biodiversity and species shift;
- climate-neutrality and resilience;
- protection of biodiversity particularly for ecosystems at high altitudes

Land use:

- transformation and structural changes in land use

Transport:

- Goods transport,
- cross-border commuting,
- modal shift,
- climate neutrality,
- integration of transport, energy and settlement development,
- cross-border transport planning and mobility management,
- new public cross-border transport services;
- intermodality

Tourism:

- Tourist mobility,
- last mile

Natural hazards:

- Monitoring and management of natural hazard processes

Governance:

- Cooperation between different sectors and spatial levels;
- strong political support from national level for local cross-border cooperation;
- shared approach at cross-border level in planning the territory

Figure 11: Most urgent needs for cross-border cooperation according to interview partners.

When interpreting the survey results, the low number of interviewees and imbalance in regard to institutional and geographical representation needs to be kept in mind. Nonetheless, the responses are an indication of stakeholder perceptions on cross-border cooperation on spatial issues in the Alps and provide reference points for the future activities of the SPSD WG.

7. PROPOSALS FOR PILOT ACTIVITIES

Based on the status quo of cross-border cooperation in spatial planning and taking into consideration the identified needs of action, potential topics for pilot activities will be developed by the Working Group in a workshop format in the remaining time of its mandate.

8. SUMMARY

Based on the summary of the previous work, the results of the literature analysis and of the expert interviews, the following conclusions on the status quo of cooperation and coordination in spatial planning and development can be drawn

Relevance of the different topics

The density and broad scope of cross-border cooperation underlines the importance assigned to spatial planning by the Alpine Convention, the Spatial Planning and Sustainable Development Protocol and recent documents such as the ACTS2050 and the MAP 2017-2022. Unsurprisingly, there is a multitude of examples for cross-border cooperation within the broad scope of spatial

development in general. Functional areas and their manifold spatially relevant topics play a major role in this regard. In a bottom-up perspective, CLLD approaches that include cross-border issues are an interesting approach to respond to local needs of action.

Instead of formal planning instruments, cross-border cooperation focusses on spatial monitoring and data provision. More formalized and output-oriented approaches are the Swiss cross-border agglomeration programs and the mandatory cross-border cooperation schemes under the French MAPTAM law.

It is obvious that the issues of ecological connectivity, protected areas and open spaces are not tied to territorial or administrative entities but need to be addressed in a larger, also cross-border perspective. This is reflected in various examples of cross-border cooperation, mostly at higher altitudes, but also in metropolitan regions such as Greater Geneva.

While the reduction of land take is reflected quite frequently in examples of transnational cooperation and also current political efforts at national and international level (EU Soil Strategy 2030, net zero 2050), it is only to a minor degree addressed in a cross-border dimension in specific border regions, e.g. in the Euregio S-BGL-TS.

Transport is another issue with a clear supra-local character and is addressed in border regions from the perspective of climate protection, infrastructural corridors as well as transport-related burdens.

Depending on the territory, natural hazards are a relevant topic for cross-border cooperation (e.g. in the French-Italian border region). While not site-specific, climate change, cultural heritage, commerce and retail, and services of general interest are only sporadically addressed in cross-border cooperation.

In general, consensual and rather “soft” topics with benefits on both sides of the border are more eagerly addressed than controversial topics, particularly those with potential asymmetric effects for the parties involved (regional economic development, tourism development, land use planning). Or as Duvernet et al. (2021:5) put it: *“The low-hanging fruits have been picked. Yet, controversial and more complex issues may in the future prove just as relevant for territorial cohesion.”*

Relevance of different geographical scopes for the topics

Based on the assessment, certain areas appear to be hot-spots of cross-border spatial cooperation. In most cases, the scope and intensity are rooted in a long tradition and “culture” of cross-border thinking, as is the case for the Lake Constance region. As a result of an evolutionary process, this region today resembles a good example for Alpine cross-border governance. Other cross-border areas of intense cooperation include Southeastern Bavaria – Salzburg, the Brenner corridor between Tyrol, South Tyrol and Trentino, Friuli Venezia Giulia and Slovenia, the Swiss-French Geneva conurbation and the ALCOTRA territory in the French-Italian border region.

Supporting and impeding factors

Supporting factors include among others the cross-border relevance of issues at stake, benefits each party can draw from cross-border cooperation, existing personal contacts, a shared perception of the problem and the support and cooperation know-how gained through European

cooperation projects. These general obstacles of course apply to each specific region and issue differently.

Obstacles include among others institutional obstacles and mismatches, political obstacles of different priorities and planning visions, legal obstacles of less compatible legal systems and planning regulations as well as relational obstacles among stakeholders.

Potential approaches, measures and needs for action

The assessment study identified a range of needs of action that have been raised in documents and expert interviews – from very concrete proposals to general aspirations in regard to intensified spatial cooperation in the Alps. On the other hand, ambitious implementation examples prove that there is also a huge potential for scaling-up existing approaches within the Alps, e.g. when looking at cross-border governance structures, cross-border integrated plans, committees and spatial observation.

The challenge for the time being is finding ways for spatial planning to adopt “cross-border thinking” even if concrete planning activities, politics and governance remain tied to territorial political units (2018:232f). Spatial planning needs to develop ways to deal with the paradox in border regions that on the one side, borders are becoming more and more porous or “fuzzy”, while at the same time they remain “hard” in the sense of administrative borders and planning mandates and competences (Paasi & Zimmerbauer 2016:87). A necessary but in no way trivial step is to align values and a shared spatial vision on both sides of the border (Bächtold 2012:16). To support this, the framework of the Alpine Convention and its responses to the pressing issue for spatial development such as the ACTS2050 can provide guidance and inspiration.

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10. ANNEX

Annex 1 Cross-border cooperation references in 2019f Compliance Reports

According to the 2019 National Compliance Reports on the Alpine Convention and its Implementation Protocols, the following instruments are being applied for cross-border coordination of spatial planning (Table 6).

Table 6: Instruments used for cross-border coordination of spatial planning.

	AT	CH	DE	FR	IT	LI	MC	SI
Bilateral treaties	X	X	X	X	X	X	-	X
Multilateral treaties	-	X	-	X	X	X	-	X
Financial support	X	-	-	-	X		X	-
Capacity building / training	-	-	-	-	X		-	X
Joint projects	X	X	X	X	X	X	X	X
Others	Consultation in the course of the application of EU Directives, particularly the SEA Directive (Directive 2001/42/EC), Research and studies on integrated land use planning and river management Euregio S-BGL-TS EUSALP AG 6	-	Euregios	-	-		-	-

The following cooperation structures have been addressed in the analyzed documents (Question 17 of the Compliance Report Questionnaire, as far as available: e.g. Schweizer Bundesverwaltung 2021:37; BMU 2019; Fürstentum Liechtenstein 2019; Italian Compliance Report 2019:16f)):

Table 7: Cooperation structures mentioned in the Compliance Reports (non-comprehensive).

Type	Cooperation structures in Compliance Reports (examples)
Governmental cooperation structures	Alpine Convention with its Working Bodies and the PSAC EUSALP Agglomeration programs Euregios and their respective Steering Committees Arge Alp Interpraevent Research Society Conventions of the Council of Europe
Platforms and Working Groups	International Soil Alliance International Lake Constance Conference (IBK)

EGTC	Alpi Marittime-Mercantour
Funding Programs	Interreg A and B programs LEADER
Associations	Alliance in the Alps Alpine Town of the Year ALPARC – Network of protected areas CAA – Club Arc Alpin
Non-governmental organisations	CIPRA International

Annex 2 Legal framework for international resp. cross-border cooperation in spatial planning (selected examples)

National level	Federal state / provincial / cantonal level
Austria	
<p>Austria has no legal spatial planning framework at the national state level. Spatial planning competences are located at the federal state and municipal level.</p>	<p>Spatial Planning Law of the Province of Tyrol (Tiroler Raumordnungsgesetz TROG 2016)¹²¹:</p> <p>§ 7 Spatial Planning Programs: Section 7) Spatial planning programs shall take into account Austria's obligations under Union law as well as spatially significant plans and measures of the federal government, insofar as their consideration is required under constitutional law or agreements exist in this respect pursuant to Art. 15a para. 1 B-VG. In addition, the spatially significant plans and measures of the federal government and the municipalities, and in the area of common borders also the spatially significant plans and measures of the neighbouring Länder and states, shall be taken into account.</p> <p>Spatial Planning Law of the Province of Carinthia (Kärntner Raumordnungsgesetz 2021)¹²²:</p> <p>§ 2 Objectives and principles of spatial planning: (2) Principles: 1. Consideration shall be given to regulatory measures in neighboring sub-areas of the neighboring countries and neighboring foreign countries shall be taken into account.</p> <p>Spatial Planning Law of the Province of Vorarlberg (Vorarlberger Raumplanungsgesetz 2022)¹²³:</p> <p>Art. 10 (d) Cross-border effects: Article 10 (d) outlines consultation with neighboring countries in the case of substantial environmental effects as well as upon request by a neighboring country. Consultations need to comprise (a) the effect the implementation of the spatial plan is expected to have on the environment and (b) planned measures to mitigate and avoid these negatives effects. If consultations are taking place, all necessary material needs to be made available to neighboring authorities to inform authorities and the public and for them to formulate a position. These paragraphs shall apply to Member States of the European Union and Contracting Parties to the Agreement on the European Economic Area. For other states, they shall apply only in accordance with the principle of reciprocity. Special provisions of international treaties shall remain unaffected.</p> <p>§ 10e): Decision: In the enactment procedure for the State Spatial Plan, the results of cross-border consultations (§ 10d) need to be taken into consideration.</p> <p>§ 10f) Notification: In a summarizing statement, it needs to be outlined how the results of the cross-border consultation (§10d) have been taken into consideration.</p>

¹²¹ <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=LrT&Gesetzesnummer=20000647>

¹²² <https://www.ktn.gv.at/DE/repos/files/ktn.gv.at/Abteilungen/Verfassungsdienst/PDF/2021/RV%5f2021/LG-1865-5-2021%5fGes-RS%2epdf?exp=891609&fps=2091afd6e6d5cd49e77a6020d509210b080d5a93>

¹²³ <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=LrVbg&Gesetzesnummer=20000653&FassungVom=2022-06-30>

National level	Federal state / provincial / cantonal level
	<p>§ 10h): Foreign plans, public participation: If, within the framework of a procedure pursuant to Directive 2001/42/EC, a foreign state due to effects on the environment of the province of Vorarlberg submits documents and conducts transboundary consultations, the provincial government shall apply §§ 6 paras. 5 and 6 and 10c shall apply mutatis mutandis. Special interstate treaty provisions shall remain unaffected</p> <p>Spatial Planning Law of the Province of Salzburg (Salzburger Raumordnungsgesetz 2022)¹²⁴:</p> <p>§ 8 Development Programs: When drawing up a development program, the results of the structural investigations and the intended determinations shall be presented in a project report. The plans of the federal government, of neighboring provinces and of neighboring countries shall be taken into account, insofar as agreements pursuant to Art. 15a B-VG or state treaties exist or this is possible without impairing the interests of the planning authority.</p> <p>Environmental Assessment Acts at provincial level also contain provisions for cross-border consultation. As an example, the provisions of the Tyrolean Environmental Assessment Act are outlined (Tiroler Umweltprüfungsgesetz TUP)¹²⁵:</p> <p>§ 7 Cross-border effects of plans and programs:</p> <ol style="list-style-type: none"> 1. Where the implementation of a plan or program is likely to have significant effects on the environment of another Member State of the European Union, or where a Member State likely to be significantly affected so requests, the draft plan or program shall be forwarded to that Member State together with the environmental report before it is adopted by the competent planning authority or before a decision is taken on the government bill. 2. Where the draft plan or program has been submitted to a Member State together with the environmental report, consultations shall be held with that Member State, at its request, concerning <ol style="list-style-type: none"> (a) on the likely transboundary effects on the environment of implementing the plan or program; and (b) on the measures envisaged to reduce or avoid such effects. 3. Where consultations are to be held with a Member State, an appropriate timeframe for their duration shall be agreed with that Member State at the beginning of the consultations. 4. Where consultations are held with another Member State, all necessary documents shall be forwarded to that Member State in order to ensure that the authorities and departments of that Member State affected by the implementation of the plan or program are informed and have the opportunity to express their views within a period of six weeks. 5. In case of necessity of action according to par. 1 or 2, the Federal Minister responsible for the representation of the Republic of Austria vis-

¹²⁴ <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=LrSbg&Gesetzesnummer=20000615>

¹²⁵ Provincial law of the Provinces of Salzburg, Vorarlberg, Kärnten

National level	Federal state / provincial / cantonal level
	<p>à-vis other states shall be approached via the Office of the Tyrolean Provincial Government in order to initiate contact vis-à-vis other states.</p> <p>6. If the conditions according to para. 1 or 2 apply to another province, the respective provincial government shall be consulted about the authorities to be contacted.</p> <p>Spatial Planning Law of the Province of Styria (Steiermärkisches Raumordnungsgesetz 2010)¹²⁶.</p> <p>§ 5b Cross-border consultations:</p> <p>(1) If the execution of a plan or program is likely to have a significant effect on the environment of another Member State of the European Union, or if a Member State likely to be significantly affected so requests, the draft plan or program shall be sent to that Member State together with the environmental report before the start of the obligation. The Member State shall be given a reasonable period of time to indicate whether it wishes to be consulted.</p> <p>(2) At the request of a member state informed in accordance with subsection (1), consultations on the draft plan or program shall be held</p> <p>On the likely transboundary effects that the application of the plan or program will have on the environment; and</p> <p>On the measures envisaged to reduce or avoid such effects.</p> <p>In this case, it shall be ensured in relation to the other Member State that its authorities which, in their environmental sphere of responsibility, may be affected by the environmental effects caused by the application of the plan or program, as well as its public concerned or interested, are informed and given the opportunity to comment within a period of eight weeks.</p> <p>(3) In the event of the necessity of action under subsections (1) or (2), the Federal Minister responsible for the representation of the Republic of Austria vis-à-vis other states shall be approached through the Office of the Styrian Provincial Government in order to arrange for contact to be made vis-à-vis other states.</p> <p>(4) Paras. 1 and 2 shall apply to Member States of the European Union and Contracting Parties to the Agreement on the European Economic Area. For other states they shall apply only in accordance with the principle of reciprocity. Special provisions of interstate treaties shall remain unaffected.</p> <p>(5) If the requirements under subsection (1) or (2) apply to another Province, agreement shall be reached with the respective Provincial Government on the bodies to be consulted.</p> <p>(6) If, within the framework of a procedure pursuant to Directive 2001/42/EC, documents are transmitted by a Member State of the European Union due to effects on the environment of the province of Styria and transboundary consultations are carried out, the provincial government shall be obligated to inform the public and the public</p>

¹²⁶ <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=LrStmk&Gesetzesnummer=20000069>

National level	Federal state / provincial / cantonal level
	environmental agencies in the province pursuant to § 5a. Special provisions of interstate treaties shall remain unaffected.
France	
<p>Town planning code, Environment code, General code of Local Authorities:</p> <p>The French law provides 2 cross-border consultation ways for planning documents:</p> <p>For all urban planning documents (L131-10 Code de l'urbanisme): <i>„The planning documents applicable to border territories take into account land use in the territories of neighboring States.“</i></p> <p>For urban planning documents submitted to environmental assessment (L.104-7 Code de l'urbanisme): <i>„The town planning documents (e.g. SCOT, PLU) whose implementation is likely to produce significant effects on the environment of another Member State of the European Union are transmitted to the authorities of that State, at their request or on the initiative of the French authorities. The competent authority [...] informs the public, the Environmental Authority and, where applicable, the authorities of the other Member States of the European Union consulted, and makes available to them the presentation report [...], which includes in particular information about the way the consultations have been taken into account, as well as the reasons on which the choices made by the plan or the document were based, taking into account the various solutions envisaged. The State concerned is invited to give its opinion within a time fixed by decree.“</i></p> <p>More generally, for all plans and programs submitted to environmental assessment : In accordance with the directive 2001/42/CE on environmental assessment of plans and programs, the French Environment code (Art L122-8)¹²⁷ provides that <i>„The draft plans or programs whose implementation is likely to produce significant effects on the</i></p>	<p>Regional level</p> <p>The General Code of Local Authorities (L4251-5 CGCT)¹²⁸¹²⁹ provides that the regional council may consult the neighboring regional councils for the elaboration of its planning document (SRADDET) but does not indicate whether these neighboring regions also include regions across national borders.</p> <p>Local level</p> <p>Cross-border cooperation schemes (French MAPTAM law). In France, only 3 Metropoles are concerned (Strasbourg, Lille, Nice). Only one of them is located in the Alps : Nice Côte d'Azur Metropole has adopted its cross-border cooperation scheme on 19th December 2019. Recent evolutions are promoting these schemes. In 2021-2022 there was a political initiative to extend cross-border cooperation schemes to all border departments. The schemes are a strategic orientation document (not a binding planning document), promoting the emergence or structuring of a cross-border living area, and to set-up a cross-border engineering.</p>

¹²⁷ https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000036671133/

¹²⁸ https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000032973417

¹²⁹ https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000039783758/

National level	Federal state / provincial / cantonal level
<p><i>environment of another Member State of the European Union as well as the reports on the environmental impact of these projects are transmitted to the authorities of that State, at their request or on the initiative of the French authorities. The State concerned is invited to give its opinion within the time set by decree.</i></p> <p>„Plans and programs“ are "the plans, schemes, programs and other planning documents drawn up or adopted by the State, the local authorities or their groupings and the public establishments depending on them, ... (L122-4 of Environment code). For example, this article L122-8 was applied by the Southern Region (Région Sud PACA) during the public inquiry of its SRADDET towards Italy and the Principality of Monaco.</p> <p>« Quirinal Treaty » signed on November 26, 2021 by Italy and France, establishing cross-border coordination committees and planning actions on various topics including ecological transition.</p> <p>Cross-border cooperation schemes (French MAPTAM law) for border Metropoles</p>	
Germany	
<p>Bundesraumordnungsgesetz (ROG) – Federal Spatial Planning Act</p> <p>§ 14 Cooperation in spatial planning</p> <p>Section 1: To prepare and realize spatial plans or other spatially relevant plans and measures, authorities responsible for state and regional planning shall cooperate with relevant public agencies and persons under private law including NGO and the economy or pursue the cooperation between these agencies and stakeholders.</p> <p>The cooperation according to 1 can be carried out to develop a region itself as well as in regard to supra-regional or cross-border issues.</p> <p>Formal and informal types of cooperation according to Section 1 are particularly:</p>	<p>Bayerisches Landesplanungsgesetz (BayLPIG) – Bavarian State Planning Act</p> <p>Art. 29 Cooperation in spatial planning</p> <p>In order to develop, structure and safeguard space, authorities responsible for state and regional planning shall cooperate with relevant public agencies and persons under private law or pursue the cooperation between these agencies and stakeholders.</p> <p>The cooperation according to 1 can be carried out within a region, between regions as well as across borders. Forms of cooperation specifically include</p> <p>a) contractual arrangements</p> <p>b) measures for the self-organized development of regions such as development concepts as well as regional and intermunicipal networks and cooperation structures.</p>

National level	Federal state / provincial / cantonal level
<p>Contractual arrangements, particularly to coordinate or implement spatial development concepts and to prepare or implement spatial plans</p> <p>Measures such as regional development concepts, supra-regional, regional and intermunicipal networks and cooperation structures, regional platforms and action programs addressing current challenges</p> <p>Implementing spatial observation and making results available for regional and municipal bearers¹³⁰ as well as bearers of sectoral planning responsibilities in view of spatially relevant plans and measures, as well as consulting these institutional actors in charge of spatial planning.</p>	
Italy	
<p>For Italy, there are no specific legal references on spatial planning at the national level. The Italian national Law on Town and Country Planning (Legge urbanistica l.n. 1150/1942) does not pay specific attention to spatial planning at cross-border level.</p> <p>« Quirinal Treaty » signed on November 26, 2021 by Italy and France, establishing cross-border coordination committees and planning actions on various topics including ecological transition.</p>	
Liechtenstein	
<p>Liechtenstein does not have a Spatial Planning Law. Art. 32 (1) of the Building Law obliges the Liechtenstein government to supra-local and cross-border spatial planning, this being the main task of the National Structural Plan (Landesrichtplan).</p>	<p>Liechtenstein has no regional planning level. Local planning at the municipal level represents the lower-tier planning level.</p>
Monaco	
<p>Creation of the ZAC SAINT ANTOINE (Zone d'Aménagement Concertée) in the city of Cap d'Ail in France, in cooperation with Monaco (beginning in 2007 – finished 2013).</p>	

¹³⁰ Translation of „Träger“ (z.B. der Regionalplanung oder öffentlicher Belange)

National level	Federal state / provincial / cantonal level
Joint projects include: Primary school, Sport hall and a gymnasium, Public square and landscape public space	
Switzerland	
<p>Raumplanungsgesetz (RPG) – Federal Spatial Planning Act (June 22 1979)</p> <p>Art. 2 Planning Obligation</p> <p>Federal state, cantons and municipalities cooperate in fields of functional-spatial interconnections, as far as necessary to achieve spatial planning objectives principles</p> <p>Art. 6 Basics for Cantonal Structure Plans (Richtpläne)</p> <p>(4) [When compiling information for the Cantonal Structure Plans, Cantons] take into consideration concepts and thematic plans of the Federal State, Structure Plans of neighboring cantons as well as regional development concepts and plans.</p> <p>Art. 7 Cooperation of authorities</p> <p>(3) The border cantons shall seek cooperation with the regional authorities of the neighboring countries, insofar as their measures can have an impact across the border.</p>	<p>The Swiss Federal Spatial Planning Act requires border cantons to seek cooperation with regional authorities of neighboring countries in the process of enacting Cantonal Structure Plans. Consequently, cantonal Spatial Planning Acts do not need to reiterate this provision.</p> <p>Cantonal Structure Plans are part of the legal spatial planning framework at cantonal level and – where applicable - contain binding measures (settlement, transport, etc.) with a cross-border dimension.</p> <p>Spatial Planning Act of the Canton of Grisons (KRG) (December 6 2004)</p> <p>Art. 2 Planning obligation</p> <p>Municipalities, regions and the canton fulfil their tasks in mutual agreement and coordinate their basic principles, planning and spatially effective activities with each other and with the basic principles, concepts and sectoral plans of the federal government as well as the planning of neighboring cantons and countries.</p> <p>Planning and Building Law (PBG) for the Canton of St. Gallen</p> <p>No reference to cross-border cooperation, but cooperation in regard to Cantonal Structure Plans required by federal law (see above).</p> <p>Law on Territorial Development (LST) for the Canton of Ticino (June 21 2011)</p> <p>No reference to cross-border cooperation, but cooperation in regard to Cantonal Structure Plans required by federal law (see above).</p> <p>Law for the implementation of the Federal Law on Spatial Planning for the Canton of Geneva (Loi d'application de la loi fédérale sur l'aménagement du territoire (LcAT) (January 23 1987)</p> <p>No reference to cross-border cooperation, but cooperation in regard to Cantonal Structure Plans required by federal law (see above).</p>
Slovenia	
<p>Zakon o prostorskem načrtovanju - Spatial Planning Act (ZPNačrt, Nr. 33/07)</p> <p>No reference to cross-border cooperation</p>	<p>No regional planning level in Slovenia</p>

Annex 3 Fit4Co success factors for cross-border cooperation projects

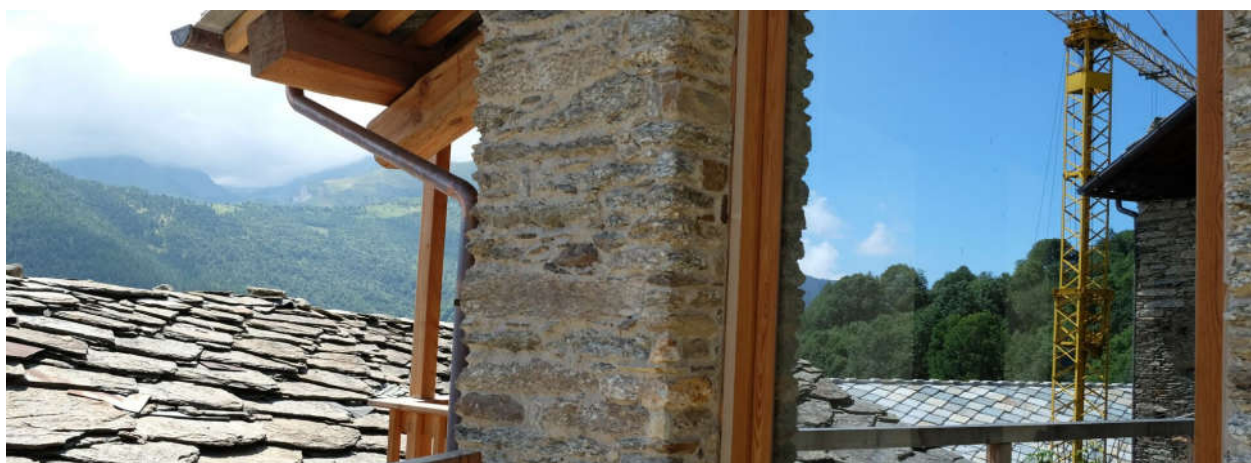
Based on an analysis of 10 cross-border cooperation projects, Engl et al. (2019:21ff) identified a broad range of success factors that were categorized into the following project aspects.

Project aspect	Success factors (selection on aspects of particular relevance at cross-border level)
Project preparation	<p>Precise planning of the project and required resources (activity plan) and thorough understanding of funding/program criteria</p> <p>Consideration of different framework conditions of partners</p> <p>Small projects (access to EU funds, reduced administrative burdens, lower risk, CLLD approach)</p>
Partnership	<p>Solid partnership (e.g. mutual trust, informal contacts)</p> <p>Partnership matching the scale of the project area or orientation</p> <p>Project-related bodies to foster partnerships</p> <p>Experienced lead partner with sufficient resources for control level</p> <p>Matching partner structures</p> <p>Vicinity of partners</p>
Objective of cooperation	<p>Clear and realistic objectives, based on an analysis/evaluation</p> <p>Definition of output and effect</p> <p>General motivation / interest in topic beyond financial interest</p> <p>Added value for partners</p>
Sustainability	<p>Transferability</p> <p>Synergies with other measures/projects</p> <p>Future orientation (planning how to continue after project end: Carers, established cross-border exchange and contacts, funds)</p> <p>Visibility of cooperation</p> <p>Demand- and supply-orientation</p> <p>Continue outputs and networks for follow-up projects</p> <p>Political support</p>
Collaboration	<p>Minimum of one person per partner to administratively and operationally pursue projects</p> <p>Staff continuity, direct contacts, soft skills, timetable</p> <p>Similarity of partner institutions or structures</p>
Support from project-related bodies	<p>Exchange with program bodies</p> <p>Involvement of consulting services in project development and execution</p>
Dealing with problems	<p>Conflict resolution schemes / mediation</p> <p>Mediation/support for differences in administration and legal framework</p> <p>Preparation for administrative/bureaucratic challenges</p>
Legal and administrative differences	<p>Taking advantage of benefits resulting from various framework conditions (differences as project opportunities, knowledge transfer)</p> <p>Informal coordination between involved administrations</p>

	Exchange among project partners and mutual assistance
Cultural differences	Awareness of cultural differences and recognition of their Flexibility and understanding / Creation of common rules for cooperation Respect and interest towards other cultures / forms of behavior, open-mindedness Intercultural skills and sensitivity Confidence in partners and their working methods
Communication	Regular personal meetings and correspondence Handling of different languages (bilingual project coordinator, translation resources, English as project language)

Cross-border spatial development in the Alpine Convention area

Questionnaire for expert interviews



21.05.2021



Alpine Convention

Working Group Spatial Planning and Sustainable Development

Background

The Alpine Convention is a binding agreement under international law between all Alpine countries for the protection and sustainable development of the Alpine region. The contents of the Alpine Convention are concretized in thematic implementation protocols, amongst others on spatial planning and sustainable development.

Being aware of the importance of spatial planning for sustainable development, the Alpine Conference in late 2020 established the Spatial Planning and Sustainable Development Working Group, which will build on the work of the past expert group as well as the Alpine Climate Target System 2050, EU Territorial Agenda 2030 and the UN Sustainable Development Goals.

The goals for the 2021-2022 mandate include an evaluation of the status quo of spatial development within the Alpine Convention perimeter in accordance with the Spatial Planning and Sustainable Development Protocol. Methodologically, the evaluation is composed of a literature analysis on a trans-Alpine and national level and interviews with a selected number of experts and practitioners in the field of spatial planning and development in each Alpine country.

The geographical scope is twofold, including

- cross-border cooperation between Alpine countries, regions and municipalities → cooperation between NUTS 3 regions or municipalities (LAU) from at least two different Member Countries lying directly on the borders or near to them. Depending from the context, the next row of NUTS3 regions can also be considered.
- transnational cooperation → addressing a larger scale, comprising neighboring regions, parts of countries or even countries as such. The perimeters of the Alpine Convention, the Alpine Space Program (Interreg B) and the macro-regional strategy EUSALP are located on the transnational level.

These expert interviews at national level will be conducted by the respective national representatives in the Working Group. The interview is expected to take between 30 and 60 minutes.

Information on the Working Group Spatial Planning and Sustainable Development is available in [French](#), [Italian](#), [Slovenian](#) and [German](#).

Existing forms of cross-border/transnational cooperation in spatial planning

Existing cross-border / transnational cooperation

Please name cases of cross-border / transnational cooperation in spatial planning and development and their thematic focus (add rows for additional cases):

Please fill in the name(s) of the cooperation	Spatial planning in general	Spatial development in general	Protected areas / Protection of open spaces / ecological connectivity	Reduction of land take / Soil protection	Transport	Energy	Services of general interest	Commerce and retail	Tourism	Water management	Natural hazards	Climate change	Cultural heritage / landscape	Other	Remarks / contact

Instruments

Which instruments of cross-border/transnational cooperation in spatial planning are being applied in your region with neighboring Alpine countries? (Please add additional rows if needed)

Type of instrument	Name of the instrument	In regard to which topics	Key stakeholders involved
Spatial plans and / or programs			
Regional development concepts			
Memoranda of Understanding resp. Declarations of Intent			
Contractual arrangements			
Regional networks, cooperation structures or platforms			
Spatial observation			
Sectoral plans or programs with a prominent cross-border dimension			
Bilateral commissions			
Others			

Success factors

From your personal experience, what are success factors for cross-border/transnational cooperation in spatial planning and development?

Success factor	Relevance on a scale from 5 (very high) to 1 (very low) or "no comment"	Comment (optional)
Personal contacts among stakeholders		
Competence of key stakeholders (awareness about cross-border framework)		
Mutual trust among stakeholders due to previous cooperation experience		
Compatible cross-border governance structures		
Sufficient and appropriate resources (human and financial)		
Informal networks (e.g. Alpine Soil Partnership, AlpPlan)		

Institutionalized networks (e.g. Working bodies of the Alpine Convention)		
Cross-border relevance of the issue at stake, thus interest from both sides of the border (e.g. ecological connectivity, mobility, flood management)		
Win-win situation for partners on both sides of the border (e.g. services of general interest, utilization of existing infrastructure)		
Shared perception of the problem (awareness of a problem/conflict as well as its interpretation)		
Absence of cross-border competition (in the sense of competition e.g. for commercial or tourist development)		
Thematic/spatial information (ideally comparable at a cross-border level)		
(EU)-Legal framework allowing or promoting cross-border cooperation		
Transnational treaties and plans (e.g. Alpine Convention)		
European cooperation projects (Interreg etc.)		
Others		

Obstacles

From your experience, what are obstacles for cross-border/transnational cooperation in spatial planning and development?

Obstacles (Durand & Decoville 2018)	Relevance on a scale from 5 (very high) to 1 (very low) or "no comment"	Comment (optional)
Institutional obstacles (e.g. unbalanced representation of institutional levels; different competences of administrative levels)		
Legal obstacles (compatibility between legal systems; regulatory framework and legal tools; differences in land use, planning rules, building permits)		
Technical obstacles (coordinated planning tools; management of public spaces; funds for cross-border projects; connectivity of domestic systems)		
Cultural obstacles (linguistic differences, planning cultures; working methods; definition/use of conceptual planning tools)		
Political obstacles (planning visions; discrepancies in political priorities; national priorities overriding cross-border ones)		
Fiscal obstacles (differences in types and levels of taxes, e.g. business tax, VAT)		

Relational obstacles (interpersonal relations; differences in legitimacy, experience and leadership; level of trust; interest and political involvement for cross-border scale)		
Other		

Role of the Alpine Convention

What role does the Alpine Convention play in spatial planning and development at the regional (resp. municipal) level? (free text, max. 800 characters)

Needs for stronger cross-border/transnational cooperation

Do you see a need for stronger cross-border/transnational cooperation for the following topics?

Topic	Yes / no / no comment	In what respect?	If applicable, what reasons have impeded cooperation so far?
Spatial planning in general			
Spatial development in general			
Protected areas / Protection of open spaces / ecological connectivity			
Reduction of land take / Soil protection			
Transport			
Energy			
Services of general interest			
Commerce and retail			
Tourism			
Water management			
Natural hazards			
Climate change			
Cultural heritage / landscape			
Other			

Most urgent need for cooperation

Where do you see the most urgent need for cooperation in cross-border/transnational spatial planning and development? (free text, max. 800 characters)

General remarks / additional comments

Personal information

The following information is for internal purposes only. It will not be published or disseminated:

Name of interview partner:

Institution:

Position:

Interview conducted by (name):

Date:

Annex 5 Existing bodies of cross-border cooperation

Cross-border cooperation in Europe is taking place at various geographical and administrative levels – from European, to bi-national, federal, regional to municipal level. The range of instruments and forms of cooperation are multifold, so the following forms of cooperation (Table 8) are non-exhaustive and represent only a selected overview (Pallagst 2018:355ff).

Table 8: Examples for bodies of cross-border cooperation active in the Alps.

Spatial level	Form of cooperation (examples)	Mission / Description
European	Association of European Border Regions (AEBR) ¹³¹	AEBR works on behalf of European border and cross-border regions with the aim to highlight their role in the political landscape, represent their common interests, enhance cooperation between border regions throughout Europe, promote exchanges of experience, information and solutions to common obstacles.
	ESPON	The EGTC European Spatial Planning Observation Network ESPON and its programs aim at promoting and fostering a European territorial dimension in development and cooperation by providing evidence, knowledge transfer and policy learning to public authorities and other policy actors at all levels.
Bi-lateral / multilateral at national level	Alpine Convention and its Working Bodies	Includes the decision-making bodies and committees as well as the working bodies of the Alpine Convention
	Austrian-German Spatial Planning Commission	To promote and facilitate cooperation on issues related to spatial development, particularly those affecting areas close to the common border.
	ICPR/IKSR/CIPR	Nine states and regions in the Rhine watershed closely co-operate in the International Commission for the Protection of the Rhine to harmonize the interests of use and protection in the Rhine area. Focal points of work are sustainable development of the Rhine, its alluvial areas and the good state of all waters in the watershed.
	Binational agreements	Given Switzerland's role as non-EU-member, binational and multinational agreements are a relevant instrument for addressing issues between Switzerland and its neighboring countries (e.g. Rhone and Rhine river management, NRLA access routes)
	Karlsruhe Treaty of 1996	Regulates cross-border organizational structures between municipalities and public agencies between Germany, France, and Switzerland
Bi-lateral / multilateral at federal state level	EUSALP ¹³²	Improve cross-border cooperation in the Alpine countries as well as identifying common goals and implementing them more effectively through transnational collaboration

¹³¹ <https://www.aebr.eu/about-us/>

¹³² <https://www.alpine-region.eu/eusalp-eu-strategy-alpine-region>

	Association of Alpine States (Arge Alp) ¹³³	Address ecological, cultural, social and economic issues and problems of joint interest and to promote a sense of stewardship for the common Alpine living space.
	COTRAO	Similar initiative to the Arge Alp for the Western Alps, founded in 1982 but no longer active
	See Agglomeration Programs	
	Mission Opérationnelle Transfrontalière (MOT)	The Transfrontier Operational Mission (MOT) is an association that was set up in 1997 by the French government. Its mission is to assist project developers, promote the interests of cross-border territories and facilitate the networking of stakeholders and the sharing of experiences in French cross-border areas.
	Joint Committee Slovenia-Carinthia	The Joint Committee has been established to intensify cooperation between the Slovenian ministries and the departments of the Carinthian provincial government. It deals with common interests and aims to contribute to more efficient cooperation and synergy effects in joint projects, including spatial planning.
	Joint Committee Friuli Venezia Giulia – Republic of Slovenia	Likewise, the Joint Committee Friuli Venezia Giulia – Republic of Slovenia has been established to strengthen cooperation between the Friuli Venezia Giulia provincial government and the Republic of Slovenia.
	International Governmental Commission Alpine Rhine (IRKA)	The International Intergovernmental Commission on the Alpine Rhine (IRKA) is a joint platform of the four governments of Graubünden, St. Gallen, Liechtenstein and Vorarlberg. It serves the transnational exchange of information, discussion, decision-making and planning of water management measures on the Alpine Rhine.
	International Lake Constance Conference (IBK)	The International Lake Constance Conference is an institutionalized cooperation between the Swiss cantons Schaffhausen, Zürich, Thurgau, St. Gallen, Appenzell Ausserrhoden, Appenzell Innerrhoden, the Principality of Liechtenstein, the Austrian Province of Vorarlberg and the German Federal States Baden-Württemberg and Bavaria.
Regional	Euregios	
	European Groupings of Territorial Cooperation	The European Grouping of Territorial Cooperation (EGTC) – introduced in 2007 - is an additional legal instrument to promote cross-border, transnational and Interregional cooperation, involving countries, regional or local authorities, associations and any other public body. EGTC in or bordering with the Alps: Interregional Alliance for the Rhine-Alpine Corridor, Parc européen Alpi Marittime –Mercantour, Euregio Tirolo -Alto Adige -Trentino, Euregio ohne Grenzen / Euregio Senza Confini, EGTC GO (Gorizia, Nova Gorica and Sempeter-Vrtojba)
	Agglomeration Programs CH/AT, CH/LI, resp. DE, FR, IT	Based on a jointly drafted agglomeration program (municipalities, regions, cantons), the Swiss federation funds measures for a coherent transport and settlement planning across municipal, cantonal and national borders. The advantage is the close link between planning, funding and implementation in defined time periods of five years. Due to their focus on transport and settlement-related issues, landscape planning and nature protection issues are considered to a minor degree in agglomeration

¹³³ <https://www.argealp.org/de/arge-alp/ueber-uns>

		programs. The core elements of the programs are being incorporated in cantonal and regional structure plans (Richtpläne).
	Integrated Territorial Plans (PITER)	In the framework of the ALCOTRA program, Integrated Territorial Plans (PITER) are aimed at the economic, social and environmental development of a cross-border territory through the implementation of a common strategy; the PITER are multi-thematic and are carried out within a perimeter of up to 3 territorial units (region or department).
	Initiativkreis Metropolitane Grenzregionen (IMeG) ¹³⁴	Goals include: connecting strategy development with tangible projects and to further develop cooperation structures and regional governance improve application and synchronization of European and national funding policies / more coordination with neighboring countries in cross-border regional development learning network and perception of metropolitan border regions as engines of development establish metropolitan border regions in national spatial development and develop tailored policies position metropolitan border regions in the European spatial development discourse
	Metropolitanraum Bodensee	Platform of business associations from the cantons of Appenzell, Ausserrhoden, St. Gallen and Thurgau as well as regional governments of Vorarlberg and St. Gallen.
	Cross-border coordination committees provided by the 2021 Quirinal Treaty	The Quirinal Treaty (FR/IT) for a strengthened crossborder cooperation plans cooperation axis on various topics including ecological transition.
Municipal	Nice Côte d'Azur Metropole cross-border cooperation scheme (Cities of Nice, Genova, Torino and Monaco)	Cooperation structure according to the French MAPTAM law, adopted 19th December 2019
	See Agglomeration Programs	

The programs of European Territorial Cooperation, encompassing the cross-border cooperation (Interreg A), transnational cooperation (Interreg B) and Interregional cooperation (Interreg C) are connecting authorities, stakeholders, businesses, and NGO at various spatial levels.

¹³⁴ <http://metropolitane-grenzregionen.eu/initiativkreis/ziele/>

Cross-border spatial development in the Alpine Convention area

Executive Summary

Florian Lintzmeyer (ifuplan), Tobias Chilla, Markus Lambracht (FAU)

1. Background

In the European context, the Alps are characterised by a comparatively high density of national borders. This poses a challenge to spatial policies in a larger territorial context, which is why the Alpine Convention in its Implementation Protocol on Spatial Planning and Sustainable Development (SPSD) emphasizes that certain problems can only be resolved in a cross-border framework and require joint measures on the part of the Alpine countries. The SPSPD places a particular focus on fostering cross-border cooperation among its Contracting Parties. This includes the promotion of cross-border cooperation between local and regional bodies, the elimination of obstacles for international cooperation, the harmonisation in policies for territorial planning, and international cooperation regarding territorial plans and programmes.

In its first mandate phase and to provide the basis for future activities, the Spatial Planning and Sustainable Development Working Group has carried out an assessment of the status-quo and future needs of cross-border cooperation in spatial planning and spatial development between Alpine countries and their regions.

The assessment study was able to draw on previous activities of the Alpine Convention:

- Declaration on Sustainable Spatial Development in the Alps (Declaration of Murnau, 2016), reiterating the need for integrated and cross-border spatial

planning in the Alps and highlighting recent spatially relevant challenges that have arisen since the adoption of the SPSPD.

- International Conference « Sustainable Spatial Development in the Alps » (Munich, 2016), discussing
- ESPON Targeted Analysis Alps 2050

2. Methodology

The assessment study was conducted primarily as a desktop research and screening of relevant documents for references. The research focus was on references to existing or formerly existing forms of cross-border cooperation as well as on references to future needs of action. Documents included official sources from the Alpine Convention such as Compliance Committee Reports, national compliance reports as well as relevant literature at the transnational Alpine level. In addition, relevant literature at the national level was screened in regard to references to cross-border cooperation for specific border regions between two or three Alpine countries. In many cases, the identified literature references required additional desktop research of documents and internet sources in order to fill information gaps.

The assessment study initially focussed on institutionalised respectively permanent forms of cross-border cooperation. During its elaboration, it became obvious that projects carried out in the Interreg framework play a significant ground-breaking role as incubators and initiators for an intensified continuous cross-border cooperation. Thus, a quantitative analysis of Interreg projects from nine Interreg A and one Interreg B (Alpine Space Programme) programme has been conducted based on the EU KEEP database.

Alpine Convention perimeter (green) and national borders (black)



Source: Alpine Convention Atlas

To complete the literature screening with current activities and to avoid significant gaps, expert interviews were conducted with 22 spatial planning experts representing authorities, scientific

institutions and planning associations from Austria, France, Germany, Italy, Slovenia and Switzerland.

It has to be noted, though, that despite all efforts, this assessment study is not claiming to provide a comprehensive picture, given the dimension and also the difficulty to delimit spatial planning from sector-specific cooperation. By definition, the assessment study did not attempt to evaluate individual forms of cooperation, their impact on the territory or how they manage to achieve their defined objectives.

3. Results

Transnational level

At the transnational level, involving more than two adjacent Alpine countries, examples of cross-border cooperation include

- Cooperation between international governmental and non-governmental organisations and partners (Alpine Convention, EUSALP, Interreg, networks e.g. AlpPlan, Alpine Soil Partnership, ALPARC, PLANAT, European Groupings of Territorial Cooperation)
- Implementation of (EU) directives (SEA), agreements (Treaty of Karlsruhe) and labels (Alpine Pearls, Mountaineering villages, CESBA)
- Sector-specific studies (CrossBorder, Alpine Nature 2030) and initiatives (Green hydrogen for the Alps)

It is important to note that binding and institutionalised forms of cross-border cooperation have not been identified on a broader basis. According to the analysed documents and/or experts interviewed, needs for action at the transnational level include

- Implementation guidelines and target values for the SPSPD protocol
- Cross-border spatial observation (e.g. in regard to functional areas or open spaces)
- Improved communication between federal authorities on projects with cross-border effects as well as in drafting spatial plans
- Cross-border funding schemes
- Thematic cross-border spatial concepts (e.g. ecological network) and institutionalised linkages between spatial planning and related policy fields.

Analysis of Interreg projects

Bilateral cooperation

This paragraph outlines the results for specific cross-border areas within the Alpine Convention perimeter.

Austria-Italy

The Brenner corridor is the focal area of cross-border cooperation between the Austrian province of Tyrol and the Italian Trentino-Alto Adige and Friuli-Venezia-Giulia, but cooperation

also takes place between Upper Carinthia, East Tyrol and Südtirol/Alto Adige. Examples for cooperation include

- Cooperative spatial development projects (brenner.basis.raum, Fit4cooperation, SüdAlpenRaum/Spazio Sud-Alpino)
- EGTC regions (European Region Tyrol-South Tyrol-Trentino, Euregio ohne Grenzen/Senza Confini)
- Elaboration of basic information for spatial planning (ISA-MAP data harmonisation, SUSPLAN cross-border information basis and planning procedures)
- Sectoral cooperation in the fields of ecological connectivity, avalanche warning and forecasting and specifically on safeguarding of cultural heritage and mountain agriculture and economic traditions (joint agreement, Memorandum of Understanding)

Expressed needs for action for the Austrian-Italian border region include a stronger cross-border governance system, also reaching across political and administrative borders as well as intensified cross-border cooperation in the field of protected area management, transport and natural risk management, encompassing the integration and joint planning of measures.

Austria-Slovenia

Examples of cross-border cooperation in the Austrian-Slovenian border region include

- Joint committee Slovenia-Carinthia, addressing issues of cross-border relevance with one focus on spatial planning
- Cross-border plans (GREMA masterplan, goMURra water management plan) and planning approaches (SUSPLAN)
- Sector-specific initiatives (Karawanken@Zukunft.EU / Karavanke@Prihodnost.eu, Karawanks UNESCO Global Geopark, Trans-Borders mobility projects, CULTH:EX CAR-GOR built cultural heritage project)

Austria-Switzerland

The Alpine Rhine valley is the focus of cross-border cooperation between Austria and Switzerland in the fields of open space protection (Freiraum Rheintal), water management (Rhesi project Recreation and Safety in the framework of the International Rhine Regulation) and tourism (Velotal Rheintal). In a broader context, Austria is in most cases also represented in the various forms of cooperation in the Lake Constance area outlined in the chapter on Swiss-German cross-border below.

Additionally, the Interreg council Terra Raetica has institutionalised cooperation between Austrian (Landeck, Imst), Swiss (Grison) and Italian (Vinschgau) districts in the form of community-led local development (CLLD) initiatives on various topics.

Austria-Germany

Cross-border cooperation between Austria and Germany includes

- Formalised cooperation and consultation structures and agreements (« Bergener Resolution », cross-border participation schemes regarding retail

projects and spatial plans, route identification for the Brenner base tunnel access)

- Cooperation in concepts and strategies (Border Region Strategy 2021-2027, Salzburg Masterplan) and spatial analysis (EuLE, SABE-V, Study « Cross-border land management »)
- Sector-specific cooperation (cross-border protected area Alpenpark Karwendel, visitor management, Saalach flood protection, local cross-border transport connections)

Cross-border cooperation is particularly pronounced between the Southeastern Bavarian regions of Berchtesgadener Land and Traunstein and the Province of Salzburg, with a long-standing tradition of cooperating in the Euregio framework.

Needs for an intensified cross-border cooperation include

- Taking advantage of the EGTC instrument and better coordination of funds and cross-programme regional strategies
- Coordinated approaches to reduce and restrict private transport, address tourist competition and cluster risks in winter tourism and strengthen the cross-border dimension of protected areas
- Harmonisation of cross-border commuter statistics

France-Italy

In the French-Italian border region, examples of cross-border cooperation include

- Institutionalised cooperation schemes (Nice Côte d'Azur – Genoa – Torino – Monaco, EGTC Parc européen / Parco europeo Alpi Marittime – Mercantour) and bodies (CAFI, Conference Hautes Vallées/Territoire des Hautes Vallées)
- Integrated Territorial Plans (PITER CoeurAlp and subsequent initiatives, Terres Monviso) and regional initiatives (Espace Mont Blanc)
- Regional sectoral initiatives on climate change (AdaPT Mont Blanc, ARTACLIM), transport (CoerAlp en mouvement, ALPIMED MOBIL), balanced territorial development (Pay-sages) and protected area management and ecological connectivity (integrated plan for the UNESCO Biosphere Reserve Monviso, Biodiv'Alp)

France-Switzerland

For the French-Swiss border region, cooperation examples include

- Formalised bodies (Conseil du Léman) and agreements (Corridor contracts in the Franco-Valdo-Geneva conurbation, Agglomeration programm Greater Geneva Area, envisaged Rhone River Framework Agreement)
- Spatial analysis (Radioscopie des polarités du sillon alpin) and conceptual studies (PlanETer).

France-Monaco

France and Monaco cooperate in joint settlement and infrastructure projects, one example being the Zone d'Aménagement Concertée Saint Antoine, a joint multi-functional brownfield development.

Germany-Switzerland

Within the Alpine Convention perimeter, Germany and Switzerland share only a water border, no direct land border. Still, the Lake Constance border region features a long-standing and intensive tradition of cooperation between the Alpine countries of Austria, Germany, Liechtenstein and Switzerland.

Examples of cross-border cooperation between Germany and Switzerland include

- Institutionalised cooperation bodies (International Lake Constance Conference and Parliament, Lake Constance Spatial Planning Commission, Lake Constance Metropolitan Area)
- Spatial concepts and strategies (Target Vision Space and Transport, DACH+ including regional adaptation to climate change)

A need for more cooperation is seen in the development of cross-border energy plans and the noise conflict resolution regarding expansion plans of Zurich International Airport.

Italy-Slovenia

Examples for cooperation in the Italian-Slovenian border region include

- Institutionalised cooperation bodies (Joint Committee Friuli Venezia Giulia – Republic of Slovenia, Italian-Slovenian Permanent Bilateral Commission for Water Management) and structures (EGTC GO - Gorizia, Nova Gorica and Šempeter-Vrtojba)
- Spatial strategies and concepts (CONSPACE, TRANSLAND, Regional Smart Specialisation Strategies, SUMP Nova Gorica for cross-border mobility, FORTIS)
- Protected area management (Transboundary Ecoregion Julian Alps, GeoKarst)
- Spatial observation and data (ISA-MAP)

In regard to functional areas, a need of action was seen in more targeted strategies to overcome border-related obstacles and tap into possible synergies at regional, cross-border level (e.g. risk prevention capacities and disaster management).

Italy-Switzerland

In the Italian-Swiss border region, examples of cooperation include

- (no longer active) institutionalised bodies (Working Communities Region Insubrica and Region Sempione, Conseil Valais-Vallée d'Aoste du Grand St Bernard) and agreements (NEAT bilateral agreement),
- Transport (suburban train between Mendrisio and Varese, SMISTO project on mobility between Ticino and Lombardy) and water-related (RESERAQUA) initiatives,

- and the cooperation between the Transboundary parks Parco naturale Alpe Veglia - Alpe Devero/Binntal Landscape Park.

Needs for action include efforts to reduce economic differences along border regions and taking advantage of changes to the Swiss Federal Parks Ordinance, facilitating cross-border protected areas.

Liechtenstein – Austria / Switzerland

Liechtenstein and the neighbouring Swiss region Werdenberg cooperated in the framework of the 3rd generation of Swiss agglomeration programmes. Measures included securing public and open spaces within settlement areas to mitigate urban heat effects related to climate change. Municipalities of the Austrian province Vorarlberg also participated in the process.

Quantitative analysis of INTERREG projects

INTERREG projects are an important impulse for cross-border cooperation in the Alps and they are part of the Alpine territorial governance. Therefore, a quantitative analysis was conducted based on the information of the EU KEEP-database. This approach provides an overview of the thematic foci in INTERREG programmes. The analysis does not reflect on the quality or output of the projects but on the involved cooperation intensity. The analysis comprises the INTERREG V-B Alpine Space Programme (ASP) and nine INTERREG V-A programmes that overlap with the Alpine Convention perimeter. 64 ASP projects are accompanied by nine relevant INTERREG V-A programmes with 92.5 projects in average. The number of projects per cross-border programme area varies significantly. The transnational and the cross-border programmes show significant differences concerning their thematic focus. The KEEP-database allows attributing up to three thematic foci for each project. Key findings for INTERREG V-A-programmes include:

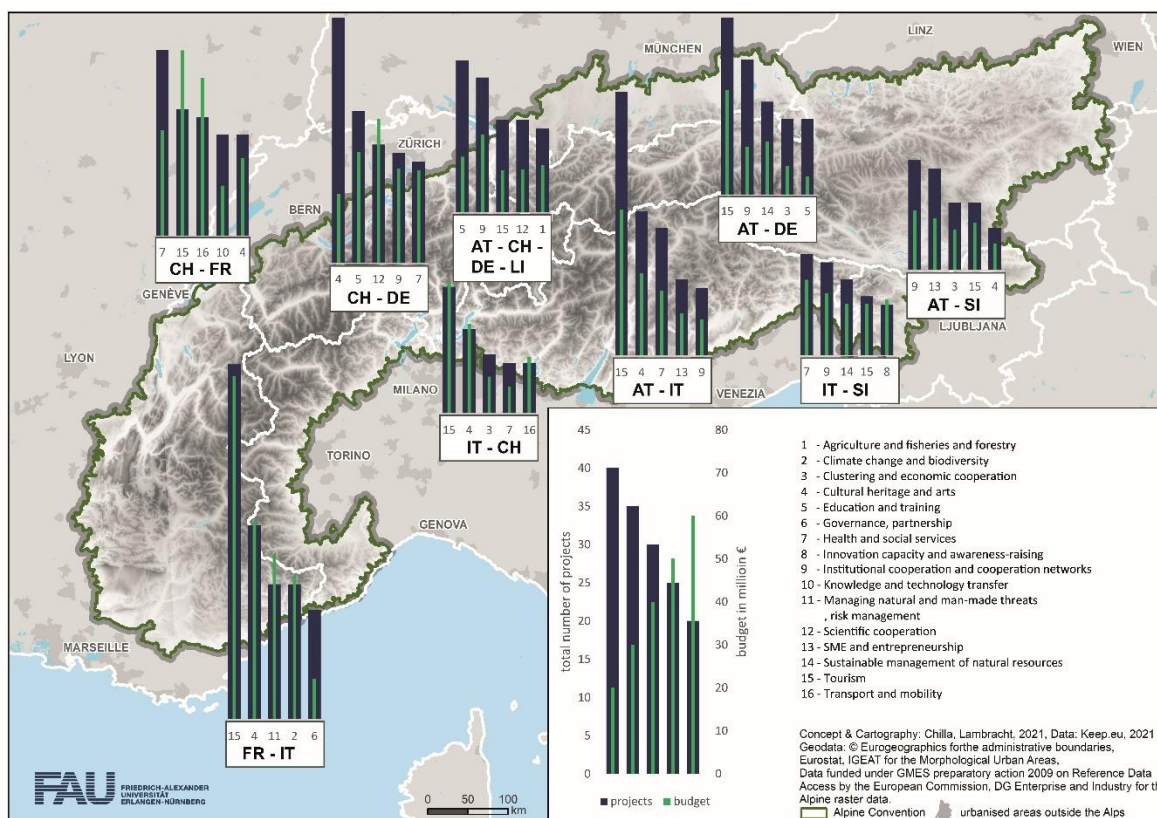
- The 5 most frequent topics include tourism, cultural heritage and arts, health and social services, institutional cooperation and cooperation networks and education and training.
- Topics with a clear reference to spatial planning and territorial governance can be found in the following categories: Institutional cooperation and cooperation networks (rank 4 out of 42 thematic categories), Governance/partnership (20), Regional planning and development (22), Urban development (33), Rural and peripheral development (39).

Findings for the INTERREG V-B Alpine Space Programme:

- The 5 most frequently mentioned topics are regional planning and development, governance/partnership, climate change and biodiversity, sustainable management of natural resources and innovation capacity and awareness-raising.
- Topics with a clear relation to spatial planning and territorial governance are positioned as follows: Regional planning and development (rank 1 out of 39 thematic categories), Governance/partnership (2), Institutional cooperation and cooperation networks (10) and Rural and peripheral development (29).

Comparing the two programme strands, overarching topics such as regional planning and development, governance, but also green topics and transport and mobility play a bigger role in the Alpine Space Programme than in the INTERREG V-A programmes.

Top 5 thematic foci in the different INTERREG V—A programme areas



Source: keep database 2021 / Elaboration: FAU

References in selected spatial development strategies

The following table contains a selection of references national spatial development strategies make in regard to cross-border cooperation. The collection does not claim to be exhaustive or comparable, but rather gives an indication of each country's specific perspective on cross-border cooperation in spatial planning and development.

Austrian Spatial Development Concept 2030

Pillar 4 Vertical and horizontal governance:

- Active participation in European strategies and processes (e.g. Green Deal, Territorial Agenda, New Leipzig-Charta, Urban Agenda, ESPON, Biodiversity Strategy, EUSALP, EU Funding Programmes, Alpine Convention, cross-border cooperation formats (EGTC, agglomeration programmes)
- Supporting mechanisms including bilateral and transnational cooperation structures and processes
- Cross-border and European spatial development as one of six cross-cutting aspects
- Young Expert priority issue "Regional centers - coordinated polycentric structures" requires supra-regional and cross-border development concepts

French Schéma interrégional du massif des Alpes

Three approaches to promote cross-border dynamic:

- Improving connectivity: Winter openings and service frequencies of railroad

<ul style="list-style-type: none"> • Promoting joint opportunities and land use in regard to tourism, culture, production systems, social services, education and research, labour market and natural hazards / Establishment of a cross-border stakeholder network • Cross-border project areas at the regional or state level
Concepts and Strategies for Spatial Development in Germany (2016)
<ul style="list-style-type: none"> • Cooperation potentials in cross-border functional areas shall be exploited and cross-border issues, planning approaches and coordination procedures must be focussed on. • Strengthening of cross-border cooperation in metropolitan regions and areas • Cross-border cooperation with neighbouring states e.g. in regional planning • Cross-border spatial monitoring
Italian Regional Territorial Plans
<ul style="list-style-type: none"> • No spatial planning competence at national level, but Regional Territorial Plans (PTR) for Italian Alpine border regions address cross-border cooperation • These references include cross-border cooperation bodies, corridors for territorial integration, macro-strategies and innovative governance models and socio-cultural relations. • The focus often lies on voluntary approaches and the use of territorial cooperation instruments, e.g. in regard to cross-border protected areas.
Spatial Development Strategy Slovenia 2050 (2020 draft document for consultation)
<ul style="list-style-type: none"> • Reference to spatial/territorial integration in cross-border and transnational functional areas (EU Territorial Agenda 2030) • Urban areas in border regions play a leading role in spatial development at cross-border level → creation of cross-border integrated settlement and economic systems • As part of major European geographical regions, Slovenia is taking an active role in macro-regional and cross-border integration (addressing common issues, development challenges) → strengthening of border towns, forming of cross-border wider urban areas (e.g. Gorizia, Carinthia) → joint development programs and projects to solve common cross-border problems and development challenges, establishment of cross-border associations
Spatial Concept Switzerland
<ul style="list-style-type: none"> • Make better use of border locations (urban, rural and alpine) through cross-border strategies (e.g. Métropole Lémanique, Northeastern Switzerland) and projects for cross-border functional areas • Mapping signatures: “Cross-border coordination of settlement and landscape” → transport, energy infrastructure and settlement development / “Cross-border cooperation in nature and tourism”, e.g. Espace Mont-Blanc • Federal level is expected to improve conditions for cross-border cooperation by participating in European spatial development projects and supporting cantons, cities and municipalities in cross-border cooperation • Cantons are called upon to further enhance settlement and landscape in urban and rural areas in a cross-border perspective • Promotion of cross-border cooperation for specific areas of activity, including the following in the Alpine Convention perimeter: Metropolitan areas: Métropole Lémanique / Areas characterized by small- and medium sized towns: Città Ticino, Northeastern Switzerland / Alpine areas: Western and Eastern Alps
Liechtenstein Spatial Development Concept
<ul style="list-style-type: none"> • Cross-border cooperation essential for Liechtenstein • Mobility as future focus of cross-border cooperation • Relational networks with bordering territories Rhine Valley, Province of Vorarlberg, Canton of Grisons on topics such as transport and mobility • Infrastructure development and supply structures need to be coordinated with Switzerland

Success factors, obstacles and future needs of action

Literature suggests a range of obstacles and challenges to cross-border cooperation. The ESPON COMPASS analysis argues that the combination of low population densities, low industrial activity and high natural value creates the challenge for spatial planning to stimulate development and at the same time preserve the natural heritage. Different regulations at national level often influence bottom-up cooperation across borders. Other studies identify the

lacking consideration of border regions in plans and concepts, lacking legal obligations and financial incentives, different governance structures and institutional barriers, lacking mandates and lacking municipal representation in border-regional strategies as challenges for spatial planning in border regions.

In the course of the expert interviews, the interview partners were asked to prioritise a set of possible success factors and obstacles on a scale from 1 (very low relevance) to 5 (highly relevant). It has to be reiterated that the following results are not statistically valid or representative. Nonetheless, the responses are an indication of stakeholder perceptions on cross-border cooperation on spatial issues in the Alps.

The five most important success factors in the eyes of the interview partners are the cross-border relevance of the issues at stake, a win-win situation arising from cross-border cooperation, personal contacts among stakeholders, shared perception of the problem and European cooperation projects.

In regard to obstacles, interview partners view institutional, political, legal and relational obstacles – in the sense of interpersonal relations, differences in legitimacy, experience and leadership, level of trust etc. – as the four most important obstacles.

The four most important needs for an intensified cross-border cooperation are seen in the fields of :

- transport: including cross-border commuting, modal shift and intermodality, climate neutrality, integration of transport, energy and settlement development, cross-border transport planning and mobility management
- climate change, including climate-neutrality and resilience, linkages with biodiversity and species shift, biodiversity of ecosystems at high altitudes
- natural hazards, particularly monitoring and management of natural hazard processes
- tourism, particularly tourist mobility and last mile.

4. Outlook

The assessment study illustrates how the diversity of the Alps is reflected in the topics and forms of cross-border cooperation in spatial planning. “Hot spots” for cooperation such as the Lake Constance area, the Espace Mont-Blanc, Southeastern Bavaria/Salzburg, cooperation along the Brenner axis and between Friuli Venezia Giulia and Slovenia can be identified which are in many cases rooted in a long-standing cross-border thinking. There is a huge potential in the Alpine Convention perimeter for exchange of experience and mutual learning and inspiration.

At the same time, it also became clear that formalised spatial planning is overwhelmingly still very much confined to national and regional administrative borders and does not yet live up to the ambitions of the Alpine Convention and its Protocol on Spatial Planning and Sustainable Development. In the future and focussing on integrated cross-border areas, the establishment of more formalised structures for cross-border spatial planning – equipped with decision-making competences and funds - could be a promising approach to effectively promote harmonious cross-border territorial development in the Alps.

Collection of good practices for growth and shrinking strategies

***Contribution to IP_SP1_1b of the Alpine Climate Target
System***

[Option to insert image]

**Spatial Planning and Sustainable Development Working Group of
the Alpine Convention**

Mandate 2021-2022



ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

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1. BACKGROUND

As part of its 2021/2022 mandate, the Spatial Planning and Sustainable Development Working Group contributed to the Alpine Climate Target System. This collection implements Step 1b of the Spatial Planning Implementation Pathway 1 “Alpine wide concept “Spatial Planning for Climate Action”” in the form of collection of good practices for growth and shrinking strategies.

The purpose of this collection is to serve as a basis for the moderated discussion in the next step of the implementation pathway. The issue of climate-sensitive growth and shrinking is one additional aspect to be considered in the discussion on sustainable spatial development and closely connected to the issue of quality of life (QoL), e.g. in regard to public transport or services of general interest.

2. STRATEGIES AND DOCUMENTS

2.1 European Union

Comprehensive Strategy: Green Deal

The European proposes a strategy that seeks to decouple economic growth from the use of resources and achieve carbon neutrality. As a consequence, this means to decouple land take from economic and population growth. In terms of growth, it means qualitative growth instead of quantitative growth.

Territorial Agenda 2030

Inequal (spatial) development in Europe between the different types of places is increasing in many fields such as quality of life, services of general interest, demographic and societal imbalances or employment and economic development. This is accompanied by increasing pressure through climate change. Therefore, increased concerted action at all geographical and governance levels is needed to ensure positive future perspectives for all people, communities and places in Europe. The TA 2030 seeks to strengthen the territorial dimension of sector policies at all governance levels.

ESCAPE – European Shrinking Rural Areas: Challenges, Actions and Perspectives for Territorial Governance (2019 - 2020)

This project is not mentioned here as an example of a growth or shrinkage strategy, but only plays an informative role. The project presents from the European perspective where rural areas are subject to shrinkage processes, which different challenges they are exposed to and which consequences can be derived from this for cohesion policy after 2020.

ESCAPE focused on European rural regions experiencing or threatened by demographic decline. The central objectives were to understand the process(es) driving shrinkage, map the heterogeneity within this group of regions, and devise intervention logic(s) for more appropriate integrated policy approaches.

Source/Further reading: [www.espon.eu/escape and Indicators and maps](http://www.espon.eu/escape_and_indicators_and_maps)¹

ESPON POLICY BRIEF: Shrinking rural regions in Europe (2017)

The Policy brief analyses depopulation and marginalisation in Europe. Besides facts and figures about shrinkage it highlights policy responds to that phenomenon. To address depopulation and marginalisation “... policy-makers have essentially two policy levers: (1) ‘going for growth’ – reverse shrinking trends and stimulate population growth; (2) ‘coping with decline’ – accept shrinkage and adapt to its economic and social consequences. [...] Accepting shrinkage can help to reorient rural policies and investment decisions to re-grow greener, smaller and provide new openings to be innovative, modernise governance and public services through more holistic, pro-active and place-based strategies consistent with 21st Century realities.” (ESPON 2017: 2)

Source/Further reading: [Shrinking rural regions in Europe](#)

European New Bauhaus

Building culture (Baukultur, European New Bauhaus²) is a significant aspect of the discussion in regard to climate change adaptation and land management. The public sector plays a central role in setting an example and giving impulses within its own infrastructure stock (schools, police stations, etc.).

“We want to create a design movement integrating three dimensions: sustainability (including circularity), quality of experience (including aesthetics) and inclusion (including affordability). Showing that creativity is in finding affordable, inclusive and attractive solutions for our climate challenges.”

Source/Further reading: https://europa.eu/new-european-bauhaus/index_de

2.2 Austria

Legislation of spatial planning is the remit of the provinces. They have passed their own planning laws which set the framework for regional spatial planning (überörtliche Raumplanung) and local spatial planning (örtliche Raumplanung).³

The Austrian Conference on Spatial Planning (ÖROK) takes within the federal planning system the role of a coordinating body with representatives of the federal government and the Land governments as well as representatives of towns and municipalities. It prepares every ten years the Austrian Spatial Development Concept (ÖREK). ÖROK's tasks include creating basic planning materials for Austria's spatial development policy (e.g. “ÖROK Forecasts”). The ÖREK analyses and monitors spatial development and publishes recommendations for different thematic issues.

Austrian Spatial development concept 2030 (ÖREK 2030 – Raum für Wandel⁴)

ÖREK 2030 is the most recent document of the Conference of Spatial Planning, which was developed consensual in a process with broad participation. It represents the status-quo of the spatial planning/spatial development discussion in Austria.

¹ Note: The links to the documents were last accessed in November / December 2021.

² https://europa.eu/new-european-bauhaus/index_en

³ www.oerok.gv.at

⁴ Refers to the 6th draft from July 2021

The ÖREK action programme is structured in four pillars:

- (1) Using spatial resources sparingly and carefully;
- (2) Strengthening spatial and social cohesion;
- (3) Developing economic areas and systems in a climate-friendly and sustainable manner;
- (4) Developing vertical and horizontal governance.

For each pillar, targets and action mandates are set. Due to the federal structure the ÖROK the concept serves as a preparation and offers support to the spatial planning authorities.

While almost all targets and action mandates of the ÖREK 2030 have a strong reference to climate change, shrinkage is not specifically addressed. But the spatial typology distinguishes between five spatial types⁵, including one named "rural areas with low population density and population decline" – a description which can be interpreted as "shrinking region". Many of the mandates refer to all types of areas, but in some mandates the "shrinking" areas are specifically addressed. These are:

- 1.3.a: Preserve agricultural land and quality of soil functions for food production.
- 2.2.a Improve the accessibility of centres with sustainable transport modes.
- 2.2.b The further development and strengthening of polycentric structures against the background of climate change as a central planning objective.
- 2.3.a Use and adapt the offers and infrastructures for children and young people.
- 2.3.b: Actively counter the consequences of the ageing of society.
- 3.2.b Expand digital infrastructure and services away from areas and locations that are well served by the market.
- 3.4.c Strengthen regional centres and their functional areas as knowledge-based service and education locations.
- 3.7.b Create an attractive living environment for employees in general, for women in particular and especially in business- and knowledge-based services in regions with population decline.
- 4.1.a: Further expand inter-municipal cooperation in spatial development and spatial planning.

Source/Further reading: [Austrian Spatial development concept 2030](#)

16th ÖROK Monitoring Report (16. Raumordnungsbericht 2018 - 2020)

Economical and sparing use of spatial resources is already given high priority in the 2011 ÖREK strategy, but shrinkage and settlement deconstruction are not explicitly addressed. Within the Monitoring Report a subchapter is dedicated to the prevention of urban sprawl and climate protection. It describes the different approaches and measures of the Laender to foster inner-urban development, the mobilisation of building land and the limitation of urban sprawl.

Source/Further reading: [16. Raumordnungsbericht](#) (German language)

ÖROK Strategies for regions with population decline 2016 - 2018

⁵ These are: Larger urban regions; Smaller urban regions and rural agglomerations; Axis areas along high-ranking transport infrastructure; Rural tourism regions and Rural areas with low population density and population decline

Between 2016 and 2018 the ÖROK members carried out an ÖREK partnership, which dealt in particular with municipalities and regions with a decrease in population. The intention of the work was to discuss the many shades and differentiations of the topic, to contribute to a removal of taboos and to develop proposals for action (focus: spatial development) for politics and practice.

A first study⁶ analysed current demographic developments in a multidimensional way and identified questions, hypotheses and approaches to solutions. Concerning spatial planning the theses are the following:

(14) Irrespective of the diversity of the regions with population decline the redimensioning of infrastructures (expansion and deconstruction) is a central issue.

(15) The instruments of spatial planning and land use planning must be adapted for deconstruction.

(16) Architecture and building culture should be increasingly used as impulse generators.

In addition to a differentiated analysis, a major focus was on the development of strategies for communication and new perspectives in the approach.

Based on this analytic study further work turned to the specific question of communication and emotions in dealing with regions with population decline – a quite unusual issue for spatial planning. The leading questions were: How are regions with population decline talked about? What emotions are triggered by this and does this open up or close off possibilities for action? What facts are there, and how can they be brought into a further development process in a supportive way?

As a result, several strategies for communication and perception of regions with population decline were developed in cooperation with pilot regions. Possible options for action, which are based on analysis and are translated in new linguistic pictures are presented in guidelines. The partnership formulated 12 core statements and developed communication ideas, analysis and good practice examples.

The strategies have no direct relation to climate change, but they but mitigation of climate change and the adaption to climate change may be included in the future.

Source/Further reading: [Strategien für Regionen mit Bevölkerungsrückgang](#) (German language)

Tyrolean Spatial Concept "LebensRaum Tirol Agenda 2030"

The Spatial Concept includes a diagnosis about the spatial disparities between growing and shrinking regions. Overall, Tyrol expects further population growth. Most of this took/will take place in the regional capital and the regional centres. The easily accessible urban hinterland will also grow strongly in population, characterised by significant migration gains as well as positive birth balances.

⁶ Regionen mit Bevölkerungsrückgang. Experten-Impulspapier zu regional- und raumordnungspolitischen Entwicklungs- und Anpassungsstrategien 2016. https://www.oerok.gv.at/fileadmin/user_upload/Bilder/2.Reiter-Raum_u._Region/1.OEREK/OEREK_2011/PS_Bevoelkerung/Experten_Impulspapier_Analyse_strategische_Orientierungen_20160718.pdf

A direct consequence of this (re-)urbanisation and suburbanisation is the rapidly progressing and spatially expanding physical urbanisation of the Tyrolean central region and the district centres. Foreseeable results of the strong building activity are towns and villages with different forms of housing and land uses. The interconnectedness of the Tyrolean central region is also progressing in functional terms. The concentration of workplaces and high-level supply facilities in the supra-regional centre of Innsbruck and in a few other central locations leads to a high mobility volume throughout the province as a result of the dispersed residential locations and the more distant areas for leisure activities.

In clear contrast to the population concentration in the Tyrolean central area, a slight but persistent population decline has set in in rural peripheral areas. This situation, which can be explained by continued emigration and increasingly negative birth rates, leads in the long term to a thinning out of the permanent population, which is also associated with a significant ageing of society. Even areas that are highly developed in terms of tourism are unable to decouple themselves from this demographic trend. This phenomenon, known as mountain exodus, requires specific public attention in order to avert the marginalisation of supply and the looming abandonment of the (agricultural) economic use of such areas.

The concept is thematically divided into the following five areas: livable places/settlements, successful business locations, needs-based supply and mobility, diverse landscapes and joint action. For these areas, goals and recommendations for action are given on the one hand for the entire Land, but also for different spatial types. These spatial types are: urban areas, areas used intensively for tourism, urban areas used intensively for tourism, rural areas and near-natural areas.

The objectives and recommendations for action are:

Liveable places:

- Create compact places;
- No designation of building land without spatial connection to existing building land;
- Mobilise building land;
- Identify vacancies and possible re-uses;
- Attractive design of public and semi-public areas;
- Define suitable areas for a functional mix of uses;
- Refine promotion criteria with regard to spatial planning objectives.

Successful business locations:

- Develop favourable locations for industry, commerce and trade and secure them for the long term;
- New commercial areas only in the form of regional commercial areas;
- Connecting industrial estates to local public transport systems;
- Establish design criteria;
- Identify and re-use vacant and brownfield sites;
- Further development of agricultural precautionary areas.

Needs-based supply and mobility:

- Optimisation of public transport services and catchment areas;

- Improve cycle and pedestrian networks;
- Offer services, retail areas and public facilities in line with demand, create framework conditions to safeguard infrastructures for the provision of public services;
- Coordinate transport infrastructure planning with spatial planning requirements;
- Improve public transport connections to intensive tourist areas and recreational facilities;
- Fast internet infrastructure.

Diverse landscapes:

- Interlinking of green and open space networks between localities and the open landscape, protection of characteristic valley forests;
- Recognising the diverse functions of the soil and taking them into account in planning, depiction of soil functions in the spatial planning information system tiris;
- Recognising and preserving special features of the landscape;
- Strengthening and shaping the green network of the landscape for nature, leisure and recreation;
- Greening the edges of the village to improve integration into the landscape.

Joint action:

- Identify interfaces with spatial planning, improve cooperation through interdepartmental projects;
- Communicate spatial planning issues in a comprehensible way;
- Making planning decisions transparent and expanding participatory processes;
- Further networking of spatial planning-relevant agencies in the state and increased exchange across state borders;
- Evaluate and realign planning associations, e.g. with cross-municipality spatial planning concepts;
- Develop cross-municipal synergy potentials for regional cooperation.

Source/Further reading: [Lebensraum Tirol 2030](#) (German language)

Strategic spatial vision "Raumbild Vorarlberg 2030"

The strategic spatial vision forms the framework for spatial development in Vorarlberg and is the guiding principle for the development of regional spatial plans and the application of other spatial planning instruments. The 3+1 core themes of the Spatial Image Vorarlberg 2030 are: 'Open space and landscape', 'Settlement and mobility, economy, tourism', 'Agriculture and forestry' and 'Regional cooperation'. In addition, there are topics for the future: underground spatial planning, urban agriculture, digitalisation, decarbonisation, share economy.

For each goal, measures for rapid (3-5 years) and medium-term implementation (5-10 years) have been formulated. Example: Settlement and mobility - quality inner development:

In order to implement inner development, every Vorarlberg municipality has drawn up a legally binding local spatial development plan by the end of 2022. These concepts, which are developed in participatory planning processes - with the involvement of citizens - contain clear statements on settlement development in the municipality. Targeted development focal points are set. New building land is only designated upon conclusion of a spatial planning

agreement or for a limited period of time (in case the building land is not built on within the time limit). Isolated building land designations are generally avoided. On the basis of the local spatial development plan, neighbourhood development plans are drawn up for important parts of the village (e.g. the village centre). The implementation of the neighbourhood development plans is carried out by means of development plans, building land regulations and by way of contractual land use planning.

Source/Further reading: [Raumbild Vorarlberg 2030](#) (German language)

Strategy for Adaption to Climate Change – Spatial Planning

The Austrian strategy for adaptation to climate change (2017) and its Second Progress Report 2021 include some interesting statements for spatial planning/spatial development (**Fehler! Verweisquelle konnte nicht gefunden werden.**).

General objective: Addressing the challenges of climate change in order to ensure sustainable spatial development through the consistent application and further development of existing planning objectives and instruments, as well as by preserving ecosystem functions.

Table 1 References in the Austrian Strategy for Adaption to Climate Change and its Second Progress Report

Strategy spatial planning/development (national level)	Progress (2021)
Development and provision of practice-relevant data and information bases, raising awareness, and improved networking of actors	Climate protection and adaption to climate change (CC) plays an important role in ÖREK 2030; relevant data are available esp. for energy planning, flood risk and natural disaster. Transfer to practice should be improved, implementation means a challenge.
Establishment and protection of flood retention and drainage zones and clear regulation of zoning prohibitions and restrictions	More retention areas were dedicated and excluded from zoning; the conflicts of potential land users regarding retention areas are challenging; clear rules for land use not yet everywhere.
Reinforced legal links between zoning and hazard-zone planning	Some Provinces (Upper Austria, Salzburg and Styria) already strengthened the link between zoning and hazard zone planning. Hazard zones are respected in all Provinces.
Regulations for handling existing zoning and building in hazardous areas	Reallocation of developed land is difficult in practise and spatial planning, resettlement and deconstruction of existing buildings are challenging. But there are some examples for volunteer resettlements.
Promotion of intermunicipal cooperation	Although some models for intermunicipal cooperation exist (e.g. "Schutzwassergenossenschaften") there is no incentive system for cooperation.
Protection of fresh/cold air production areas, ventilation paths, and "green" and "blue" infrastructure within residential areas	Scientific information is available as research in this topic was strengthened (e.g. in Styria has a map of ventilation paths), but the implementation into municipal planning is not wide spread. Often economic interests influence the designation of priority areas (Vorrangflächen). A challenge is the high complexity of cold air production areas and ventilation paths, so that these information is missing in supra-local planning documents.

Strategy spatial planning/development (national level)	Progress (2021)
Review and (if necessary) adjustment of bioclimatically active measures in development plans	There are already some examples for the implementation of bioclimatically active measures, but the issue should be anchored more firmly in the instruments of spatial planning.
Increased protection of water resources and improved integration of spatial planning, water management planning, and usage with water demand	CC aspects should be included into water management plans.
Increased protection of ecologically important open spaces (undeveloped semi-natural areas, habitat corridors, biotope networking) and minimization of further habitat fragmentation	Traditional landscape planning and nature protection is already implemented, but CC augments the pressure to act. Challenges are amongst others conflicting interests between renewable energy and nature protection, awareness raising in municipalities, as even small measures may destroy corridors. There is a need to enlarge habitat networks.
Increased cooperation between spatial planning and tourism to promote a climate change adapted, sustainable tourist infrastructure	Sustainable development as basic principle is implemented into the Plan T – Masterplan tourism.
Promotion of energy-optimized spatial structures	Several guidelines and basic data for energy planning are available, but small municipalities are lagging behind. Need for more energy network infrastructures to raise resilience.
"Climate proofing" spatial plans, development concepts, procedures and spatial projects	Raised consciousness for the need to adapt to CC. More and more spatial planning instruments are modified and the exchange between Provinces raised. There is a need for manageable, resilient, unambiguous criteria for climate proofing in planning. These should be in the sense of clear guidelines and practicable for municipalities. There is a need to define when a plan is considered "climate change fit/climate compatible".
Promotion of quantitative soil protection and consideration of soil quality in land use	There is a quantitative target for land use and the soil function evaluation has been further developed and is taken into account at project level. Soil protection is a target in many spatial planning acts, but there is a lack of operationalisation for implementation. There is a need for (regionalised) targets in quantitative soil protection that also take into account transport areas. It is criticised that soil quality as a target level does not trigger a ban on land use. There are no guideline values that could be taken into account in the land use procedure. The exception is the production value in agriculture, other reference values are not available (e. g. for infiltration). It is recommended to designate more agricultural priority zones in all regional planning programmes.

Source/Further reading: [Austrian Strategy for Adaptation to Climate Change and Zweiter Fortschrittsbericht 2021](#) (German language)

2.3 France

Input by Mrs. Vigneron until early May

2.4 Germany

In Germany the federal states are responsible for spatial planning. The Conference of Ministers for Spatial Planning (MKRO) coordinates the cooperation with the federal states.

Strategies for growth and shrinkage

After reunification in 1990, in some regions of the new federal states the population declined to an extent that made it necessary to reduce the settlements. For this purpose, a programme was developed that facilitated urban redevelopment called “Urban Regeneration East” (“Stadtumbau Ost”). Therefore, there is already a lot of experience in deconstruction of settlements and infrastructure in the context of population decline in towns, but not in the Bavarian Alps.

Demonstration project “Adapting peripheral settlement structures”

A demonstration project of spatial planning (“Modellvorhaben der Raumordnung” - MORO) simulated a “Strategic retreat” of peripheral settlement by the municipality. The project “Adapting peripheral settlement structures” (“Anpassung peripherer Siedlungsstrukturen”) took place in 2018. The participants consisted of interested persons from administration, politics and citizens who had expressed interest in a preliminary study. If necessary, other external experts were involved who could, for example, contribute concrete experiences and financial orientation values for technical options for action. The project pursued the objectives of

- discussing the taboo subject of “strategic retreat” without predetermined result,
- identifying municipal options for carrying out a strategic retreat
- and deriving recommendations for practical application for municipalities.

The demonstration project yielded four basic options for municipalities with small peripheral settlement part without sufficient development perspective:

- No strategic retreat (“preservation”);
- Very slow strategic retreat;
- Forced, complete strategic retreat;
- Forced, partial strategic retreat with the option of remaining and privately taking over infrastructure.

Source/Further reading: [Strategischer Rückzug aus kleinen peripheren Ortsteilen](#) (German language)

Legal framework for settlement withdrawal (2016) in the context of climate and demographic change

The Federal Environment Agency (Umweltbundesamt – UBA) published a study in 2016 about settlement withdrawal in the context of climate and demographic change (Siedlungsrückzug – Recht und Planung im Kontext von Klima- und demografischem Wandel). The study concludes that controlled settlement retreat as a method to adapt to demographic or climate change is possible within the existing legal framework.

Source/Further reading: [Retreat of settlements – Law and planning in the context of climate and demographic change](#) (English language)

Bavarian Spatial Development Programme (Landesentwicklungsprogramm, 2020)

The Spatial Development Plan is the framework for spatial planning in Bavaria. The programme defines – based on quantitative indicators – regions (districts or single municipalities) with a special need for action (Räume mit besonderem Handlungsbedarf) which are at risk to fall back compared to other regions. The following indicators define these regions: population forecast, unemployment rate, employment density, disposable income of private households (or income per taxpayer) and net migration of 18- to under 30-year-olds.

Priority is given to those regions with a special need for action in relevant government activities to ensure equal living and working conditions. To this end, they are given priority in spatially significant planning and measures. The perimeter of the area with special need for action thus forms the core area for relevant state planning and measures as well as for funding.

Shrinking is addressed in the context of demographic change (Chapter 1.2, footnote): *“The Bavarian sub-regions are affected by demographic change in different ways. Thus, in addition to a few that can still expect a population increase in the future, numerous sub-areas will have to expect a considerable population decline in some cases (cf. also Annex 1 “Status quo forecast population development”). This coexistence of shrinkage and growth can lead to a worsening of spatial disparities, which makes it more difficult to achieve the guiding objective of creating equal living and working conditions in all sub-areas. In particular, the area with special need for action (cf. 2.2.3) is characterised by a decline in population and labour force, out-migration of young people, ageing and a difficult economic situation. As already outlined in the “Demographic Change Action Plan”, this area therefore requires special support.”*

The spatial planning policy contributes to coping with the consequences of demographic change by creating the spatial structural conditions for a balanced population development. This also includes the creation and maintenance of the spatial conditions for further immigration to Bavaria to be distributed as far as possible across all sub-regions of Bavaria. This counteracts one-sided agglomeration tendencies, especially in the conurbation of Munich.

In short: Shrinkage is an issue for spatial planning in Bavaria, but as the total population is still growing, the aim is to achieve a more even distribution of the population across the various sub-regions.

Source/Further reading: [Landesentwicklungsprogramm](#) (German language)

Enquete Commission “Equal Living Conditions throughout Bavaria” (2018)

Bavaria *“promotes and ensures equal living and working conditions throughout Bavaria”* - this state objective was included into the Bavarian Constitution in 2014 after a referendum. As a result, an Enquete Commission “Equal living conditions throughout Bavaria” was commissioned to develop recommendations for action on how to prevent Bavaria from drifting apart into economically more powerful and less powerful areas (with out-migration and a shrinking population) and how to ensure spatial justice in all areas of Bavaria.

These measures include suggestions for the design of shrinkage.

Municipalities in regions with particular structural and demographic problems tend to have low revenues. As a result, municipal options for action are particularly limited here for financial reasons. This exacerbates the starting position of the municipalities, as strategies for the

development of endogenous potentials usually also require increased personnel input (marketing activities, participation processes, mobilisation of civil society initiatives, inter-municipal cooperation).

Programmes to strengthen municipal finances in these regions should therefore be linked to municipal strategies to adapt to demographic changes and population decline. This includes deconstruction and adaptation of infrastructures to shrinkage.

Source/Further reading: [Report of the Enquete Commission 2018](#) (German language)

2.5 Italy

National Strategy „Inner Areas“ (Strategia Nazionale Aree interne, 2014)

“Italy’s National Strategy for “Inner Areas” (SNAI) is an innovative policy for development and territorial cohesion to counteract marginalisation and demographic decline within “Inner Areas” throughout the Country. SNAI relies on an ambitious place-based policy based on new multilevel local governance through integrated local promotion and development, addressing demographic challenges and responding to the needs of territories penalised by significant geographical and/or demographic handicaps.

“Inner Areas” are fragile territories, far away from main centres of supply of essential services and too often left to themselves (Figure 1). They stretch over 60% of the national surface, and host 52% of Italian municipalities and 22% of its population. These “truest” and most authentic Italian areas primarily need to enable their inhabitants to still reside or return there.

The National Strategy aims to promote and protect “Inner Areas” assets and local communities, enhancing their natural and cultural resources, creating new employment circuits and new opportunities – in short, counteracting the massive demographic exodus.

The National Strategy addresses 72 “Inner Areas” – overall, 1,077 municipalities and about 2,072,718 inhabitants.”⁷

⁷ <https://www.agenziacoesione.gov.it/strategia-nazionale-aree-interne/?lang=en>



Figure 1 Location of the Italian National Strategy's "Inner Areas"

Source:

http://old2018.agenziacoessione.gov.it/opencms/export/sites/dps/it/documentazione/Aree_interne/STRATEGIE_DI_ARIA/Strategie_di_area/FVG/Alta_Carnia_Strategia_marzo_2017.pdf

Source/Further reading: [National Strategy for "Inner Areas" SNAI](#)

2.6 Slovenia

Spatial development Strategy 2050⁸

Slovenia's Spatial Development Strategy 2050 sets five strategic spatial development goals:

- Rational and efficient spatial development;
- Competitiveness of cities;
- Quality of life in urban and rural areas;
- Strengthened spatial identity; and
- Territorial resilience, multifunctionality and adaptation to changes.

The strategy refers to the Territorial Agenda 2030 to ensure a sustainable future for all places and people.

2.7 Switzerland

Spatial Concept Switzerland (Raumkonzept Schweiz 2012)

In a participatory process lasting several years, the Confederation, cantons, cities and municipalities developed the Spatial Concept as a guideline for their spatial planning and development. The concept strengthens the cooperation not only between Confederation, cantons, cities and municipalities, but also between the twelve different action areas and

⁸ Source: Tomaž Miklavčič: "Slovenia's new Spatial Development Strategy 2050 – on track towards a Just and Green Europe". Sent by mail by Lenča Humerca Šolar Nov. 2021

functional areas. Cooperation proved to be important also for functional areas, not only agglomerations, but also valley communities (“Talschaften”) in the Alps.

The Spatial Concept Switzerland proposes twelve action areas for the concretisation of the goals and strategies. It distinguishes between four metropolitan action areas, five small- and medium-sized urban action areas and three Alpine action areas (Gotthard, Western Alps, Eastern Alps).

The common goals and strategies, such as the economical use of land, the promotion of biodiversity, environmentally compatible transport, renewable energies and efficient energy transport, apply to each action area. The principle of taking care of the cultural heritage also applies everywhere. In addition, the Spatial Concept Switzerland places emphasis on the specific directions that are particularly important for the respective area of action.

The Alpine action areas with their cities, agglomerations, Alpine tourism areas and rural centres probably show the greatest heterogeneity of all action areas. In addition, the effects of climate change are most noticeable in the alpine areas and thus the need for action in this regard is greatest here.

The Alpine action areas are partly threatened by stagnation and emigration. The inner Alpine region is particularly affected: the Bernese Oberland, the Gotthard region and parts of Graubünden.

Gotthard region

For the Gotthard region the concept emphasises the importance as an Alpine transit axis for Europe. But at the same time it is the largest contiguous rural area in Switzerland outside the direct influence of urban areas. Additionally, the Reuss Valley and the Leventina are strongly influenced by road and energy infrastructures (transit corridors).

The problem of the peripheral location is exacerbated by the loss of importance of traditional economic factors such as the army and agriculture. It is therefore important to work together across the cantons in order to better position the Gotthard region, retain the resident population and ensure sufficient employment. The intact natural and cultural landscapes as well as the townscape should be maintained and used responsibly.

Western Alps

The Western Alps are an important tourist area. In addition, the region has a diverse economic structure as a production location for agricultural and winegrowing products, as a location for energy production and important industries as well as service companies.

The Western Alps action area occupies a top position in the international competition of tourism destinations but changing needs of guests and climate change are two major challenges. In addition, new solutions must be found to deal with intensive tourism uses, especially second homes, that are compatible with nature and the landscape and at the same time offer opportunities to strengthen summer tourism.

Compare Chapter 2.2. Good Practice *CH: Second homes Act and Ordinance (2016)* and *CH: Better use of second homes in Bellinzonese e Valli (model project sustainable spatial development 2014 - 2018)*

Eastern Alps

The trilingual action area of the Eastern Alps is strongly structured by many valleys and oriented in different directions. The agglomeration of Chur is the most important centre of the action area. The Eastern Alps also have two urban areas, Davos and St. Moritz/Oberengadin, which are strongly influenced by tourism. These three centres are complemented by other tourist centres as well as larger and smaller rural centres. In addition to tourism and efficient industrial and service companies, the use of water for energy production plays an important role. The entire region is strongly linked economically with the Zurich metropolitan area. Historically and culturally, there are close with neighbouring regions abroad.

The action area should develop a quality-oriented independence, which forms the basis for a long-term positive economic development. The aim is to maintain and expand the strong position in Alpine tourism sector in the future in the face of international competition. In doing so, the scenic qualities of the diverse mountains and mountainous landscapes with their rich cultural heritage must not be endangered. Climate change and the changing needs of guests represent two major challenges.

For the Western and Eastern Alps, the Spatial Concept emphasises to promote sustainable development with their cultural landscape in order to enable the resident population to remain in the functional areas of the side valleys. To this end, a sufficient basic supply of goods, services and jobs must be ensured in the alpine tourist areas and the rural centres. Regional strategies for spatial development must be oriented towards these focal points. The aim is to achieve an optimal combination of nature- and culture-based tourism, agriculture and commerce. Traditional cultural landscapes with their typical settlement forms and transport history should be maintained, responsibly used and valued.

Source/Further reading: [Raumkonzept Schweiz](#) (German, French, Italian)

Megatrends and spatial development in Switzerland (2019)

The Council for Spatial Planning (Rat für Raumplanung) in Switzerland is a permanent extra-parliamentary commission. It gives advice to the Federal Council and the federal agencies responsible for regional policy and spatial development. Growth is an important issue for Switzerland as population is expected to grow in total, but especially in the agglomerations and towns. Climate change is expected to become obvious with more frequent periods of heat, storms and other extreme weather events. The densification of the building fabric must therefore meet the measures demanded by the Federal Office for the Environment (FOEN) against the consequences. Such measures are larger ventilation corridors, more trees and more unsealed areas in towns and agglomerations. Densification projects will have to be assessed for their climate compatibility in the future. High real estate prices, too few "affordable" housing options, traffic volume, increasingly hot summers and subjectively perceived density stress are highlighted as key challenges for cities. In view of these diverse uncertainties, cities and agglomerations are increasingly orienting their strategies towards the goal of resilience.

Spatial planning and urban development prove to be particularly difficult in the Alpine valleys, which are characterised by growth. The design of linear towns is quite a challenge and

numerous demands for use overlap here (from the sides of agriculture, settlement development, traffic development, prevention of natural hazards, landscape conservation measures, recreational use, etc.). Growth is still largely uncontrolled in various individual municipalities, with the result that agglomeration-like structures are created. If these areas are to remain attractive for the population and the economy (including tourism), they must move away from unstructured settlement areas towards regional centres with an urban character.

The Swiss Alps show a high diversity of spatial types and as well in demographic and economic development. Accordingly, the issues of the Alpine region differ in the valley floors of the main valleys, in the tourist centres and the more remote side valleys. Especially the remote areas face a population decline due to out-migration of young people and therefore with an ageing population. Looking at population development by canton, the population did not decrease in any canton until 2016. But on the regional level, population figures show a sharp decline in some cases, especially in the cantons of Uri, Obwalden, Ticino, Nidwalden and Graubünden. These cantons, which already have to bear high costs for infrastructure and public services will face a further increase in expenditure for the care of the many old people living in remote areas.

Cp. Good Practice CH: Hasliberg: Multi-generation house and care network (model project sustainable spatial development 2020 - 2024)

The pre-Alpine regions are also quite different: while regions with good connections to transport networks (road and rail) and proximity to large cities have succeeded in attracting new businesses, there are also regions such as the Lucerne hinterland or Toggenburg that feel marginalised within their cantons because they are areas with low value added. For these reasons, these pre-Alpine regions are now trying to find or regain a foothold in tourism and work through developing their own unique selling propositions.

Climate change is an important megatrend with advantages as well as disadvantages and influences land use. The effects will be most noticeable in the Alpine region and along watercourses. They affect infrastructures and settlements in natural hazard areas. An evaluation by the Federal Office for the Environment (FOEN, 2012) shows that around 20% of the Swiss population live in areas that could be affected by floods. Exactly there are also 1.7 million or about 30% of the workplaces. In addition, around a quarter of tangible assets (CHF 840 billion) is located in these areas. Further risks due to warming are the retreat/disappearance of glaciers and of permafrost which put a high pressure on settlements in the valley bottoms.

Source/Further reading: [Megatrends und Raumentwicklung Schweiz](#) (German, French, Italian)

Spatial strategy of the Alpine regions in Switzerland (Räumliche Strategie der alpin geprägten Räume in der Schweiz, 2014)

The Government Conference of the Mountain Cantons (RKGK) was founded in 1981. The aim of the association is to join forces and jointly represent the concerns of the cantons. The main focus of their activities is on spatial planning/tourism, energy, finances, transport and border-related foreign policy. In 2014, the RKGK published a strategy paper that puts the spatial concept for Switzerland for the mountain cantons into concrete terms. The strategy defined four priority fields of action:

- Preservation and sustainable use of natural resources;
- Strengthening of Alpine centres;
- Improve and secure transport and telecommunication access in the long term;
- Expand and optimise the use of hydropower.

Source/Further reading: [Räumliche Strategie der alpin geprägten Räume in der Schweiz](#) (German language)

Structural Change in the Swiss Mountain Region (Strukturwandel im Schweizer Berggebiet, 2017)

Avenir Suisse – a politically independent economic think tank in Switzerland committed to market-based solutions - published a position paper about structural change in mountain regions. Population and economic growth take place mostly in the metropolitan areas of Switzerland. At the same time some regions (especially in the mountains) face shrinking processes. But a fact-based debate on shrinking processes seems to be hardly possible. The study focuses on innovative approaches for structural change in such regions. It describes the following guiding principles for the design of a sustainable economic structure in mountain areas:

- Enable structural change through good economic framework conditions instead of hindering it by preserving outdated structures. Structural change is also a process of "creative destruction".
- Transfers to the mountain area should not be designed to provide permanent alimentionation, but should finance projects that develop and strengthen the mountain area's own economic power.
- Subsidies should be concentrated where they generate sustainable growth. It is a matter of strengthening existing growth engines - for example, regional centres that radiate to the neighbouring rural area.
- This also requires a sincere approach to shrinking processes and areas with little potential. Blindly "subsidising" against shrinkage is expensive and ineffective. In some areas strategies for an orderly retreat are needed.

Source/Further reading: [Structural Change in the Swiss Mountain Region](#) (English, German, French, Italian)

3. GOOD PRACTICES FOR GROWTH AND SHRINKING STRATEGIES

The terms of reference for the collection of practical examples leave room for interpretation. Therefore, the collection is preceded by a "typification" of examples to make it easier to search through them in a targeted manner.

Type 1 - Spatial planning for adaptation to climate change: there is a number of possibilities for spatial planning to support adaptation to climate change with the usual set of instruments, whereby the relevant spatial levels depend on the national planning system. This includes, for example, the safeguarding of open spaces, flood plains, cold air production areas, fresh air pathways, retention areas, green areas/areas, etc., which is e.g. in Germany mainly done by means of priority and precautionary areas in the regional plans and the development programmes of the federal states. The options are "spatial planning" in a narrower sense and consequences for settlement development result from these specifications. Shrinkage and growth is not an issue in this context.

Type 2 - Adaptation to a shrinking population, reduction of land take and inner-urban development: for shrinkage in the context of demographic change (sometimes also structural change) there are many practical examples at the level of individual properties (or a certain accumulation of individual properties) in a particular district, town or occasionally a region. Mostly it is about the revitalisation or the subsequent use of vacancies, the deconstruction of buildings, the activation of too large building land reserves and inner development. The planning level here is mostly urban or municipal planning; climate change usually plays no role here. Nevertheless, these examples can also be considered under the aspect of climate change, or such a planning process can also be used to support the energy transition and adaptation to climate change.

Type 3 - Climate change-responsible growth: For the topic of growth in the context of climate change, one can find examples of how settlement expansions must be planned in order to withstand climate change (greening, fresh air production areas and runoff paths, rain retention, sponge city, green/blue infrastructure, etc.). Structures built today will have to withstand greatly changed climatic conditions in the future. The most relevant planning level here is usually the entire municipality or urban planning. An increasingly important role is also played by the neighbourhood level, which is located between urban planning and the building level. But regional planning may set the framework.

Type 4 - Withdrawal from danger zones: A special role is played by examples where a settlement retreats due to an increased exposure to natural hazards. This is actually neither growth nor shrinkage, but the relocation of settlements, which is often planned and carried out in response to an extreme event (flood, heavy rain, avalanche, mudslide, etc.).

In agreement with the interim caretaker⁹ for this implementation pathway, a more targeted search was made for examples of type 2 and 3.

⁹ Marc Pfister

3.1 Spatial planning for adaptation to climate change

AT (Styria): Green and blue infrastructure in municipal planning

The guidelines offer assistance to municipalities and spatial planners for green and blue infrastructures. They show how to include blue and green infrastructure in the planning process within the framework of local spatial planning instruments. The guidelines have a recommendatory character.

[Ratgeber Grüne und Blaue Raumplanung](#) (German language)

AT (Tyrol): Spatial planning programmes

In Tyrol spatial planning programmes may define areas, that are to be kept free for certain purposes such as for measures to protect against avalanches, floods, torrents, rockfall, landslides or other gravitational natural hazards and for flood runoff areas or flood retention areas.

Source: [Raumordnungsgesetz Tirol](#) §7 (German language)

CH: Strategy for risk-based planning

Not only the hazard of a site, but above all its use determines the risk. Depending on the type of use, the potential for damage increases. Spatial planning deals with natural hazards mainly with a hazard-based approach. Whether and which measures are necessary is derived from the hazard level of an area, which is recorded in the hazard map. The focus lies on areas with a significant or medium hazard. But often, the greatest risks are not in areas at considerable or medium risk, but in areas at low risk. Risk-based spatial planning takes this aspect into account by focusing more on use and considering the associated damage potential. The publication gives seven examples for risk-based planning in Switzerland.

[Risikobasierte Raumplanung](#) (German language)

CH: Climate adaption strategy Luzern (Klimaanpassungsstrategie Stadt Luzern)

The comprehensive climate adaption strategy of the City of Luzern contains six measures of spatial planning:

1. safeguarding cold air production areas and ventilation corridors with spatial planning instruments
2. requirements for climate-adapted site development
3. anchoring climate-adapted construction methods and climate resilience in the building and zoning regulations
4. qualitative requirements for greening in the building and zoning regulations
5. climate-adapted road surfaces
6. climate adaptation in public spaces

[Klimaanpassungsstrategie der Stadt Luzern](#) (German language)

DE (outside of the Alps – western Saxony): Safeguarding of areas for cold air/fresh air production

An urban-regional strategy for reducing bioclimatic stress consists in the exchange of cold and fresh air with the surrounding area. In order to protect settlement areas from increasing overheating, an urban-regional strategy is to secure open spaces for the creation and transport

of fresh and cold air from the surrounding areas into the dense urban spaces. Accordingly, cold and fresh air production areas are to be kept free of settlement and high emission uses. Larger transverse structures, dense planting and afforestation or mounding impair the transport of cold air and should be excluded by defining the areas. In order to maintain the quality of fresh air, it is necessary to exclude high emission uses from the fresh air transport areas.

[Sicherung von Flächen für die Kaltluftentstehung](#) (German Language)

3.2 Adaptation to a shrinking population, reduction of land take and inner-urban development

AT: ReDesign Eisenerz - Settlement reduction due to economic and population decline (since 2005)

Adaption of settlements to shrinkage

Due to an industrial decline, the city of Eisenerz faced a significant decline of population. As a result, housing vacancies increased and the population aged. In 2005 the project Redesign Eisenerz was initiated with a study about current and future housing situation, about 800 residential units were vacant at that time. A broad public discussion was enforced by an exhibition in Eisenerz about shrinking cities, which was made in cooperation with the German programme Shrinking cities ("Schrumpfende Städte").

A concept was developed to facilitate the maintenance of the technical and social infrastructure and improve the housing situation through a coordinated demolition and deconstruction programme. Residents from remote and disadvantaged neighbourhoods were relocated to refurbished flats in central locations. The old town was strengthened, while structures in peripheral locations were to be abandoned. While the initial focus was on stabilising the housing market, the project has since developed into a bundle of activities ranging from the resettlement and redevelopment measures mentioned above, to public relations work on the topic of shrinkage, the activation of the city centre, and cultural and tourism projects.

A legal body, where the municipality and representatives of the housing companies took joint decisions for the housing markets with a mixture of redevelopment, conversion and demolition was established. This transformed the situation of competition into a situation of cooperation between relevant actors on the housing market. Part of re-design Eisenerz was the transformation of flats into holiday apartments, a multi-storey housing estate is being converted into tourist accommodation with up to 400 flats when finished. New job opportunities were created.

[ReDesign Eisenerz](#) (German language)

CH Brig-Glis: Win-Win Spatial development in Brig-Glis (model project sustainable spatial development 2014)

Too much building land is a fact that confronts the municipality of Brig-Glis. Due to the revised spatial planning law and the new cantonal structure plan, it will have to reduce the size of its building zones. The executive of Brig-Glis has therefore drawn up a model for the spatial development of the municipality's territory and, on this basis, established principles for municipal settlement development („Building in the right place”).

The aim of the project was to achieve broad political acceptance for the implementation of inner-urban development. The city council therefore pursued the goal of creating a common understanding for the qualities of future spatial development and to carry out the necessary rezonings without losers.

[Win-Win Spatial development](#) (German, French, Italian)

Further reading: [Schlussbericht Modellvorhaben räumliche Entwicklung Brig-Glis](#) (German)

CH: My way – our network (model project sustainable spatial development 2020 - 2024)

Inner-urban development and zero-emission transport/walkability

In official planning, pedestrian access is often not a priority, and footpaths and path networks receive little attention. Yet they take on very important functions in neighbourhoods and communities: as places of encounter and movement in everyday life, they enable social exchange and promote health without much effort. Attractive, safe footpath networks contribute to the quality of life, are important elements of an open space framework, enhance public space, have an identity-building effect and thus play an important role, especially in inner-urban development. Children and older people benefit from a well-developed network of paths.

The model project shows, as an example for a neighbourhood in Frauenfeld and the communities of Matzingen and Neunforn, how the footpaths and path networks can be systematically recorded and become part of public awareness again. The population contributes their knowledge of old footpaths and also their everyday needs. Together with different target and age groups - such as pupils or senior citizens - answers to the following questions are sought: Where do missing paths and connections limit our movement behaviour? Where can new attractive, eventful and independent connections be created away from roads dominated by motorised traffic?

[Fussverbindungen - Alltagswissen und -wege vernetzen in der Region Frauenfeld \(TG\)](#)
(German, French, Italian)

CH: A new start in old age (model project sustainable spatial development 2020 - 2024)

Housing strategy for an aging population

Two mountain regions (Albula and Prättigau/Davos, Graubünden) which are struggling with out-migration, ageing and empty beds intend to strengthen the residential location. 17 municipalities are looking for new ways to create needs-based housing and mixed-generation living environments and to enable self-determined living for elderly inhabitants.

They face the following challenges:

- What are sustainable settlement models for peripheral regions?
- How can demographic change be used as an opportunity?
- How can newcomers and second home owners be integrated?
- How can (good) ideas and concepts be implemented in a low-threshold manner?

The aims of the model project are using demographic change as an opportunity:

- Encouraging the 55+ generation to move in;
- Extending the length of stay of the 65+ generation;

- Facilitate relocation of the 80+ generation.

In three laboratories, actors from the public sector, the housing industry and civil society jointly develop approaches and measures, each with a focus on:

- How can the underused building fabric that characterises the village image be converted?
- How can the housing stock and environment be upgraded?
- How can the commitment of people willing to start a new life be won and their access to existing networks be facilitated?

In the laboratories, implementation-oriented action manuals ("cookbooks") are developed that enable interested actors to define goals and target groups quickly and bindingly, to identify needs and gaps in supply, and to involve stakeholders and suitable implementation partners at the right time. In the laboratories, communication, coordination and cooperation within and between municipalities are strengthened and regional and supra-regional spaces for action are defined and developed.

[Neustart im Alter: Wohnraumstrategie der Region Albula und Prättigau](#)

CH: Hasliberg: Multi-generation house and care network (model project sustainable spatial development 2020 - 2024)

Housing strategy for an aging population

The demographic change is noticeable in Hasliberg: while the number of people under 40 is tending to decrease, the 65+ generation is steadily increasing. This generation would like to lead a self-determined life for as long as possible - even with physical limitations - and maintain their social ties in Hasliberg. The current living space in the four villages of the mountain community (with an area of 42 km²) consists mostly of residential property and rented flats for holiday guests. There is no apartment building with rental flats. In addition, the decentralised settlement, some of which is on steep slopes, makes it difficult for older people to move around. In order for them to be able to spend their last stage of life in a familiar living environment and to cope with their everyday life, they need accessible, obstacle-free living space with centre functions, service offers and rooms that can be used together.

A housing cooperative founded for this purpose is building an multi-generation house in a central location with barrier-free, affordable and partly decentralised flats of different sizes and rooms with public functions. The project and the approach can serve as an example of how cohesion in the community and coexistence between the generations can be strengthened.

[Hasliberg: Generationenwohnen und Sorgenetz verbindet die Berggemeinde](#)

CH: Spatial Planning Act limiting building land provision

Reduction of land take

Municipal building land supply is capped at the demand for the next 15 years; if this is exceeded, reallocations must be made.

Revision of the [Spatial planning Act](#) (German, French, Italian language)

*CH: Second homes Act and Ordinance (2016)*Reduction of land take

Since the 1950s, the construction of second homes has led to an increased demand for land and to urban sprawl. Especially in the tourist regions of the Alps, the construction, sale and rental of second homes advanced to become an important branch of the economy. This development was accompanied by increased land consumption, urban sprawl and the problem of "cold beds". All municipalities have the obligation to draw up an annual housing inventory. In municipalities with a proportion of second homes of over 20 per cent, no new second homes may be approved. However, there is no absolute ban; for example, the construction of second homes for tourism is permitted. The law, the associated ordinance and the explanatory notes regulate the details.

[Zweitwohnungsgesetz und -verordnung](#) (German, French, Italian)

[Additional information](#) (German, French, Italian)

CH: Better use of second homes in Bellinzone e Valli (model project sustainable spatial development 2014 - 2018)

Around a quarter of the respondents considered renting out their flats. The potential landlords wanted support above all in administrative matters, in receiving and looking after guests on site, maintaining and caring for the flats, as well as in marketing and handling bookings.

The project leaders then drew up a business plan for a regional marketing agency. It quickly became clear that a new structure would hardly have been economically viable and that it therefore made more sense to concentrate on existing marketing and reservation platforms. To ensure that this was actually used, the model project offered flat owners a financial incentive to create an illustrated and multilingual dossier about their flat. This was done in close cooperation with the regional tourism organisation Bellinzone e Alto Ticino. After all, an attractive business card of the flat is a prerequisite for placement on the existing platforms.

The model project resulted in a series of tips that can simplify the rental process for second home owners. This includes an assessment of existing rental and reservation systems, such as Airbnb, E-Domizil and Interhome. Practical checklists and information on insurance aspects rounded off the offer.

[Better use of second homes](#) (German, French, Italian); the [final report](#) is available in Italian language

*CH: National impulse inner-urban development (First phase 2016 - 2020 and extension phase 2020 - 2025)*Inner-urban development and reduction of land take

The programme aims to support cities and municipalities in implementing inward settlement development. The Swiss Association for Spatial Planning and the Environment EspaceSuisse (VLP-ASPAN until 2018) was commissioned to implement the services, and the federal government provides financial support for "Impuls Innenentwicklung", as there is a high demand for specialist knowledge and practical experience, particularly at the level of the

municipalities. In addition to communication and awareness-raising services as cross-cutting tasks, the services are structured along three building blocks:

- Advisory services: Offering advisory services;
- Training and further education: creating planning competences;
- Collection of examples: collecting and processing good examples (collection of good practices [densipedia](#)).

[National impuls inner-urban development](#) (German, French, Italian)

CH: Network for cooperative implementation of inner-urban development (LU, BL) (model project sustainable spatial development 2014 - 2018)

Inner-urban development

Planning and implementing inner-urban development is not easy: complex spatial structures, complicated ownership structures or low motivation to change can make the process difficult.

As part of the model project, the Lucerne University of Applied Sciences and Arts, in cooperation with the Spatial and Economic Office of the Canton of Lucerne and the Office of Spatial Planning of the Canton of Basel, developed a procedural model for locally specific neighbourhood development. The project focused on the cooperative implementation of inner-urban development strategies with the landowners concerned. This was intended to activate strategically important development areas. In addition to the process design with the owners and the municipality, the innovative content lay in the interdisciplinary cooperation of planning experts and social work specialists who are familiar with socio-spatial developments and processes.

Thanks to the partnership-based and cooperative involvement of those affected, conflict situations could be solved. The municipalities were sensitised to the fact that they must take on a new leadership role in inner-urban development, especially in strategically important locations.

The project participants conducted case studies based on the municipalities of Ballwil, Emmen, Entlebuch, Schüpfheim, Ufhusen, Weggis, Aesch and Oberwil and developed multi-stage approaches.

[Network inner-urban development](#) (German, French, Italian)

[Comprehensive descriptions of case studies](#) (German)

DE: New living concepts for the village (model project since 2017)

Reduction of land take

New lifestyles and the associated diverse demand for living space, sustainable use of all resources, demographic change, but also the massively rising costs of land acquisition and construction in many places require new answers in the development of living space. Especially in rural areas where mono-structural housing estates with single-family houses are still dominating, forward-looking strategies are needed.

The model municipality of Kirchanschöring has around 3,600 inhabitants and a long tradition of citizen participation. Now, as part of a local sustainable development strategy, the initiation

and realisation of community housing projects by private individuals from the region are being tested.

A first reference project in the planning phase is a building ensemble consisting of three multi-party houses as a new town centre in the small village of Hipflham. The project developer is the municipality in interim acquisition for private building communities. Up to five residential units of different sizes – from a small flat to a “house within a house” – can be accommodated in one building. The village square forms the central hub of the building ensemble. For years, no investor had been found with an appropriate proposal for the area. Now the citizens, supported by the municipality, are taking the development into their own hands.

[Anders Wohnen Kirchanschörig](#) (German)

DE: Kempten - Conversion of the industrial complex Mechanical Cotton Spinning and Weaving Mill (2014 - 2019)

The buildings of the Alte Weberei stood empty for decades and slowly deteriorated, with no further use and redevelopment in sight. But from 2014 to 2019, step by step, a complete conversion and redevelopment of the "Old Spinning Mill" took place (2014), the opening of the start-up centre in the former sizing mill (2017), the modernisation of the gatekeeper's villa (2018) and in 2019 the completion of 46 flats in the shed roof hall.

Despite enormous investments, the flats were integrated into Sozialbau's "Kemptener Modell – Wohnen für die Mitte" and thus offered at affordable rents. All in all, Sozialbau invested more than 30 million euros in the redevelopment of the entire neighbourhood in a forward-looking and sustainable way, thus upgrading the entire district.

[Conversion of the industrial complex](#) (German)

AT: Millstadt – Temporary building ban and realignment of local spatial planning (2018 - 2020)

[Inner-urban development and reduction of land take \(for secondary homes\)](#)

The market town of Millstatt is located on the northern shore of Lake Millstatt in the south-west of the Nockberge mountains and is a municipality with a high number of overnight stays (more than 300,000). The main settlement area with the most tourist offers is on the lakeside, but relevant parts of the municipality are located on the high plateau.

The number of inhabitants with their main residence in the municipality is around 3,500 and is only growing slightly, while the number of secondary residences is increasing. Between 2002 and 2018, the number of secondary residences has increased from 960 to 1340 (+ 40%), and the share of secondary residences is now 28%. The high share of secondary residences in the main town in a prime location is particularly problematic.

Due to this, the market municipality issued a temporary building ban in 2018 for the parts of the municipality near the lake. The municipal council is pursuing the goal of counteracting this negative development by a reorientation of local spatial planning with a focus on quality.

[Millstatt – Temporary building ban](#) (German)

AT: *Carinthian Lakes Conferences/ Handbook on Spatial Planning on Carinthian Lakes (2018 - 2020)*

Reduction of land take

In order to safeguard the treasure of Carinthian lakes for future generations, the Provincial Department for Spatial Planning has launched a broad process that aims to develop rules for dealing with this precious resource together with experts and citizens.

Within the framework of five "Carinthian Lakes Conferences", provincial and municipal politicians, administrators from the specialised departments of the province and the municipalities, representatives of tourism associations and the Federal Forests, planners, architects, building culture initiatives, entrepreneurs, residents and interested parties discussed the future of the Carinthian lakes in a lively and open-minded manner. In the process, different and often opposing perspectives were opened up and discussed in a broad dialogue between those actually affected and those actively shaping them. During the participation process, four thematic areas emerged. Following the Carinthian Lakes Conferences, these were formulated into proposals as well as starting points and measures for the future handling of the Carinthian lakes by those involved in the process. The first step is the implementation of the handbook for spatial planning on the Carinthian lakes with a description of the planning instruments and the possible applications contained therein.

[Neues Seehandbuch](#) (German)

AT (Styria): *Investment levy on undeveloped building land*

Reduce land take (mobilisation of building land)

The investment levy is an exclusive municipal levy within the meaning of section 6 para.1 (5) of the Finance Constitution Act 1948. [...] The investment levy amounts to € 1,-/m² of the floor area per year. The obligation to pay the contribution ends with the demonstrable completion of the shell of an approved building in the sense of the intended use". (§ 36 para 3 StROG 2010)

AT/FR/IT/SI: *Alpine Space Project trAILs - Alpine industrial transformation landscapes (2018 - 2021)*

The decline of traditional heavy and manufacturing industry is occurring also in the Alps. This process is leaving behind impressive former productive landscapes of relevant size and complexity: Alpine Industrial Landscapes (AILs). The potential value of AILs in terms of sustainable transformation is strongly connected to Alpine-wide ecological, economic and social key challenges, such as the regeneration/improvement of blue and green infrastructures, the reactivation/upgrade of regional economies and the promotion of local identity and cultural heritage.

The project aimed to generate significant knowledge about AILs and to develop and test sustainable transformation strategies applicable and replicable in the whole Alpine space. There were four pilot sites in Austria (Eisenerz), Italy (Borgo San Dalmazzo), France (L'Argentière-la-Bessée) and Slovenia (Tržič).

[Alpine industrial transformation landscapes](#)

FR: T-ZAN („Zero Net Artificialisation“) in Auvergne – Rhone – Alps

AMI ZAN: Towards "Zero Net Artificialisation": Trajectories and operational implementation of the Avoid-Reduce-Compensate sequence

The ambition of the AMI "Objectif ZAN" is to support all the actors who contribute to the development of Territories (T-ZAN), by increasing their skills through feedback and by stimulating a territorial dynamic around ZAN trajectories that are part of the long-term.

In order to meet this ambition, the AMI aims to support around fifteen projects from territories wishing to implement an "ambitious" ZAN trajectory, by committing themselves at their level to achieve zero net artificialisation by 2050 at the latest. The objective is to select a panel of territorial projects that can illustrate the different challenges in this area. From a methodological point of view, it is a question of structuring the reflection and actions around the experimental application of the "avoid-reduce-compensate" sequence to soil artificialisation.

ADEME's¹⁰ support will focus on:

- Carrying out the studies required to draw up a strategy for a ZAN trajectory (part A);
- Carrying out studies prior to the implementation of operational projects contributing to this strategy (part B).

Source: [AMI ZAN](#)

DE: Land calculator

The land calculator (Flächenrechner) is a web application with which municipal and regional planning authorities can estimate what the regional downscaling of the nationwide land-saving target (on the way to less than 30 hectares per day nationwide by 2030) would mean for them.

At the click of a mouse, information can be retrieved on new land use in the past as well as on regional/municipal quotas that would have to be adhered to in the future in the case of nationwide land-saving targets based on the number of inhabitants.

According to the goals of the German Sustainability Strategy, the increase in settlement and transport area (new land use) is to be reduced to less than 30 hectares per day by 2030 and even to net zero by 2050 through the transition to a circular land economy.

In order to achieve these goals, there is increasing discussion about placing a quota on new land use.

Since planning authorities can hardly estimate what this means for them in concrete terms, the land use calculator was developed on behalf of the Federal Environment Agency. It offers the possibility of obtaining a concrete picture of the magnitude of the required quotas in the federal states, regions and municipalities.

Since quantitative land saving targets based on the 30 hectare target already exist in many federal states, the tool can be used for municipal land use planning. The land calculator is continuously updated.

[Land calculator – WebGIS-tool](#)

¹⁰ Agence de la transformation écologique/Agency for ecological transition <https://www.ademe.fr/>

3.3 Climate change-responsible growth

CH: A Prototype for four generations – flexible housing in Geneva (model project sustainable spatial development 2020 - 2024)

The current housing supply in the Canton of Geneva is extremely scarce and far from satisfying the growing demand of a society in which two of the four generations are retired. The current housing stock as well as the local urban infrastructures are designed for a three-generation society and do not sufficiently take into account the changing housing needs of an ageing society. Building investors and property owners also do not seem to really recognise the impact of demographic change on the housing situation when renovations and building refurbishments are pending. For example, the rigid arrangement of room layouts restricts residents' ability to flexibly adapt their living spaces to different phases of life and needs (mobile partitions, accessibility solutions, temporary space for guests or care staff, etc.). Such housing solutions cannot be implemented today without changing the floor plans in existing flats or building new flats.

The project involves actors from the public sector, architects, real estate consultants, civil and energy engineers, members of building cooperatives, experts in social housing and social-medical services. Together they are developing a property with adaptable elements that can be used as a model project in view of demographic change. This prototype should be suitable for residents of all ages and transferable to different types of buildings and show cross-sector synergies (health, housing, costs, etc.).

[Flexible housing in Geneva](#)

CH: 2000-Watt Site Kleinbruggen/Chur

Switzerland's primary energy¹¹ demand is to be reduced to 2000 watts of continuous power per inhabitant by 2050 at the latest, and to 3000 watts by 2030. This value was over 6000 watts in 2000 and over 4000 watts in 2020. The global average is around 2000 watts. The approach of the 2000-watt society is intended to counteract the increasing consumption of resources.¹²

The 2000-Watt Site certificate was developed as part of the "EnergieSchweiz" programme. It recognises settlement areas that are committed to climate protection and demonstrate sustainable use of resources. It evaluates the entire development process from construction to operation. Certification is possible at any time: during planning, implementation and operation.

The focus is on mixed-use sites with flats and service areas (administration, school, specialist shop, grocery shop, restaurant, university). However, sites with exclusively residential or office use can also be certified.

The following requirements apply for certification:

¹¹ Primary energy is energy in its raw form before it is converted, transported or transformed.

¹² <https://kleinbruggen-chur.ch/quartier/oekologie>

- There is an authorised site owner.
- The site comprises a clearly defined spatial perimeter with at least two buildings connected by an outdoor space. This must be the responsibility of the site owner.
- The site must have at least 10,000 m² of land or floor area (certification of a smaller site area is possible under certain conditions).

The new 6-hectare Kleinbruggen neighbourhood is being built in Chur West. It is the first 2000-Watt Site in the whole of south-eastern Switzerland and, as a pioneering project, demonstrates the feasibility of 2000-Watt sites in cities with strong links to rural areas. Plans call for 13 buildings with a balanced mix of uses. A total of around 400 new flats and up to 600 new jobs are to be created on the site. The building density of the neighbourhood decreases towards the landscape area. Local outdoor and green spaces will be secured as local recreation areas and linked to the new neighbourhood. The entire interior of the area is car-free, has a large number of bicycle parking facilities and is well connected to public transport. Two bus lines with two stops adjacent to the site connect Kleinbruggen with other neighbourhoods and the city centre. The nearby Chur West railway station also offers good regional connections. In February 2020, the building application for the first of three stages was submitted by the four sub-building rights holders. Construction is scheduled to begin in summer 2020. Occupation of the first stage is expected in 2022. The second stage will then probably also be awarded, the third is expected to follow in 2026, and construction is scheduled to be completed in 2028.

[Factsheet 2000-Watt-site Kleinbruggen](#) (German)

[2000-Watt-sites: general information](#) (English)

CH: Planning guidelines to prevent urban heat (2018)

With climate change, urban heat stress is increasing. Heat waves are becoming more frequent, longer and hotter. The publication presents principles for climate-friendly urban development.

A distinction is made between planning principles, which represent overarching guidelines for reducing heat stress and serve as an orientation and benchmark for future-oriented action. Urban planning principles, on the other hand, contain concrete rules and proposals for action for settlement and open space development.

[Planning guidelines to prevent urban heat](#) (German)

AT Vorarlberg: Temporary zoning of building land (Spatial Planning Act)

As of 1 March 2019, land will only be zoned to building land if development is planned in a timely manner. Thus, if a plot of land is dedicated as building land after this cut-off date, it must be built on within seven years. If this does not happen, another dedication follows after seven years instead of the building land dedication. Alternatively, the owners can also conclude a contract with the municipality on the timely use, in which case the dedication is unlimited. Provision has been made for construction delays for certain legal reasons: these are taken into account in the calculation of the time limit.

Persons who acquire an undeveloped building site that has already been dedicated on or after 1 March 2019 must build on it within ten years. If the landowner cannot build for certain legal reasons, this non-culpable delay will also be taken into account when calculating the building deadline.

Anyone wishing to meet their own housing needs or provide for their family has the option of acquiring an undeveloped building area of up to 800 m² on a one-off basis, without this being associated with a building deadline.

If someone sells, gives away or bequeaths already existing dedicated land within the family, this is also possible without a development period. This leaves enough room for family provision.

Temporary zoning Vorarlberg (German)

AT Steiermark: Subsequent limitation of building land designations in the event of a revision of the zoning plan (StROG §36)

The Styrian Spatial Planning Act provides for the time limit of building land not only for new zoning, but also for the revision of the zoning plan (every 10 years at the latest). A building time limit is to be set by the municipality on areas:

- which have already been designated as building land or development land,
- on which no agreements under private law or reserved areas have been established and
- which have a size of at least 3,000 m².

A spatial and temporal staggering through zoning is permissible. If no development has taken place by the end of the time limit, it must also be determined whether:

- the land concerned shall be rezoned without compensation,
- the area is subsequently considered a special use, or
- whether an investment levy is to be paid by the landowner.

There is a discussion, whether the size of at least 3,000m² should be reduced to 800 oder 1,000m².

Limitation of building land designation (German)

AT Tyrol: Determination of the chronological sequence of building development (time zones)

In the local spatial development concept in Tyrol, the municipality is to determine not only the general objectives of its spatial development but also the maximum extent of the building development area. Taking into account the desired population and household development and the economic development, the maximum extent of the area that can be designated as building development area, as well as the maximum extent of the possible area to be dedicated and the time sequence of the dedication shall be determined. This is indicated by means of "time zones". If the extent of the building land already dedicated does not coincide with the defined development area and the area to be dedicated for residential or economic purposes, preconditions may be prescribed for already existing building land, which must be fulfilled before development can take place. In this context, undeveloped areas that have been dedicated as building land for more than 15 years are to be given priority. Thus, for example, privately owned and remote areas can be set aside and it can be stipulated that these areas are not to be built on until the existing buildable areas (or vacancies) in the settlement structure have been put to use. The so-called "time zones" could, for example, ensure a more orderly

development in the case of a high building land surplus, a high proportion of vacancies and especially in scattered settlement areas. (TROG §31)

[Time zones in Tyrol](#) (German)

AT Tyrol: Land Fund

The Tyrolean Land Fund was established more than 25 years ago to support the municipalities in local spatial planning. The main task of the fund is the acquisition, development and subsequent transfer of land. The land ready for construction is allocated by the respective local municipality. Through its activities, the Tyrolean Land Fund makes a significant contribution to the implementation of subsidised housing projects and building projects in land-saving and dense construction methods and to the settlement or relocation of businesses, whereby the creation of inter-municipal industrial estates is strived for.

In order to ensure acceptable architectural quality, the Tyrolean Land Fund regularly launches development studies for the design of its project areas. The avoidance of conflicts of use, forward-looking mobility concepts, a high density of workplaces and dense and sustainable construction methods are of particular concern to the Tyrolean Land Fund.

[Tyrolean Land Fund](#) (German)

AT Salzburg: Land-Invest – Public company for building land (Salzburger Baulandsicherungsgesellschaft mbH)

Since 1994, Land-Invest has been an important public instrument for securing and developing land for residential construction and for supporting the municipalities in the practical implementation of their spatial planning policy objectives.

As a purely provincial company, it develops affordable building land through the purchase of land in trust for the municipalities or secures it by option for later interested parties. After rezoning, development by the subsidiary SISTEG and making the plots ready for building, a comprehensive potential of plots for the construction of single-family houses, semi-detached houses and terraced houses as well as multi-storey residential buildings can be made available to both local "house builders" and developers.

The purchase of green spaces as potential for later exchange purposes has also become increasingly important in recent years.

[Land-Invest](#) (German)

AT Voralberg: Inner development and building densification - Contributions to planning strategies (2018)

Years of population growth have also put pressure on the edges of settlements. On the one hand, settlement space, on the other, open space - these are two opposing forces acting on the settlement boundary. In order to maintain the outer edges of the settlement and at the same time provide housing opportunities, two strategies are needed that complement each other:

- inner-city (re)densification;
- the upgrading of the public space.

Densification is a change in the use of a space and thus a challenging topic in terms of planning and emotion. That is why both the urban planning-architectural and the social and process-related side of planning must be considered - both complement each other. In the project, the two sides of planning are considered together.

The pilot project identified different types of settlements, from scattered settlements in mountainous areas to multi-storey housing in cities, and investigated which forms of densification are suitable for which settlement type. Each settlement type has its own quality and the type of densification must correspond to this quality.

Ten types of settlements were identified and were either planned imaginatively or exemplary plans were evaluated. As a result different options of densification are described and visualised.

[Densification in Vorarlberg](#) (German)

AT (Pilot sites in Salzburg and Vorarlberg): BONSEI! (2018 - 2020)

Due to the extraordinarily high land consumption in Austria and the population growth especially in urban regions, there is a need for developing innovative and sustainable solutions to cover the demand of housing requirements and increase energy efficiency simultaneously. Great potential of densification as well as a large refurbishment backlog have been identified particularly in single and double family houses. Almost the same applies to small apartment houses. To effectively activate the potentials the predominant private owners need to be contacted and convinced of taking further actions.

The main objective of BONSEI! is the development of criteria and planning principles for an energy efficient densification as an important basis for the modernisation and sustainable development of urban regions. On the one hand the factors energy, location quality and mobility should be better integrated into the domain of densification and on the other hand interactions between densification, energy efficiency and energy supply should be taken more into consideration for the prioritisation of densification areas. The innovative criteria, which are developed within the project, will serve as basis for an exemplary innovative consulting service for the mobilisation of densification and renovation potentials for single and double family houses.

At first, a methodology is designed that automatically identifies potential densification areas. Subsequently, a criteria catalogue is worked out that provides indications on energy efficient densification concepts on both parcel and settlement level. Based on this, a prioritisation method for densification areas is developed and tested in selected areas. In the process the defined criteria (refurbishment backlog, legal restrictions, location quality) are integrated in a standardized format. Building on this, the innovative concept of a service offer is supplied, which illustrates the urgent need and densification options to authorities and may serve as first contact point for citizens who are interested in objective advice regarding refurbishment and densification issues.

[BONSEI!](#)

AT (Pilot sites in Salzburg and Vorarlberg): BONUS (Bestand optimal nutzen – Umwelt stärken 2020 - 2022)

Due to the limited availability of living space and land in cities and the simultaneously increasing demand for living space, it is necessary to focus more on internal development and redensification. One- and two-family houses in particular, which account for over 60 percent of the building stock in many cities, offer great potential for redensification and in some cases have large redevelopment backlogs. More than 90% of these buildings are privately owned. Mobilising the potential requires the owners' own initiative. In order to provide them with the best possible advice, there is the BONUS project. The abbreviation stands for "Making optimal use of existing buildings - strengthening the environment". Together with the project partners RSA FG iSPACE from Salzburg and the Energieinstitut Vorarlberg, Rosinak & Partner and Pulswerk (Vorarlberg), the City of Salzburg is developing a post-compaction consultation. In addition to energy-efficient and socially acceptable redensification, the focus is also on sustainable mobility, greening and open space design. This is because negative side effects associated with post-densification should be avoided and the quality of life in the individual neighbourhoods should be maintained.

To this end, the project builds on the results achieved in the preliminary project BONSEI! Further goals of the project are the development of a comprehensive database, the standardisation of the holistic BONUS advisory service and the testing and implementation of the advisory service in the two pilot cities of Salzburg and Feldkirch (Vorarlberg). A transferable operator model is also being developed on an ongoing basis in order to be able to apply it in other municipalities.

[BONUS](#) (German, English)

3.4 Settlement withdrawal from danger zones

DE: Isarmünd - resettlement due to flood risks (outside Alpine Convention) (since 2010)

Isarmünd is a small old settlement belonging to a municipality with about 2,300 inhabitants at the mouth of the Isar into the Danube. Due to its location in the floodplain of the Danube and Isar, the village has been flooded several times in the past. However, this was mostly due to rising groundwater and seepage water. In the course of the 2013 flood event, the existing dike was overtopped for the first time. To improve flood protection, there were first considerations for relocating the residents as early as March 2010.

The residents were offered new building plots and they got support to move, but this was voluntary. When the settlement was flooded in 2013 most of the new houses were already built, so that the residents could move out. Two seniors sold their plot, but have received a lifelong right of living there. The vacant farmsteads have been or will be completely demolished, unsealed and landscaped. They serve as retention areas in the Isarmünd polder area. In addition, some of the areas will be redesignated as nature conservation areas.

A key aspect of the negotiations with the residents was that the property owners could be paid 100% of the assessed value for the land and buildings. The purchase price for the buildings to be demolished was paid in instalments, depending on the progress of the move-out. There was a down payment when the contract was concluded. Once the property was completely vacant, the final payment was made.

[Isarmünd](#) (German)

AT: Valzur/Ischgl - Resettlement after avalanche (1999)

In winter 1999 (24 February) an avalanche hit Valzur, an old rural hamlet in the municipality of Ischgl. The avalanche destroyed 6 buildings, one was damaged, 7 persons lost their lives and three others were injured. Even if the hamlet was quite exposed to natural hazards such as avalanches, no events were recorded before 1999. At the time of the incident, the evacuation of the hamlet was already underway. The area affected has been designated as yellow zone in the hazard plan (medium risk). After the avalanche it was decided not to rebuild, due to the comparatively small number of properties affected and the general exposition to natural hazards. In the hazard plan avalanche risk was turned into red zone (high risk).

At the same time in Galtür (where one day before an avalanche destroyed 7 buildings and 31 persons lost their lives) the decision was taken to invest in avalanche control in the break-off area, as Galtür is a centre for ski tourism and its economic situation allowed the investments.

In Valzur the buildings affected by the avalanche were located in building land of the municipal zoning plan (Flächenwidmungsplan), but there was no development plan (Bebauungsplan).

The resettlement process started very soon (2 weeks after the avalanche) with the collection of relevant data and round tables with important actors, such as the mayor, the local council, the torrent and avalanche control, several ressort of the Office of the Tyrolean Provincial Government, politicians, external expert and the local spatial planner. The local planner drafted a settlement concept and the new building plots were given to the persons affected by the relocation. The new buildings were financed by a disaster fund. Regarding land use planning there was no discussion about reassignment and deconstruction of the buildings.

In the Valzur resettlement project, the available instruments of local land-use planning were used comprehensively and consciously. First of all, a building ban was imposed on the endangered and designated as mixed building land. The amendment of the zoning plan in Obervalsur was made for the creation of the replacement sites and an eastern sub-area of the building land was reallocated without compensation due to the endangered situation. The areas in Untervalsur were only reclassified as open land with the overall revision of the zoning plan.

Source: [A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019](#) (German)

AT: Pfunds - Resettlement due to debris flow (2005)

In August 2005 several debris flows damaged about 80 buildings within Pfunds after heavy rain. The Stubner Bach, which had been regulated and straightened in the settlement area, had overflowed its banks. The existing brook-bed could not absorb the water and slide masses. About 70,000 m³ of boulder material was deposited in Stuben. People weren't aware of the risk, because there was no risk zone plan. In sum the damages were about 10 million euros. 600,000 euros were immediately made available to restore orderly drainage conditions in the Stubner Bach and to properly deposit the bedload material. As a prevention measure two retention bassins were planned, which made a relocation of some objects necessary. No zone for resettlement was decided after the event. The need to remove and demolish buildings

affected by the 2005 flood event arose from the the need to provide sufficient area for the construction of a retention basin. Resettlement is therefore a direct component of the protection project. In the area of the planned retention basin, there were three objects that were to be removed and demolished. The discussions with the affected parties were conducted primarily by the mayor. The focus of the planning support for the protection project was not on safeguarding the area of the retention basin, since the affected areas were taken over into the public water property anyway. Due to the designated red zone, it is no longer possible to build on it. More important were the replacement sites, which also required appropriate planning expertise in the mobilisation of the areas in question.

The damaged buildings were not repaired, but demolished as an emergency measure. The municipality took on the central role in the discussions with the affected parties about the transfer of the land needed for the bedload basin and the development and provision of replacement land. The local spatial planning was therefore primarily involved in the process with the replacement areas. The standing areas of the demolished buildings could no longer be built on due to the existing hazard, which is why the zoning plan was not revised until after the local planning concept had been drawn up.

Source: [A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019](#) (German)

AT: Schildried/Göfis: Resettlement due to flood risks (2005)

The municipality of Göfis is located northwest of Feldkirch in the Walgau region of Vorarlberg. The majority of the settlement area is situated on a south-facing slope and is not endangered by the floods of the Ill River. In the 1960s, however, the district of Schildried, which lies directly on the river, was dedicated and partially built on. Over the decades, it has been repeatedly hit by floods. In August 2005 a devastating flood led massive damage in the district of Schildried. The dams in the Schildried area were overflowed and partially broke, resulting in flood depths of up to 2.80 m. It was already the third flood event in 6 years. Due to the moisture in the masonry, the buildings were not habitable for the time being. Therefore the planning authorities decided to relocate the district (16 properties, approx. 50 residents). Buildings as well as plots of land were removed and the affected properties demolished.

In Göfis, no new replacement sites were developed and dedicated for the resettlers, but those affected were supported in their search for land or housing. Overall, spatial planning aspects played a subordinate role in the organisation and handling of the relocation. Keeping the areas free in the long term is due to the public water property on the one hand and on the other hand due to the obligation to obtain permission for construction work in the 30-year flood runoff. With the building ban decided by the municipality, construction work could be prevented until the settlement had been clarified and carried out, but the adjustment of the zoning plan was not carried out until 6 years after the flood event.

Source: [A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019](#) (German)

AT: Eferdinger Becken - Resettlement due to flood risks (since 2014)

After the Danube flood event in 2013, Upper Austria decided to realise active and passive flood prevention measures. Modul I started in 2014 with the voluntary resettlement within the HQ100

zone. Within Modul II the first resettlement zone was enlarged based on economic efficiency calculations for the active flood protection measures. The resettlement zone (called "yellow zone") is a rather wide area (about 24 km²) with 612 buildings, 138 of them residential. The demarcation of the resettlement zone was made on the basis of the following criteria on the part of the protective water management:

- Location in the HQ100 discharge area,
- contiguous areas,
- water depth,
- flow velocity,
- settlement density - building density,
- evacuability at HQ100.

A "purple zone" was decided with the annotation "Flood measure unknown" and refers to the planned Module II of the protection project, which provides for an efficient combination of measures based on a comprehensive investigation and scenario development. Further resettlements may be part of this planning, and were envisaged in 2015 during the presentation of the general project. The Land is responsible for providing funds for the subsidy amount, supervises the conclusion of the funding contracts, coordinates the preparation of the appraisal reports and performs the supervisory tasks.

The municipalities are responsible for the spatial planning aspects (new planning areas, rezoning, flood protection zone) of the resettlements as well as the contractual securing of the demolition and disposal of the affected buildings and are also to act as an information hub for those affected.

Resettlers must fulfil the eligibility requirements and demolish their buildings within 5 years of the conclusion of the contract. In addition, they must secure a building ban in favour of Upper Austria in the land register on all their properties in the resettlement zone. Replacement plots must be located outside the current runoff area of a HW300. From the point of view of regional planning, it was emphasised that the municipalities make efforts to ensure availability and zoning of suitable land for resettlement. It was politically decided that the individual municipalities should carry out the necessary rezoning and the designation of the protection zones for the floodplain. The opportunity to closely link the regional development of the Eferdinger Basin with the flood protection project was thus not seized.

The resettlement project in the Eferdinger Basin was very clearly not conceived as a planning project on future development in a regional or inter-municipal perspective, but rather focused on the concrete protection needs of the population affected by the flood. The use of resources for communication in various events as well as in individual and counselling talks was enormous, but by no means did it persuade all potential resettlers to accept the offer of resettlement.

[A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019 \(German\)](#)

Collection of good practices for growth and shrinking strategies

Summary

Claudia Schwarz, Florian Lintzmeyer (ifuplan)

Background

As part of its 2021/2022 mandate, the Spatial Planning and Sustainable Development Working Group contributed to the Alpine Climate Target System. This collection implements Step 1b of the Spatial Planning Implementation Pathway 1 “Alpine wide concept “Spatial Planning for Climate Action”” in the form of collection of good practices for growth and shrinking strategies.

The purpose of this collection is to serve as a basis for the moderated discussion in the next step of the implementation pathway. The issue of climate-sensitive growth and shrinking is one additional aspect to be considered in the discussion on sustainable spatial development and closely connected to the issue of quality of life (QoL), e.g. in regard to public transport or services of general interest.

Results

Strategies

The screening of spatial planning strategies shows that shrinking is directly addressed only in a few of these documents. One is the « Strategies for regions with population decline » of the Austrian Spatial Planning Commission (ÖROK). These strategies were developed in the

framework of an implementation partnership of the Austrian Spatial Planning Concept (ÖREK) (2016-2018). The following three theses concerning spatial planning were identified: (1) The redimensioning of infrastructure (expansion and deconstruction) is important. (2) The instruments of spatial planning and land use planning must be adapted to deconstruction. (3) Architecture and building culture should be used as impulse generators.

Germany developed strategies for shrinking in the context of significant population declines in the 1990s in some regions of eastern Germany. In 2020 the German Federal Ministry of the Interior, Building and Community published a guideline for municipalities on how to handle a strategic retreat of settlements based on experiences gathered in a demonstration project. Spatial planning in Bavaria is aware of the coexistence of growth and shrinkage (in terms of population) and tries to achieve equal living and working conditions by supporting regions at risk. As total population in Bavaria is still growing, the aim is to more evenly distribute the population across the various sub-regions.

In Italy a national strategy « Inner Areas » (72 areas, including parts of the Italian Alps) addresses the issue of declining population in some regions. The strategy aims to counteract massive population decline by capitalising on natural and cultural resources and creating new employment.

Good practices

The collection of good practice examples how regions or municipalities address growth and shrinking in the context of climate change was structured in four different types:

Spatial planning for adaptation to climate change

Adaptations to climate change include approaches of incorporating green and blue infrastructure in spatial planning (Styria), zoning of agricultural priority and green zones in spatial planning (e.g. Tyrol), strategies for risk-based planning (CH), urban climate adaptation strategies (Lucerne) and safeguarding of areas for cold air / fresh air production.

Adaptation to a shrinking population, reduction of land take and inner-urban development

One of the few examples how to address population decline through spatial planning is the Austrian region of Eisenerz. Other approaches address re-uses or conversion of existing buildings, multigenerational living, secondary homes, taxes and regulations as well as decision-making tools.

Climate change-responsible growth

Growth-oriented approaches include provisions for energy-efficient development projects (2000-Watt neighborhoods, BONSAI!), regulations to prevent urban heat as well as to limit urban zoning and financial instruments for public investments.

Withdrawal from danger zones (which may grow due to climate change)

Withdrawal from danger zones is detached from the question of growing or shrinking processes. Nonetheless can they also be used to consolidate and increase efficiency of settlement structures. Resettlement examples include areas of flood, avalanche and debris flow risks.

Conclusion

To sum up, spatial planning related responses to population decline mainly focus on initiating a “rebound” instead of managing these processes. The above mentioned three ÖREK theses can initiate the discussion about shaping change with adequate spatial planning instruments.

In shrinking processes, climate-sensitive spatial development can be integrated through a planned retreat and consolidation of settlement structures that reduce mobility and housing-related emissions and provide opportunities for inner-urban greening. Shrinking may play an important role when approaching net-zero land-take. These regions may compensate land-take in growing regions.

In growth processes, climate-sensitive spatial development can be supported through energy- and land efficient urban development, densification and multi-functional land uses.

Land saving targets in Alpine countries and regions

***Contribution to IP_SP1_3
of the Alpine Climate Target System***

**Spatial Planning and Sustainable Development Working Group of
the Alpine Convention**

Mandate 2021-2022



ALPENKONVENTION
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ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

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1. BACKGROUND

As a contribution to the Alpine Climate Target System, this survey represents Step 3 of the Spatial Planning Implementation Pathway 1 “Alpine wide concept “Spatial Planning for Climate Action”” in the form of a survey on land saving targets and challenges. The task was to assess which Alpine Convention states/countries have adopted land saving targets or are discussing them. The survey was supplemented with an overview of measures foreseen in the specific documents and the current land take in the Alpine countries and selected regions/federal states/provinces.

2. EUROPEAN POLICY FRAMEWORK

The policy objective to achieve zero net land take by 2050 has been adopted in the following European policy programmes and strategies (Table 1).

Table 1: European policy framework on net zero land take 2050

Document	Adopted by	Date	Reference
Roadmap to a Resource Efficient Europe (COM (2011) 571 final)	European Commission	2011	<i>“By 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve nonet land take by 2050”</i>
Environment Action Programme to 2020 (7 th Environment Action Programme EAP)	European Parliament and Council	2013	<i>“Environmental considerations [...] should be integrated into planning decisions relating to land use so that they are made more sustainable, with a view [...] towards the objective of ‘no net land take’, by 2050.”</i>
EU Soil Strategy for 2030 (COM (2021) 699 final)	European Commission	2021	<i>“The EU should achieve no net land take by 2050, which will contribute to the net removals target of 2030. To do so, notably Member States should set by 2023 their own ambitious national, regional and local targets to reduce net land take by 2030 in order to make a measurable contribution to the EU target of 2050, and report on progress.”</i>

Over the recent years, this European target has been adopted by most Alpine countries as a long-term perspective in addition to their individual medium-term land saving targets.

3. LAND SAVING TARGETS IN ALPINE COUNTRIES

In 2020, the Alpine Convention Soil Protection Working Group has produced an overview of land-saving targets adopted by the Alpine states or regions (Alpine Convention 2020, see Figure 1). In the meantime, the following targets (red boxes) have been added or inserted to amend the existing targets.

Target		Timeframe	Recent additions
Alpine Convention	-	-	
Austria	2,5 ha/day (intentional target of Federal Government)	2030	
Germany	30 ha/day	2030	Net zero 2050
Bavaria	5 ha/day as benchmark	2030	Land use circular economy (undefined)
France	zero net artificialisation of soils	2050	50% reduction > 10 years (not yet passed)
Auvergne – Rhone Alps			50% reduction by 2027, net zero by 2040
Provence-Alpes-Côte d'Azur			~ 1 ha/day by 2030
Italy			
Lombardy	25% reduction of the forecast of land consumption from 2014	2020	Net zero 2050
	45% reduction	2025	
Piedmont	Max. 3% of existing urbanized area each 5 years	-	Net zero (undefined timeline)
Veneto	40% reduction of the forecast of land consumption	Since 2011	Net zero 2050
Liechtenstein	-	-	
Slovenia	Reduction of net growth of built-up land for 25%	2030	
	Zero net growth of built-up land	2050	
Switzerland	Net zero land take	2050	Land take reduction by 1/3 (2020-2030)
European Union	No net land take	2050	National/regional/local targets by 2023
United Nations	Land Degradation Neutrality	2030	

Source: Alpine Convention, 2020, modified.

Figure 1: Overview of land saving targets in Alpine countries and regions

2.1 Austria

Target	2.5 ha/day respectively 9 km ² /year (Federal Government) until 2030 Target path to reduce land consumption to a net 2.5 ha/day by 2030 and compensate for additional soil sealing in the medium term by unsealing corresponding areas
Reference documents	Governmental programme 2020-2024 (Republik Österreich 2020:104), Austrian Strategy for Sustainable Development (NSTRAT) (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft 2002), Austrian Strategy for Sustainable Development (ÖSTRAT) (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft 2010), Austrian Spatial Development Concept 2030 (Österreichische Raumordnungskonferenz 2021), Austrian Soil Protection Strategy (to be elaborated in 2022), Austrian Masterplan for Rural Areas (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft 2017:39).
Current land take	11.5 ha/day for 2018-2020 (three years moving average, see Figure 2) ¹ , 10.7 ha in 2020
Measures outlined in reference documents	Soft measures, such as recommendations (ÖROK-Recommendations Nr. 56), information, good practices, capacity building, designation of high value agricultural land (e.g. Tyrol) and ecological priority sites, promotion and extension of brownfield development, (re)use of inner-urban potentials.

¹ <https://www.umweltbundesamt.at/umweltthemen/boden/flaecheninanspruchnahme>

	The ÖREK 2030 ² proposes the establishment of an ÖREK-partnership “2.5 ha” to elaborate recommendations for quantitative targets at Länder level and differentiated requirements for different spatial entities. ³
Method of quantification	Digital cadastral map ⁴

The 2.5 ha target was already envisaged in the 2002 Austrian Sustainability Strategy, to be reached by 2010. The 2.5 ha goal was reiterated in the Austrian Soil Strategy on October 10th 2021. At the province level, no land saving targets exist in Austria.

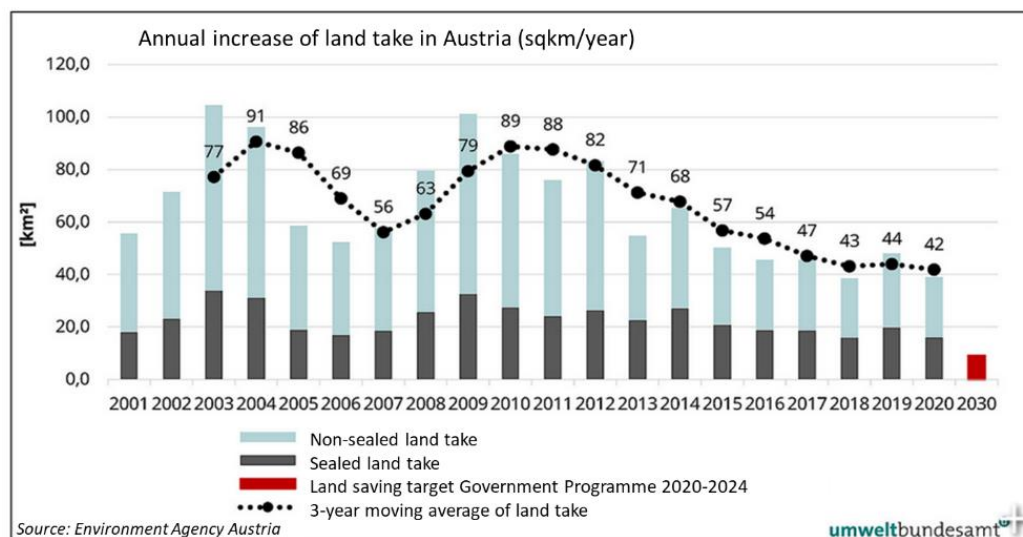


Figure 2: Annual increase in land take in Austria (km2/year)⁵.

2.2 France

Target	Zero net land take (ZAN=zéro artificialisation nette) by 2050 Half-reduction of land consumption within 10 years after the promulgation of the Climate and Resilience Law compared to the 10 years preceding that date (2021-2031, Climate and Resilience Law)
Reference documents	Biodiversity Plan 2018 (Plan National Biodiversité 2018 (Ministre de la Transition écologique 2018) “Climate and resilience law” passed August 22nd 2021 ⁶
Current land take	23,528 ha (total France incl. DOM) in 2020 (which corresponds to approx. to 54.8 ha/day ⁷) (see Figure 3))

² <https://www.oerek2030.at/>

³ For additional proposals, see <https://www.oerek2030.at/kapitel-6/ziel-2>

⁴ „The regional information of the land database (GDB) of the Federal Office of Metrology and Surveying. It provides land-related information on specific administrative units (e.g. federal state, district, municipality) and shows, among other things, areas according to types of use (e.g. building land, forest, bodies of water) and uses (e.g. greened building land, paved building land). The regional information is updated when necessary on the basis of changes in the GDB and the digital cadastral map. Due to the deep territorial division (cadastral municipality level), specific evaluations are also possible within the Alpine Convention perimeter.” (Umweltbundesamt 2017:39)

⁵ Source: <https://www.umweltbundesamt.at/umweltthemen/boden/flaecheninanspruchnahme>

⁶ LOI n° 2021-1104 du 22 août 2021 portant lutte contre le dérèglement climatique et renforcement de la résilience face à ses effets <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043956924?msclid=bdb65294c61611ec8ce8db2db18e0d5f>

⁷ <https://artificialisation.biodiversitetousvivants.fr/parution-des-donnees-dartificialisation-2009-2019>

Measures outlined in reference documents	<ul style="list-style-type: none"> • Strict application in urban planning: accurate assessment of new housing needs, priority given to reduction of vacant home, urban renewal, increased density, limitation of urban sprawl. The French Mountain Law (1985, 2018) introduced the principle of urbanisation in continuity. • Financial devices (promoting brownfield regeneration, revitalisation of city centers, ecoconditional aids (Plan Avenir Montagne)) • Soil artificialisation reports at (inter)municipal level are due every three years • Soft measures, such as recommendations, information, good practices, capacity building, e.g. Practical guide to limit land take (Guide pratique pour limiter l'artificialisation des sols) and toolboxes
Method of quantification	Observatory for soil artificialisation ⁸ (introduced in 2019)

The French Climate and Resilience Law includes a programmatic dimension, setting a Net Zero Artificialization objective in 2050 and a trajectory to achieve this goal (dividing land take by 2 in the 10 years following the law's promulgation, i.e. by 2031). According to Article 207, the government is expected to report every 5 years on the evaluation of the policy to limit land take, including recommendations on the trajectories in view of the 2050 net zero target and specifying orientations for the decade 2031-2040.

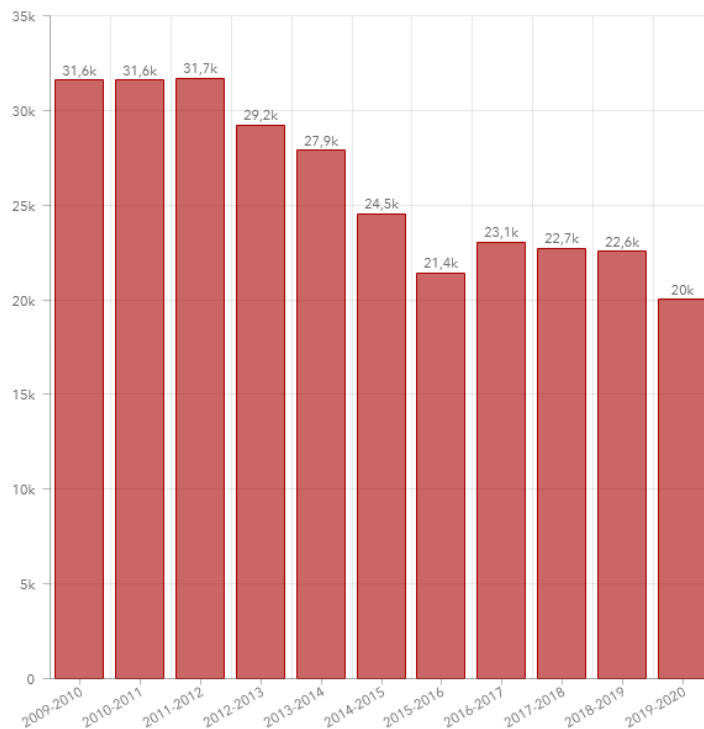
The target and trajectories have to be implemented at each territorial level :

- Regional Planning, Sustainable Development and Equality Scheme (SRADDET) by February 22 2024,
- Intraregional territorial cohesion schemes (SCOT) by 2026
- and Intercommunal Local Urban Plan (PLUi) by 2027

In view of the application of the new « Climate and Resilience Law » and as a basis for policy assessment, a national observatory for soil artificialisation (L'observatoire de l'artificialisation⁹) has been launched in 2019.

⁸ <https://artificialisation.biodiversitetousvivants.fr/>

⁹ <https://artificialisation.developpement-durable.gouv.fr/suivi-consommation-espaces-naf#paragraph--2164>



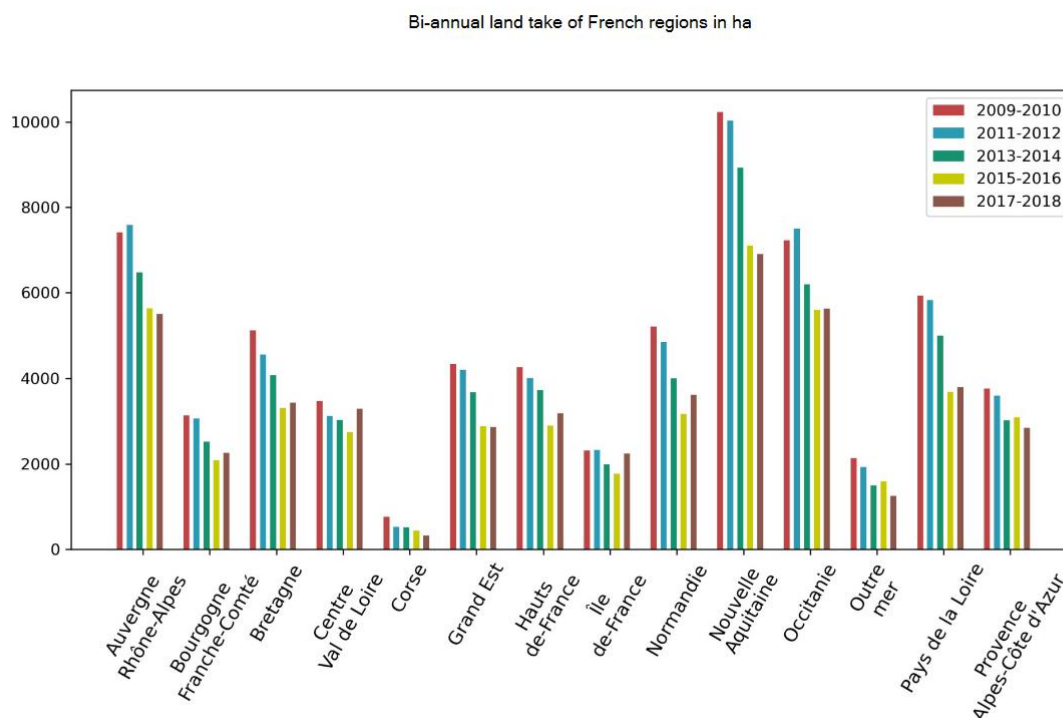
Source: CEREMA l'observatoire de l'artificialisation.

Figure 3: Land take in France (consumption of NAF 2009-2020 in ha)¹⁰

For the French regions (see Figure 4) covering parts of the Alpine Convention perimeter, the current land take is approximately 7.1 ha (Auvergne-Rhone Alpes¹¹) resp. 2.7 ha (Provence Alpes – Cote d’Azur) (Cerema Hauts-de-France 2020).

¹⁰ <https://kartes.cerema.fr/portal/apps/opsdashboard/index.html#/3feb8bd2b14d449eb03bb3f7fee9d849>

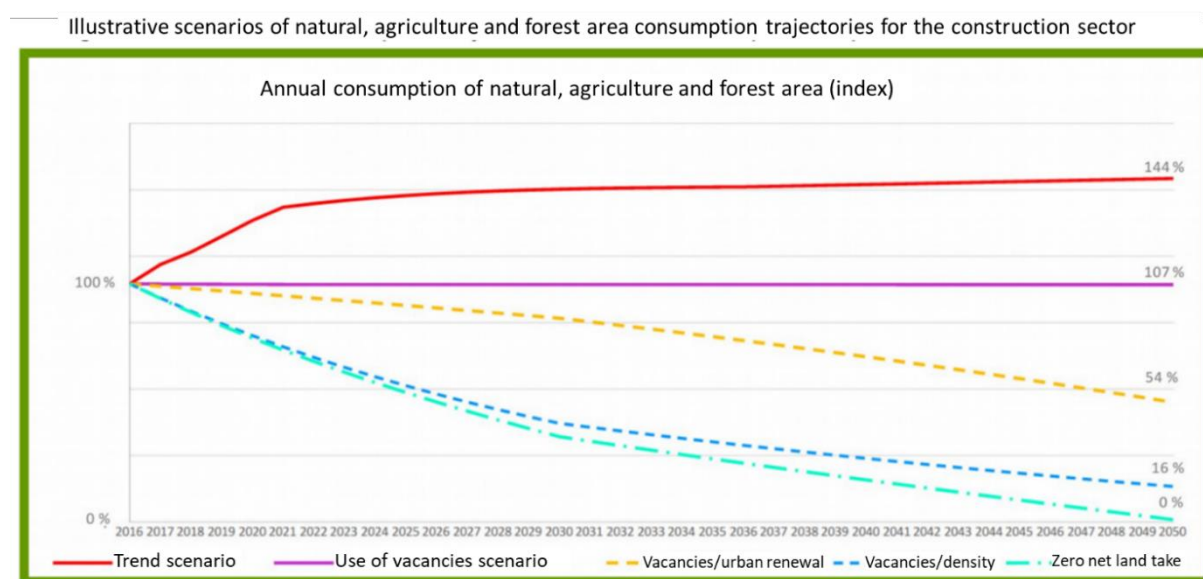
¹¹ Areas with high land take have been identified in this regional assessment: <https://www.cerema.fr/fr/centre-ressources/newsletters/signature/signature-69-artificialisation-sols-sa-mesure/znieff-i-artificialisation-sols-region-aura>



Source: Cerema Hauts-de-France, 2020b:26.

Figure 4: Land take in French regions (including AuRA, PACA)

The French Commissariat Général au Développement Durable (CGDD) has assessed different pathways towards the net zero target (see Figure 5) and concluded that only the ZAN-scenario, combining „reduction of vacancies“, „urban renewal“, „increased density“ and „rezoning“, is capable of achieving the zero net land take target (Commissariat Général au Développement Durable 2019).

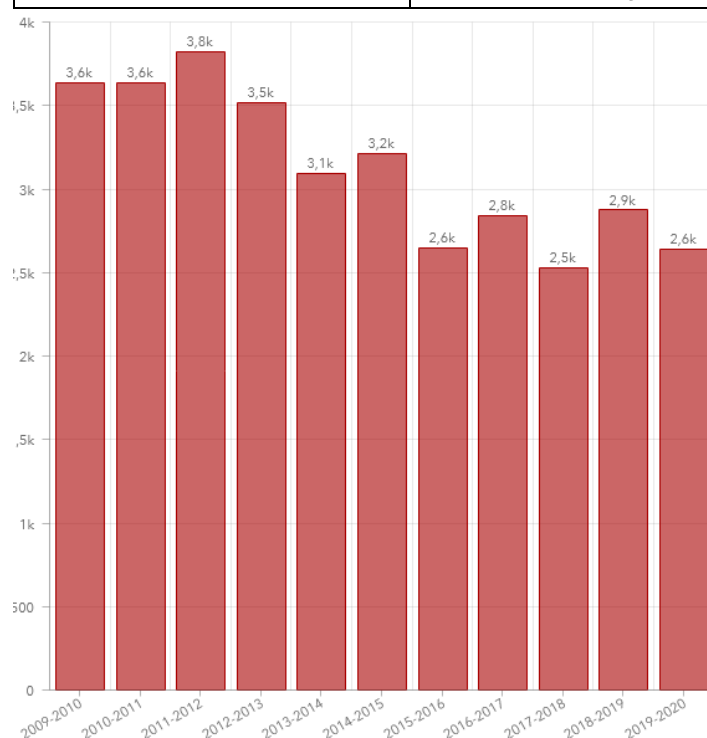


Source: Commissariat Général au Développement Durable, 2019:5.

Figure 5: Land take scenarios in regard to the French net zero target 2050

2.2.1 Region Auvergne-Rhône-Alpes (AuRA)

Target	Net zero land take (ZAN) in 2040 and half reduction of land take by 2027 compared to 2020
Reference document	La stratégie eau - air – sol en Auvergne-Rhône-Alpes (Prefet de la Region Auvergne-Rhone Alpes 2019, 2021)
Current land take	~7.1 ha (see Figure 6)
Measures outlined in reference documents	Stakeholder participation in regard to the zero net land take trajectories Activate financial resource for brownfield development and regeneration Promotion of land strategies and allocation of public lands to municipalities Guideline for renewable energy projects Mobilise tools for agricultural and forestry compensations



Source: CEREMA l'observatoire de l'artificialisation.

Figure 6: Annual land take in the Region Auvergne-Rhône-Alpes (2010-2020, ha)

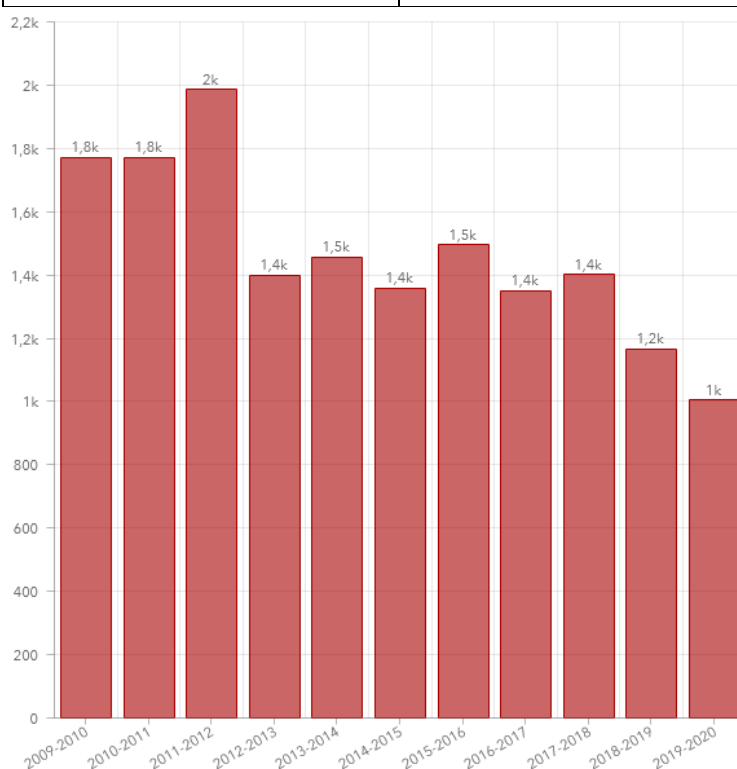
A first evaluation of the Water – Air – Soil – Strategy was published in 2021 (Prefet de la Region Auvergne-Rhone Alpes 2021). For Haute-Savoie, it reported a study commissioned by the Territorial Directorate¹² on water run-off depending on the level of soil sealing. The study proposes a method to identify plots suitable for unsealing. As a follow-up, it is planned to incorporate these results in future planning documents and concrete measures.

¹² <https://www.prefectures-regions.gouv.fr/auvergne-rhone-alpes/Region-et-institutions/L-action-de-l-Etat/Environnement-developpement-durable-et-prevention-des-risques/Eau-air-sol/Sur-le-terrain/Sur-le-terrain/Sol/>

The Auvergne-Rhone Alpes region has introduced the IDfriches programme¹³ to promote brownfield development and pilot regions on their trajectory towards net zero land take (“Objectif ZAN”, T-ZAN-Territories)¹⁴.

2.2.2 Region Provence-Alpes-Côte d'Azur (PACA)

Target	Half reduction of land take by 2030 compared to the average annual amount observed between 2006 and 2014.
Reference document	Schéma régional d'aménagement, de développement durable et d'égalité des territoires (SRADDET) de la Région SUD
Current land take	~3.9 ha / day on average (see Figure 7) 14,391 ha between 2010 and 2020.
Measures outlined in reference documents	Target -50% reduction of land take in local urban planning documents (“Schémas de cohérence territoriale”) Prioritize densification and renewal of existing urban areas and business zones to their extension Protect farming areas, especially if equipped by irrigation facilities Build waste treatment facilities or solar photovoltaic parks on brownfields whenever possible.



Source: CEREMA l'observatoire de l'artificialisation.

Figure 7: Annual land take in the Region Provence-Alpes-Côte d'Azur (2010-2020, ha)

¹³ <https://www.idfriches-auvergnerhonealpes.fr/presentation-didfriches>

¹⁴ <https://www.idfriches-auvergnerhonealpes.fr/actualite/ami-zan-vers-des-territoires-zero-artificialisation-nette-trajectoires-et-declinaison>

For the region Provence-Alpes-Côte d'Azur, a steeper decline in land take can be observed when compared to the region Auvergne-Rhône-Alpes (see **Fehler! Verweisquelle konnte nicht gefunden werden.**). In 2020, the daily land take amounted to 2.7 ha.

As for regional-level actions, the “Regional strategy for a more efficient land-use”¹⁵ lists the actions developed by the institution: funding, studies, engineering, partnerships, communications... Moreover, several measures of the regional “Plan Climat 2”¹⁶ promote reduction of land-take target and confirm those of the Schéma régional d'aménagement, de Développement durable et d'égalité des territoires (SRADDET)¹⁷.

This “Schéma” will be updated before 2024 to consider the latest French environmental legislation (loi “Climat et Résilience »), especially the territorialization of reduction of land-take targets at an infra-regional level. Concertation will be led with all concerned local actors.

In 2022, the PACA region has adopted a 2021-2024 Roadmap “Accompanying territories to reconcile development and land saving” (Prefet de la Région Provence-Alpes-Côte d'Azur 2022), launching 20 actions.

2.3 Germany

Target	30 ha/day minus X until 2030; net zero land take by 2050
Reference document	Sustainable development strategy (Deutsche Bundesregierung 2018) → 30 ha target Climate Protection Plan 2050 (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit 2016:68) → net zero target resp. circular land use economy 2050
Current land take	52 ha/day in 2019 (four-years moving average) ¹⁸
Measures outlined in reference documents	Soft measures, such as recommendations, information, good practices, capacity building, e.g. https://aktion-flaeche.de/
Method of quantification	Official Real Estate Cadastre Information System (Amtliches Liegenschaftskatasterinformationssystem ALKIS) which presents the current land use, e.g. agricultural land, which is already dedicated as building land is not registered as settlement/transport area.

The 30 ha target dates back to the 2001 version of the German Sustainability Strategy, to be reached by 2020. Once it became likely that the target will be missed, the timeframe has been extended by 10 years until 2030, adding the goal to undercut the target by an undefined measure, hence the “minus x”. In the Integrated Environmental Programme 2030, the German Environmental Ministry envisaged a stricter target of 20 ha by 2030 (Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit 2016:82). On this target, however, there is no interministerial consensus at federal level in Germany.

¹⁵ <https://connaissance-territoire.maregionsud.fr/sraddet-avenir-de-nos-territoires/la-mise-en-oeuvre/les-guides-de-mise-en-oeuvre-du-sraddet/details-des-documents-ressources/fiche/strategie-regionale-pour-une-gestion-plus-efficiente-du-foncier-en-provence-alpes-cote-dazur/>

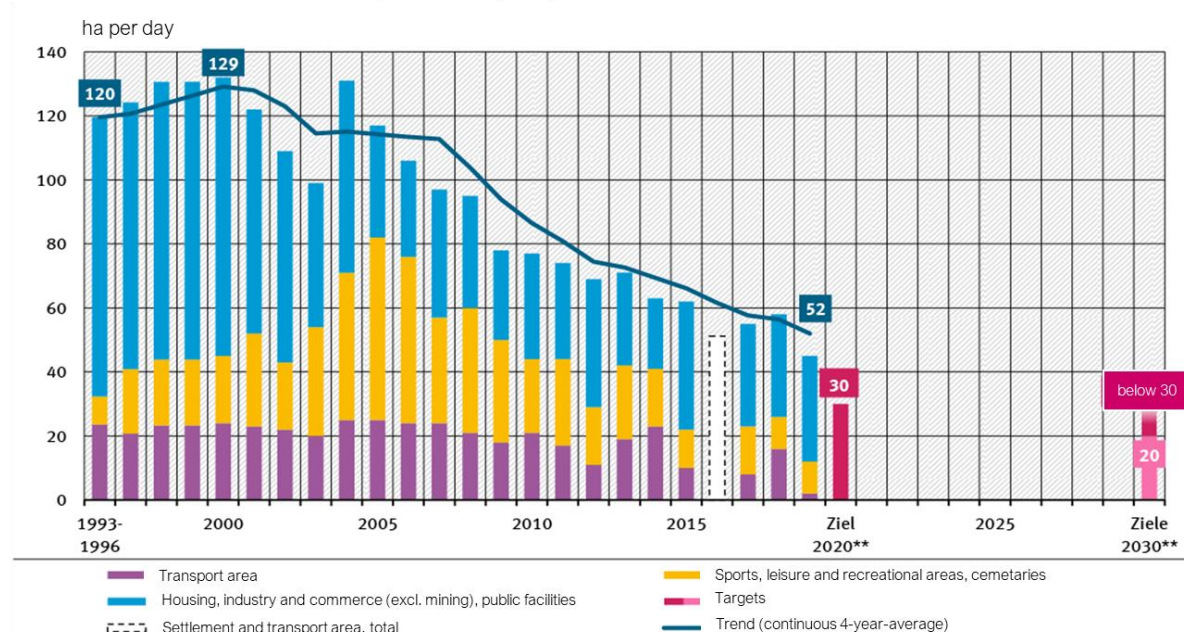
¹⁶ <https://www.maregionsud.fr/a-la-une/plan-climat-gardons-une-cop-davance>

¹⁷ <https://connaissance-territoire.maregionsud.fr/sraddet-avenir-de-nos-territoires/le-schema-regionale/>

¹⁸ <https://www.umweltbundesamt.de/daten/umweltindikatoren/indikator-siedlungs-verkehrsflaeche>

Figure 8 illustrates that while reducing land take significantly since the turn of the century, achieving the 2030 targets still poses a challenge for Germany.

Increase in settlement and transport area (SuV)



Source: German Environment Agency (modified), data: Federal Statistical Office.

Figure 8: Annual increase in land take in Germany since 1993

2.3.1 Bavaria

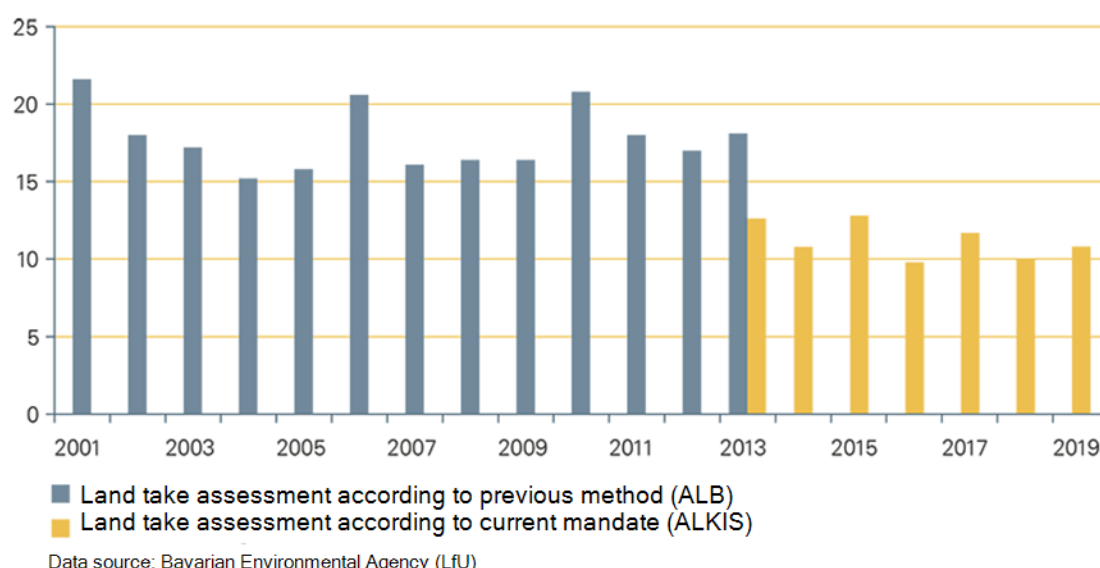
Benchmark	5 ha/day until 2030
Reference document	Bavarian State Planning Act (Bayerisches Landesplanungsgesetz BayLPIG) ¹⁹ , Art. 6 Principles
Current land take	11.6 ha/day in 2020
Measures outlined in reference documents	Recommendations, information, good practices, capacity building (land saving focal points at regional governments), but also legal implementation in the form of the revised Bavarian State Development Scheme (LEP) and the adoption of a 2030 benchmark in the Bavarian Spatial Planning Act. Activities are currently bundled in the Bavarian land saving campaign (Flächensparoffensive, Bayerische Staatsregierung 2020)
Method of quantification	Official Real Estate Cadastre Information System (Amtliches Liegenschaftskatasterinformationssystem ALKIS) merging real estate cadastral data of the digital cadastral map (DFK) and the automated land register (ALB), into one system and supplementing them by new data sets, such as the actual use, soil estimation, 3D building data, etc. The Bavarian land take statistic ("Amtliche Flächenstatistik") is based on ALKIS actual land use.

As implementation measure, all Bavarian municipalities are obliged by the State Government to carry out a demand assessment when zoning out new plots. This assessment is to be based

¹⁹ <https://www.verkuendung-bayern.de/gvbl/2020-675/>

on demographic development, structural spatial criteria, economic development dynamics, settlement structure development goals, and existing inner development potentials.²⁰

Unlike for Germany as a whole, land take remains at a high level in Bavaria, partly due to its economic dynamic and population growth (see Figure 9). The sudden drop in land take between 2013 and 2014 is due to a statistical recoding of land use, not to a factual sudden decrease in land take.



Source: https://www.lfu.bayern.de/umweltdaten/indikatoren/ressourcen_effizienz/flaechenverbrauch/index.htm

Figure 9: Land take in Bavaria

2.4 Italy

Target	At the national level, there is no land saving target for Italy. ²¹
Reference document	Sistema Nazionale per la Protezione dell'Ambiente 2021:19
Current land take	5,175 ha/year in 2020 ²² (which corresponds to approx. to 14.2 ha/day)
Method of quantification	Sentinel data / European Copernicus Program, Very High Resolution (VHR) satellite and aerial images and National map of land consumption produced by the National System for Environmental Protection (ISPRA, ARPA, APPA)

The WebGIS “Il consumo di suolo in Italia”²³, a product of Arpa Piemonte and ISPRA, is a very comprehensive tool to illustrate land take in Italy from the national, regional to the municipal level. The apparent decline in the increase of land take is due to the fact that the 2015 increase

²⁰ Interpretation guideline on demand assessment, see https://www.landesentwicklung-bayern.de/fileadmin/user_upload/landesentwicklung/Dokumente/Flaechensparoffensive/AuslegungshilfeBedarfsnachweis_Stan d092021.pdf

²¹ The introduction of a net zero land take by 2030 is currently being discussed in Italy (see Senato della Repubblica 2021:33), but not yet adopted.

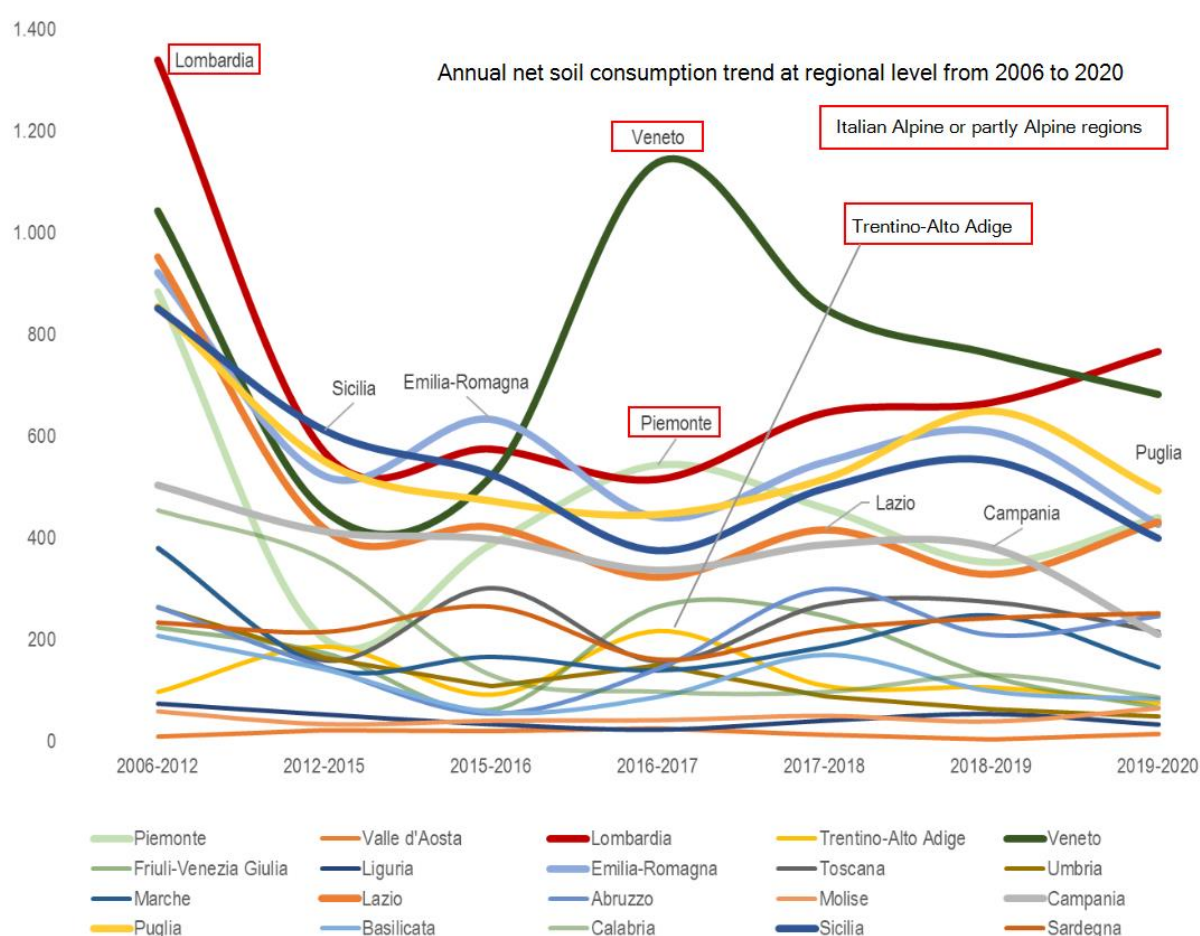
²² <https://www.isprambiente.gov.it/it/attivita/suolo-e-territorio/il-consumo-di-suolo/i-dati-sul-consumo-di-suolo>

²³ https://webgis.arpa.piemonte.it/secure_apps/consumo_suolo_agportal/?entry=4

encompasses the three-year period May 2012- May 2015 and the 2012 value the six-year period May 2006- May 2012. Italy adopts the definition of “artificial land cover” as a definition for “land take”, thus excluding green and vegetated surfaces in urban areas.

Over the last 15 years of observation, a reduction can be observed for some regions. However, there are also significant rebound effects e.g. for Veneto, Piedmont and to a smaller extent also Trentino-Alto Adige for the period 2016-2017 or for Lombardy over the most recent observation periods (see Source: Sistema Nazionale per la Protezione dell'Ambiente, 2021, with data from ISPRA/SNPA (modified).

Figure 10).



Source: Sistema Nazionale per la Protezione dell'Ambiente, 2021, with data from ISPRA/SNPA (modified).

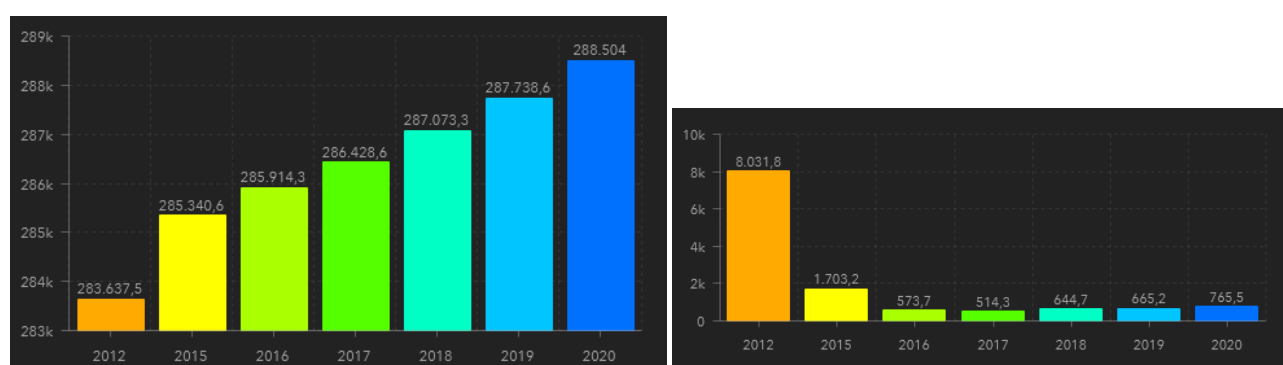
Figure 10: Land take in Italian regions (ha/year).

2.4.1 Lombardy

Target	<p>25% reduction of the forecast of land consumption from 2014 until 2020, a 45% reduction until 2025 and net zero land take in 2050.</p> <p>The reduction targets refer to planned settlements in municipal plans in force since 2014. It should be applied according to the demographic trend, the quality of soils and the regeneration potential of each municipality and according to provincial and regional targets.</p>
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Reference document	Regional law 31/2014 (legge regionale n. 31 del 28 novembre 2014 ²⁴): The law states that municipalities can no longer approve new forecasts of land take, while still being permitted to approve variations under the condition of “net zero”.
Current land take	765,45 ha/year (which corresponds to approx. to 2.1 ha/day) from 2019 to 2020 ²⁵ (Figure 11). The 2015 increase refers to the three-year period May 2012- May 2015 and the 2012 value refers to the six-year period May 2006 – May 2012.
Measures outlined in reference documents	Criteria for achieving objectives of urban renewal are laid down in the PTR. An ex-ante check of inner-urban development potentials needs to be conducted before zoning new land, incentives for retrofitting the existing building stock,

The land saving target has been integrated into the Regional Plan (Piano Territoriale Regionale, PTR) (Regione Lombardia, 2010, 2019) and provinces and municipalities are required to report land take data. The implementation process is described in Federici (2020).



Source: https://webgis.arpa.piemonte.it/secure_apps/consumo_suolo_agportal/?entry=4.

Figure 11: Land take in Lombardy (surface area and annual increases 2012-2020 in ha)

2.4.2 Piedmont

Target	Max. 3% of existing urbanized area each 5 years ²⁶ , Net zero land take (currently undefined timeline), according to draft regional law Nr. 302 (pending) by 2040
Reference documents	Norme di attuazione Nr. 31, Soil protection in Regional Law 56/1977 ²⁷ , last amended in 2016 (PTR Piemonte) (Regione Piemonte 2011) The Regional Law Draft Nr. 302 Urban planning and environmental law provisions for containing land take, presented on June 5 th 2018 (Disegno di legge regionale n. 302 presentato il 05 giugno 2018 Norme urbanistiche e ambientali per il contenimento del consumo del suolo) envisaged the net zero land take to be reached by 2040. ²⁸

²⁴

http://normelombardia.consiglio.regione.lombardia.it/NormeLombardia/Accessibile/main.aspx?exp_coll=lr002014112800031&view=showdoc&iddoc=lr002014112800031&selnode=lr002014112800031

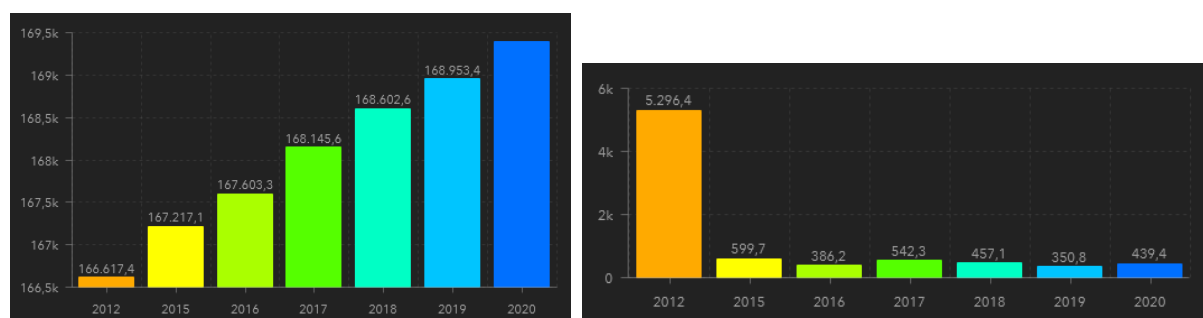
²⁵ <https://www.isprambiente.gov.it/it/attivita/suolo-e-territorio/il-consumo-di-suolo/i-dati-sul-consumo-di-suolo>

²⁶ <http://relazione.ambiente.piemonte.it/2018/it/territorio/stato/suolo-consumo>

²⁷ <http://arianna.cr.piemonte.it/iterlegcoordweb/dettaglioLegge.do?urnLegge=urn:nir:regione.piemonte:legge:1977;56@2018-10-24&tornaIndietro=true>

²⁸ http://www.regione.piemonte.it/cgi-bin/ufstampa/comunicati/dettaglio_agenzia.cgi?id=19834

Current land take	439,4 ha/year in 2020 (which corresponds to approx. to 1.2 ha/day) (see Figure 12). The 2015 increase refers to the three-year period 2012-2014 and the 2012 value refers to the six-year period 2006-2011.
Additional remarks	With 169,392 ha total land take in 2020 (ISPRA), the 3% target translates to 5,081 ha new land take for every 5-year cycle, 1,016 ha every year resp. 2.78 ha per day for the Piedmont region.



Source: https://webgis.arpa.piemonte.it/secure_apps/consumo_suolo_agportal/?entry=4.

Figure 12: Land take in Piedmont (surface area and annual increases 2012-2020 in ha).

2.4.3 Veneto

Target	40% reduction of the forecast of land consumption since 2011, Net zero land take 2050
Reference document	Decision Nr. 668 (dated May 15 th 2018), Art. 4 of the Regional Law Nr. 14/2017, Annex B of decision Nr. 668
Current land take	682 ha/year in 2020, corresponding to approx. to 1.9 ha/day. The 2015 increase (see Figure 13) refers to the three-year period May 2012 – May 2015 and the 2012 value refers to the six-year period May 2006 – May 2012.
Measures outlined in reference documents	Limitation of potential land take to 40% of land currently foreseen for urbanisation

With decision Nr. 668 (dated May 15th 2018), the Veneto Regional Government²⁹ approved the definition according to Art. 4 of the Regional Law Nr. 14/2017 on the maximum land take at regional level and its allocation at municipal and intermunicipal level (Alpine Convention 2020:24). This maximum value is defined as 40% (Annex B of decision Nr. 668) of the remaining potential urbanisation area, with corrections indicated for each municipality on an individual basis in regard to seismic classification, settlement pressure and ecological values. With this measure, the regional government is adopting important management and implementation tasks. Municipalities have reported 12,224 ha of land that are already transformed and an additional 21,323 ha that are - according to land use plans (strumenti urbanistici)- foreseen for residential or commercial purposes. Accordingly, the 40% share equals 8,530 ha – the maximum area still to be transformed until 2050, after which a net zero

²⁹ Contenimento del Consumo di Suolo – Regione del Veneto (<https://www.regione.veneto.it/web/ambiente-e-territorio/contenimento-consumo-di-suolo>)

target is foreseen. Distributed equally over the 32 years (2018-2050), this translates to 266 ha annual or 0.73 ha daily land take.

The document Allegato C DGR Nr. 668 (March 15th 2018) (Regione del Veneto 2018:4ff) provides a list of all Veneto municipalities with the respective values, resulting in a maximum amount of land consumption permitted for each individual municipality (Quantita massima di consumo di suolo ammesso). The random case of Agordo (see Table 2) illustrates the far-reaching implications of this regulatory framework. Situated in the Bellunese Alps, the municipality features a total land take (Superficie di suolo consumato, ISPRA 2021) of 145 ha. According to the new law, the maximum remaining land take until 2050 is 4.3 ha – 40% of the total 7.17 ha currently foreseen for development.

Table 2 Assessment of maximum residual land take at municipal level for the Veneto region

ASO	Codice ISTAT	Comune	Provincia	RESIDUO	CORRETTIVO INDICATORI PER A.S.O.			CORRETTIVO INDICATORI PER I COMUNI				
					RESIDUO RIDOTTO DEL 40%	percentuale dopo CORRETTIVO	RESIDUO DOPO CORRETTIVO	Variazione per classe sismica (2=-0,5%; 3=0%; 4=+0,5%)	Variazione per tensione abitativa (no=0%; si=+0,5%)	Variazione per varianti verdi (0,0001±0,05=-0,50%; 0,06±0,10=-1%; 0,11±0,14=-1,5%)	QUANTITA' MASSIMA DI CONSUMO DI SUOLO AMMESSO	Riferimento Tabelle Allegato D
				ha	ha	%	ha	%	%	%	ha	
26	28001	Abano Terme	Padova	76,57	45,94	90,00%	41,35	0,50%	0,50%	-1,50%	41,13	②
23	29001	Adria	Rovigo	83,77	50,26	100,00%	50,26	0,50%	0,00%	-0,50%	22,24	① ②
16	23001	Affi	Verona	7,95	4,77	75,35%	3,59	0,00%	0,00%	-0,50%	3,58	
21	28002	Agnà	Padova	27,73	16,64	92,13%	15,33	0,50%	0,00%	0,00%	15,41	
1	25001	Agordo	Belluno	7,17	4,30	100,00%	4,30	0,00%	0,00%	0,00%	4,30	
14	24001	Agugliaro	Vicenza	16,13	9,68	93,18%	9,02	0,50%	0,00%	0,00%	9,06	
4	25002	Alano di Piave	Belluno	6,61	3,97	95,39%	3,78	-0,50%	0,00%	-0,50%	3,75	

Source: Regione del Veneto 2018:4ff

Implementation at municipal level

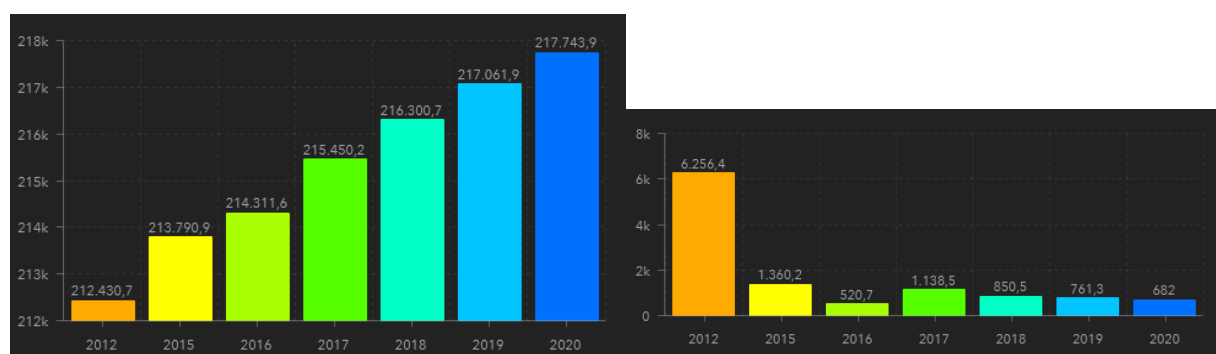
The maximum land take allocated by the Veneto region needs to be implemented in the municipal urban planning instruments. Before granting new permissions outside of consolidated urban areas, municipalities need to verify that they do not exceed this threshold. In any case, municipalities need to check beforehand if alternatives to taking up unbuilt land exist and need to report the result to the authorities approving zoning changes. Unsealing efforts are registered through an adaptation of total land balances.

Currently, 60% of municipalities (336 out of 563 Veneto region municipalities) have implemented their maximum land take in their respective urban planning instruments. Non-compliance leads to a moratorium of additional land take.

It is necessary to note that commercial development and logistics are not affected by these limitations. Nor does the Law Nr. 14/2017 apply to public infrastructures and buildings or those in the public interest.

The municipalities are legally obliged to adhere to the land take limits. However, for initiatives in the regional interest, municipalities can apply for additional permits from a “regional reserve” with regional authorities. The limited number of municipalities that have not enacted the

regional law 11/2004 “Norme per il governo del territorio e in materia di paesaggio”³⁰ (Rules for the government of the territory and in the field of landscape) by drafting a municipal structural plan (PAT, piano assetto comunale) are also eligible to draw land use permits from the regional reserve.

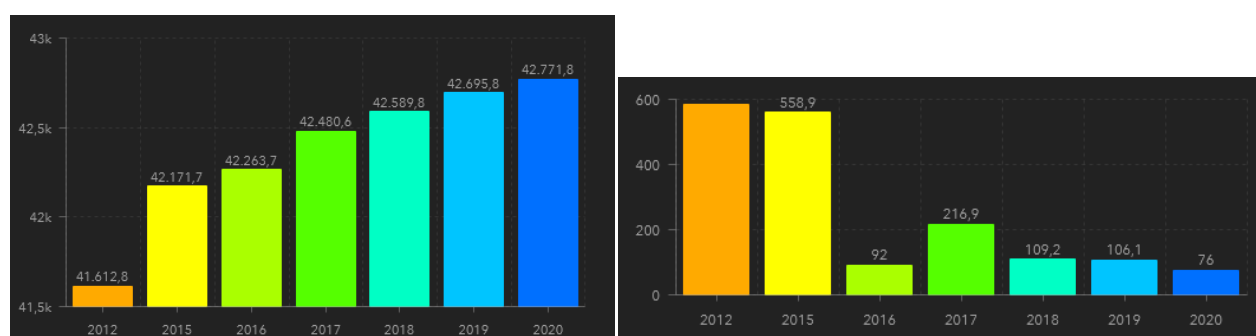


Source: https://webgis.arpa.piemonte.it/secure_apps/consumo_suolo_agportal/?entry=4.

Figure 13: Land take in Veneto (surface area and annual increases 2012-2020 in ha)

2.4.4 Trentino – Alto Adige

Target	No quantitative target, but delineation of urbanisation areas for 10-year periods
Reference document	Dekret des Landeshauptmanns vom 22. November 2018, Nr. 31 / Decreto del president della provincia del 22 novembre 2018, n. 31
Current land take	Trentino-Alto Adige: 75.97 ha land take from 2019 to 2020 (Sistema Nazionale per la Protezione dell'Ambiente 2021:64) resp. 0.21 ha per day. The 2015 increase (see Figure 14) refers to the three-year period May 2012 – May 2015 and the 2012 value refers to the six-year period May 2006 – May 2012. Between 2012-2017 daily increase of 0.24 ha of settled land.
Measures outlined in reference documents	Gemeindeentwicklungsprogramm / Programma di sviluppo comunale (Municipal development programme), which entails the following determinations: Delineation of settlement area Registration of vacant buildings (compulsory according to the new 2020 urbanisation law)



Source: https://webgis.arpa.piemonte.it/secure_apps/consumo_suolo_agportal/?entry=4.

Figure 14: Land take in Trentino-Alto Adige (surface area and annual increases 2012-2020 in ha)

³⁰ https://cdn1.regione.veneto.it/alfstreaming-servlet/streamer/resourceId/b9a7fa19-a9a7-4ceb-9cc3-84367a1b2908/LR_11_2004

As an incentive for energetically retrofitting the housing stock, an “energy bonus” allows owners to exceed the permitted building mass by 20% and up to 200 m³ for existing buildings (Autonome Provinz Bozen-Südtirol / Provincia Autonoma di Bolzano - Alto Adige 2014). Eligible buildings must be built before 2005 and have to be improved from a lower KlimaHaus-category to at least category C.

2.5 Liechtenstein

According to the law on the protection and safeguarding of agriculturally usable soil (Gesetz vom 25. März 1992 über die Erhaltung und Sicherung des landwirtschaftlich nutzbaren Bodens, dated March 25th 1992)³¹, each municipality has to designate at least 30% of its total area as agricultural use zone.

2.6 Monaco

The Principality of Monaco is not pursuing a quantitative land saving target.

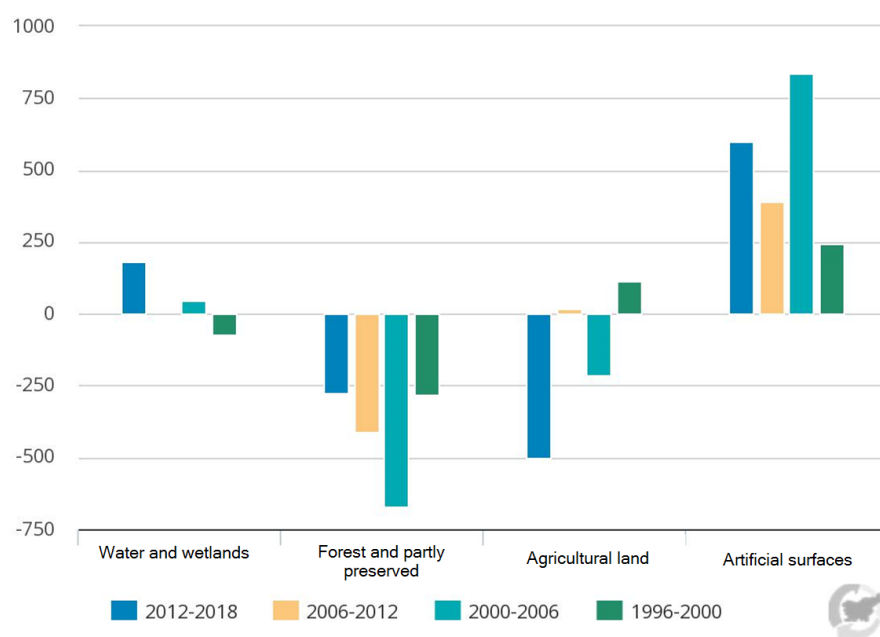
2.7 Slovenia

Target	Reduction of net growth of built-up land by 25% until 2030 (reference year and indicator will be defined by 2030) and zero net growth of built-up land until 2050
Reference document	The targets are stipulated in the Resolution on the National Environmental Protection Programme (Republic of Slovenia 2020).
Current land take	Between 2008-2012, 13,024 ha have been built-up, which equals a daily land take (rast površine pozidanih zemljišč or odvzem zemljišč) of 8.9 ha (Slovenian Environmental Report 2017 (Republic of Slovenia 2017), Alpine Convention 2020:24)
Measures outlined in reference documents	In chapter 5.2, the resolution (Republic of Slovenia 2020) outlines soil protection targets and policies and measures to accomplish them, including activation of urban brownfields, information and monitoring, legal framework, awareness raising and networking of stakeholders.

According to land use statistics, land use changes over the last 20 years have predominately taken place for urbanisation at the expense of mostly forests and agricultural areas, with a shift over the last observation period from forest areas to agricultural areas as “contributors” (see **Fehler! Verweisquelle konnte nicht gefunden werden.**). The official numbers for “urban residential sprawl” in Figure 15 respectively Table 3 appear to be very low (e.g. total land consumption of 33 ha for the time period 2012-2018) and might change in the course of improved data availability.

³¹

https://www.gesetze.li/konso/1992041000?search_text=landwirtschaftlich%20nutzbaren%20bodens&search_loc=text&lnr=&lglid_von=&observe_date=06.08.2021



Source: Slovenian Environmental Agency.

Figure 15 Land use changes (ha) for time periods in Slovenia

Table 3 Land use changes (ha) for time periods in Slovenia

	changes total[ha]	2012-2018[ha]	2006-2012[ha]	2000-2006[ha]	1996-2000[ha]
forests management	10852.72	7323.13	656.09	1863.95	1009.55
sprawl of economic sites and infrastructures	2521.06	578.55	564.45	1073.23	304.82
water bodies creation and management	387.80	253.14	5.05	54.51	75.10
changes due to natural and multiple causes	287.07	80.52	0	14.61	191.94
urban residential sprawl	84.60	33.11	22.44	17.67	11.37
withdrawal of farming	87.64	34.08	0	5.62	47.94
urban land management	1003.71	241.08	372.40	0	390.23
agriculture internal conversions	111.68	92.18	0	0	19.50
conversion from forested & natural land to agriculture	495.79	104.85	63.11	0	327.83

Source: Slovenian Environmental Agency.

Planned land use in Slovenia

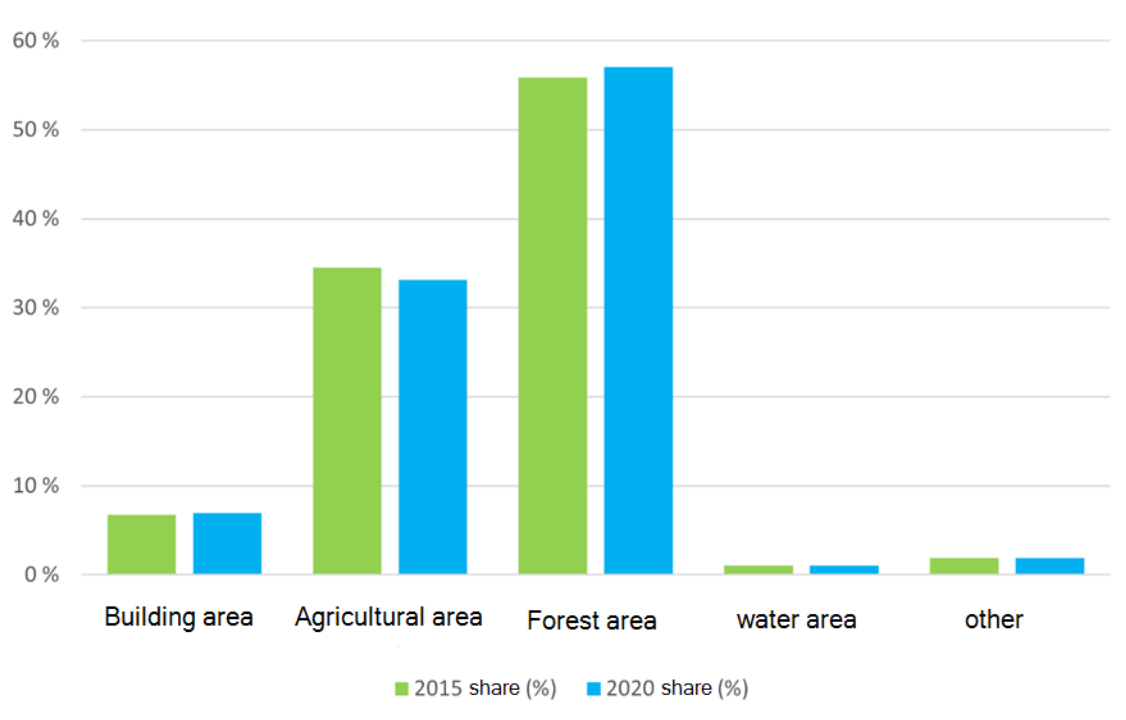
Based on data on basic planned land use (see Table 4), obtained from the collective information layer of planned land use, it is evident that in 2020 the largest share of land is covered by forest planned land use (57% or 1,177,991.69 ha), followed by agricultural planned land use (33, 11% or 683,519.17 ha). The share of building planned land use is 6.91% or 142,595.02 ha of the entire territory of Slovenia. Areas of other planned land uses represent a smaller share (1.89% or 38,973.73 ha), while the smallest share of areas comprises water bodies (1.04% or 21,434.00 ha).

Table 4 Areas of basic planned land use according to the total area of Slovenia (in ha and%) in 2020

Categories of planned land use	2015 (%)	2020 (%)	2020 (ha)	Index 2015/2020*
Building Areas	6.70%	6.91%	142,595.02	103.06
Agriculture areas	34.50%	33.11%	683,519.17	95.95
Forest areas	55.85%	57.06%	1,177,991.69	102.16
Water	1.02%	1.04%	21,434.00	101.41
Other	1.92%	1.89%	38,973.73	98.43
Total	100.00%	100.00%	2,064,513.61	

Source: UURS, MESP, 2020; *index is calculated based on shares.

Based on a comparison of basic planned land use between 2015 and 2020 (Figure 16), a slight increase in the share of building planned land use can be observed, from 6.7 to 6.91% (index 103.06), which in five years amounts to more than 4,000 ha. The share of forest planned land use (index 102.16) by more than 24,000 ha, while the share of agricultural planned land use (index 95.95) has decreased by slightly less than 28,000 ha.



Source: UIRS, MESP data, 2020

Figure 16: Difference in areas of categories of basic planned land use (index 2015/2020), Slovenia 2015 2020

2.8 Switzerland

Target	<p>Reduction of land take by a third compared to 2020 until 2030 and net zero until 2050. Target of 17% of the total area of Switzerland to be set aside for the protection of native species and plants (only draft status in the nNHG).</p> <p>Limitation of the number and plot area of buildings outside the building zone (Plafonierung bzw. Stabilisierungsziel), only draft status in the RPG revision process).</p> <p>No net land take by 2050, with compensation according to qualitative requirements, not area size (Bundesamt für Umwelt 2020:22).</p>
Reference document	<p>Swiss Sustainable Development Strategy 2030 Goal 15.3 (Schweizerische Eidgenossenschaft / Schweizerischer Bundesrat 2021:24)</p> <p>Swiss Soil Strategy (Bodenstrategie Schweiz, Bundesamt für Umwelt 2020:22)</p> <p>Draft revision of the Swiss Nature and Cultural Heritage Protection Act (Natur- und Heimatschutzgesetz NHG) (Schweizer Eidgenossenschaft 2021:7)</p> <p>Draft revision 2 of the Swiss Spatial Planning Act (RPG) of 2021</p>
Current land take	Total settlement area increased by 776 km ² (= average daily land take of 6.4 ha) between 1985 and 2018 and by 181 km ² between 2009 and 2018 (= average daily land take of 5.5 ha) (Bundesamt für Statistik 2021:9) ³²
Measures outlined in reference documents	<p>Revision of the Spatial Planning Act 2014. From the entry into force of the revised law on May 1st 2014, the cantons had five years to adapt their structure plans. In cantons that do not have a structure plan approved by the Federal Council on April 30th 2019, a zoning freeze applies. The same applies if they do not have a regulation on compensation for added value that complies with the RPG.</p> <p>The Action Plan of the Swiss Sustainability Strategy 2021-2023 foresees to expand the basis for a monitoring of soil sealing in the form of a monitoring concept (Schweizerische Eidgenossenschaft / Schweizerischer Bundesrat (2021b:15).</p>
Method of quantification	Aerial photography for land use data in 10-year-intervals; for statistics of construction zone: land use planning data of cantons, revision every 5 years

In Switzerland, construction is only permitted within building zones. According to the 2017 building zone statistics ³³ (Schweizerische Eidgenossenschaft / Bundesamt für Raumentwicklung 2017), these occupy a total area of 232,038 hectares. Well over 80% of this area is already built over. About one seventh of the building zones are still undeveloped. The building zones that have not yet been built over theoretically offer space for another 1 to 1.7 million inhabitants. An overly generous designation of building zones contradicts the principle of economical use of land.

The area of building zones that have not yet been built over is too large in some cantons and regions, as more than the legally defined demand for the next 15 years is covered. Moreover, the areas of building zones that have not been built over are often located in rural areas,

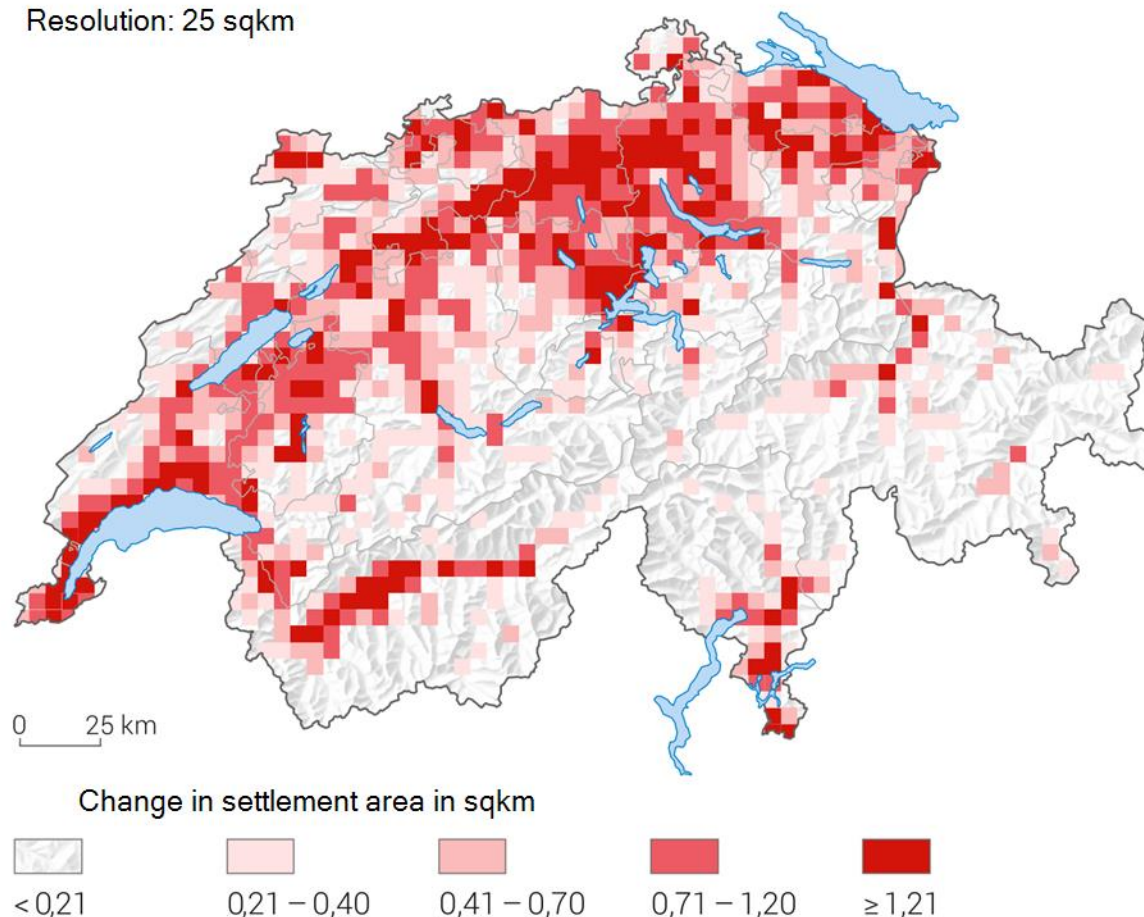
³² <https://www.bfs.admin.ch/news/de/2021-0316>

³³ Statistica delle zone edificabili / Bauzonenstatistik / statistique des zones à bâtir

especially in agricultural and tourist communities. In densely populated agglomerations with high growth dynamics and correspondingly high demand (see Figure 17), however, available land is a scarce commodity. The building zone statistics are collected every 5 years.³⁴

Settlement area 1985-2018

Resolution: 25 sqkm



Source: BFS Swiss areal statistics (AREA)

© BFS 2021

Figure 17: Settlement area increases for 25 sqkm grids 1985-2018

The discussion surrounding the revision of the Federal Act on the Protection of Nature and Cultural Heritage (NHG) illustrates a conflict of interest – at least in public debate – between densification and architectural qualities of settlements. The economic stakeholder EconomieSuisse³⁵ argues against an integration of architectural qualities (Baukultur) in the revised NHG, stating that architectural qualities are not connected to biodiversity and that inner-urban development might be obstructed by prioritisation of architectural qualities.

³⁴ <https://www.are.admin.ch/are/de/home/raumentwicklung-und-raumplanung/grundlagen-und-daten/raumb Beobachtung/siedlung/bauzonen.html>

³⁵

<https://www.economiesuisse.ch/sites/default/files/publications/20210709%20Vernehmlassung%20indirekter%20Gegenentwurf%20Biodiversit%C3%A4tsinitiative.pdf>

In the hearing phase of the revision of the Swiss Spatial Planning Act 2021, the foreseen stabilisation of the number and plot area of buildings outside the building zone is generally supported by the national planning association EspaceSuisse, which however criticises the unclear formulation of the objective and proposes to extend it to transport infrastructure and agriculture.³⁶

Related to the reduction of land take in Switzerland is the target value of securing 17% of land cover for biodiversity purposes, proposed in Article 18 of the draft revision of the Federal Act on the Protection of Nature and Cultural Heritage (NHG). EspaceSuisse³⁷ is arguing to increase the target value to 20%, also in view of the proposed of conserving at least 30% of the global land area through systems of protected areas and other effective area-based conservation measures as part of the UN Global Biodiversity Framework.³⁸

³⁶ https://www.espacesuisse.ch/sites/default/files/documents/Revision_RPG%202_VL_2021_EspaceSuisse_d_Resume_f.pdf

³⁷ https://www.espacesuisse.ch/sites/default/files/documents/Revision_NHG_Stellungnahme_EspaceSuisse_d.pdf

³⁸ <https://www.un.org/sustainabledevelopment/blog/2021/07/a-new-global-framework-for-managing-nature-through-2030-1st-detailed-draft-agreement-debuts/>

5. SUMMARY

Based on the screening of the status quo of land-saving targets in the Alps, the following aspects can be underlined:

- At a national level, Austria, France, Germany, Slovenia and Switzerland have adopted quantitative land-saving targets in the form long-term targets (net-zero by 2050) and/or mid-term (2030) target. Austria, Italy, Liechtenstein and Monaco have not adopted a net zero target.
- At federal state resp. regional level, Bavaria, Auvergne-Rhône-Alpes, Provence-Alpes-Côte d'Azur, Piedmont, Veneto and Lombardy have adopted quantitative land saving targets. Auvergne-Rhône-Alpes and Piedmonte are even aiming to achieve the net zero target by 2040.
- While lacking a quantitative land saving target at national level, binding implementation mechanisms exist in the Italian regions (Piedmont, Lombardy and Veneto)
- While not pursuing a quantitative land saving target, the region of Trentino-Alto Adige is requiring municipalities to delineate their urbanisation areas based on a registry of vacant land

Summing up, three approaches to land saving targets can be classified:

- Voluntary targets at national level without regionalisation or cap (AT, DE, FR, SI). For France, targets and trajectories have to be adapted at the regional, subregional and municipal spatial planning level, meeting specific deadlines.
- Regionalised land saving targets (Italian regions, not realised but foreseen for French Regions in the course of the following years)
- Regulatory framework that limits urbanisation at municipal level based on binding mechanisms (CH, South Tyrol), but without explicit regionalisation of quantitative targets

Figure 18 illustrates that Alpine countries as well as the regions that have adopted land saving targets are still facing considerable challenges in regard to reducing land take and embarking on reduction pathways that would lead to net zero land take by 2050. However, the topic is very dynamic in many parts of the Alps and discussions on effective instruments can be expected to intensify when approaching the crucial timeline of 2030.

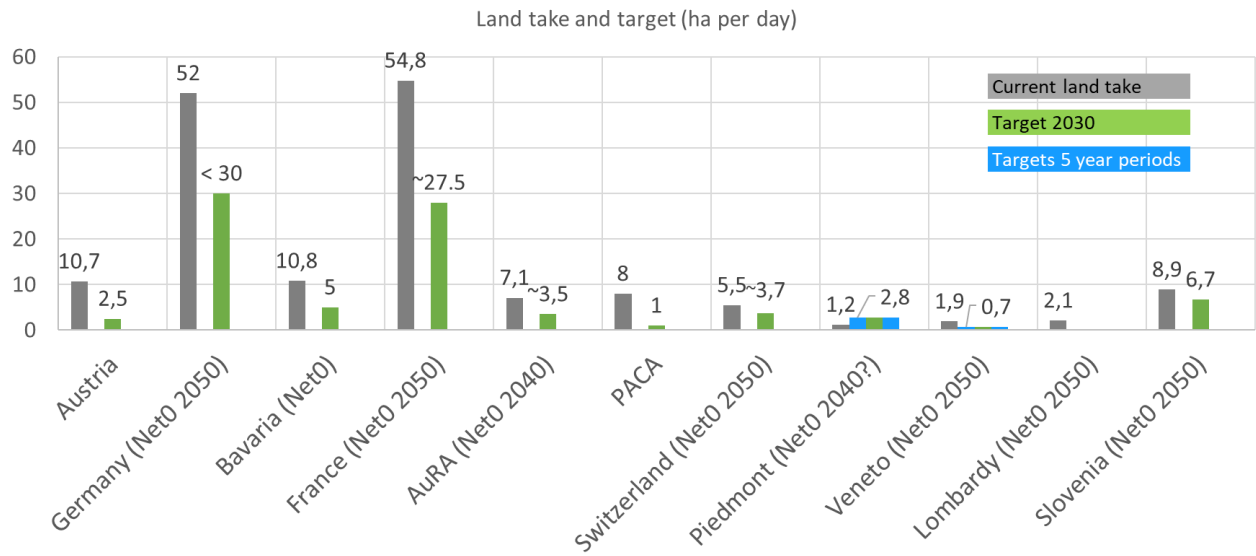


Figure 18: Current land take and land saving targets in selected Alpine countries and regions.

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Land saving targets in Alpine countries and regions

Summary

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Background

As part of its 2021/2022 mandate, the Spatial Planning and Sustainable Development Working Group contributed to the Alpine Climate Target System. This survey addresses Step 3 of the Spatial Planning Implementation Pathway 1 “Alpine wide concept “Spatial Planning for Climate Action”” in the form of an overview of land saving targets and challenges. The task was to assess which Alpine Convention states/countries have adopted land saving targets or are discussing them. The survey was supplemented with an overview of measures foreseen in the specific documents and the current land take in the Alpine countries and selected regions/federal states/provinces.

An important reference for the Alpine country’s land saving targets is the EU policy objective to achieve zero net land take by 2050 – first formulated in the EC Roadmap to a Resource Efficient Europe and reiterated in the EU Soil Strategy for 2030.

Results

At a national level, Austria, France, Germany, Slovenia and Switzerland have adopted quantitative land-saving targets in the form long-term targets (net-zero by 2050) and/or mid-term (2030) target. At federal state respectively regional level, Bavaria, Auvergne-Rhône-Alpes, Provence-Alpes-Côte d’Azur, Piedmont, Veneto and Lombardy have adopted quantitative land saving targets. Auvergne-Rhône-Alpes and Piedmont are even aiming to achieve the net zero target by 2040.

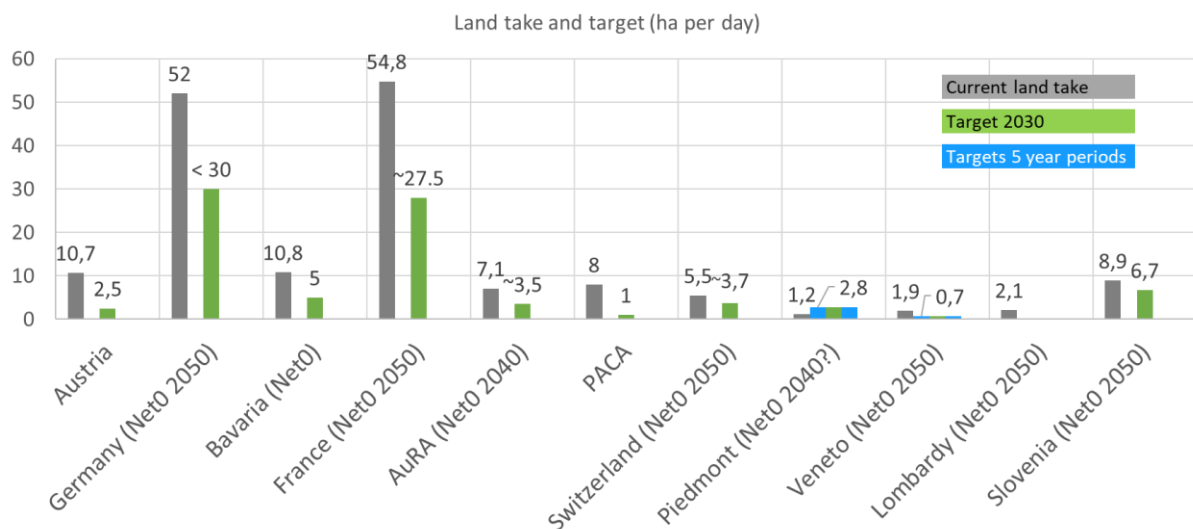
While Italy lacks a quantitative land saving target at national level, binding implementation mechanisms exist in the Italian regions of Piedmont, Lombardy and Veneto.

Three different approaches to land saving targets can be identified:

- Voluntary targets at national level without regionalisation or cap (AT, DE, FR, SI). For France, targets and trajectories have to be adapted at each territorial level of spatial planning: regional, subregional, local, with deadlines.
- Regionalised land saving targets (Italian regions, not yet realised but foreseen for French Regions in the course of the following years)
- Regulatory framework that limits urbanisation at municipal level based on binding mechanisms (CH, South Tyrol) but without explicit regionalisation of quantitative targets.

Conclusion

Alpine countries as well as the regions that have adopted land saving targets are still facing considerable challenges in regard to reducing land take and embarking on reduction pathways that would lead to net zero land take by 2050. However, the topic is very dynamic in many parts of the Alps and discussions on effective instruments can be expected to intensify when approaching the crucial timeline of 2030.



Current land take (AT, FR, IT, AuRA, PACA, Bavaria, Lombardy, Piedmont, Veneto: 2020, DE: 2019, CH: 2018 SI: 2012) and land saving targets in the Alps

Land take in the Alpine region: the data perspective

***Contribution to IP_S2, Step 1
of the Alpine Climate Target System***

**Working Group Spatial Planning and Sustainable Development of
the Alpine Convention**

Mandate 2021-2022



ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

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1. Background

As a contribution to the Alpine Climate Target System, this overview of statistical data on land take in the Alps contributes to Step 1 “Define land-take/sealing and the need to stop both” of the Soil Implementation Pathway 2 “Defining Alpine wide guidelines for minimised land-take and sealing”. Regarding the task of developing an Alpine-wide definition and shared understanding of monitoring of land-take and land-sealing, the paper provides an overview of theoretical concepts, an explanation of data origins but also a comparison of the data situation at different levels and in different national contexts.

2. Introduction

The challenge: varying concepts, methods and indicators

The issue of land take is highly complex for two reasons. Firstly, the understanding of the overlapping concepts as land take, soil sealing, or land use change are not defined in unambiguous ways. Instead, differing and sometimes contradictory understandings exist in parallel. Secondly, the data situation is incomplete and complex, in particular on the transnational scale of the Alpine region. A series of indicators and data gathering methods aim to address issues of land take in the wider sense, but harmonised, meaningful analyses are difficult to produce (Alpine Convention 2017: 102ff.).

When structuring the numerous approaches, the following differentiation can be helpful:

- a) The quantitative perspective: Some concepts focus on the question *if* or to what *extent* a natural soil loses its quality due to sealing or severe derogation. This is in particular covered by the concepts of ‘soil sealing’, ‘artificialization’, ‘land consumption’ or ‘land take’.
- b) The qualitative perspective: Several approaches focus rather on the *qualitative differences*. ‘Land cover’ focusses on the material dimension and ‘land use’ (also) considers human activity on the respective areas. The two perspectives differ largely in the underlying survey methodology, as we will illustrate in the next section (Meinel & Hennersdorf 2002: 2f.).

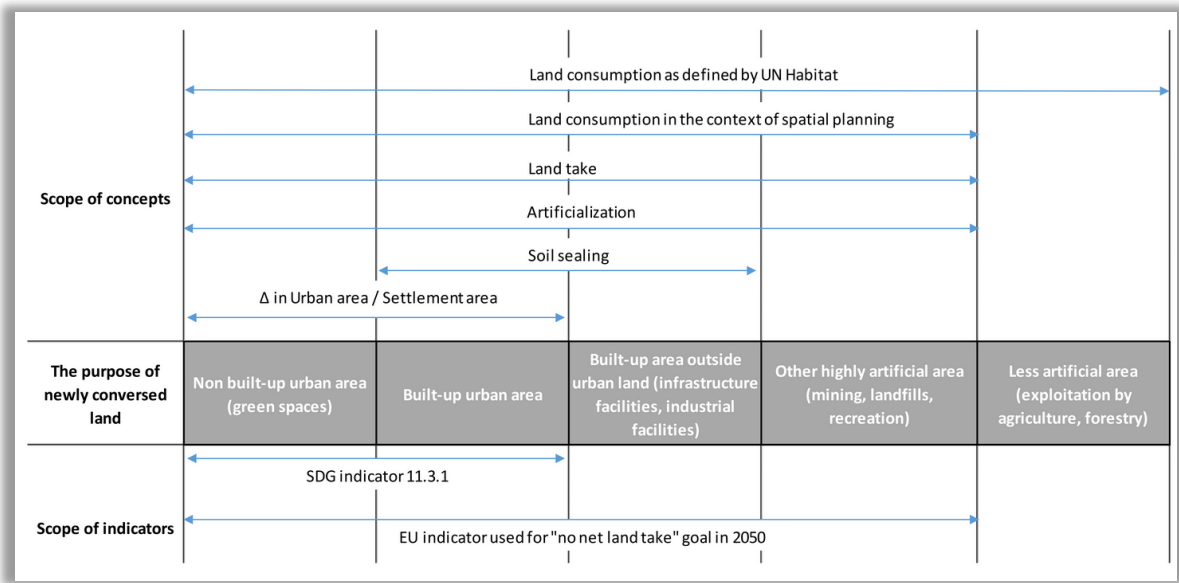


Fig. 1 Different understandings of ‘land take’ in the broad sende (Marquard et al. 2020:12)

Fig. 1 illustrates the multitude of concepts and indicators that are relevant both in political debates and in analytical work. The latter perspective is reflected in the paper at hand, focussing on the current data situation. The difficulty lies in the fact that the data situation differs across the countries and political levels. As it is often the case in data analysis, there is a grey area between data availability, data homogeneity and spatial resolution.

The pan-European land monitoring systems provide at least a good starting point (Arnold 2015: 201f., Sleszynski et al. 2020: 2) that will be outlined in the following sections.

Two types of data gathering

There are a series of data gathering methods available at different levels. Simplifying the situation to a certain extent, one can differentiate remote sensing data and general statistical information (see Fig. 2):

- Remote sensing data is the most prominent approach on the EU level, linked to the Copernicus programme (for details see next chapter). The necessary facilities for an aerospace programme are enormous and can only be ensured on the international level. The delivered raw data provide a fine scale information set. The challenges are not in harmonisation – as it is the case for statistical data – but in the processes of interpretation. Representative in-situ investigations help to calibrate the data and to deliver information on land use.
- On the domestic level, a series of national and regional statistical offices provide official information on a number of sectoral fields. Many of them are of high relevance for land take in the broader sense, in particular land use statistics, agricultural statistics, building statistics or real estate statistics. In this case the problem is, that the data are not harmonised on the cross-border or transnational level and they are hardly combinable due to different survey methods. Those data sets that are harmonised and provided by

Eurostat, are not available on a spatial level that would be meaningful for questions of land take. Switzerland and Liechtenstein work with a 'remote-sensing' like approach: They use aerial photo data to generate their 'Arealstatistik' and thus form a compromise between purely statistical and satellite data.

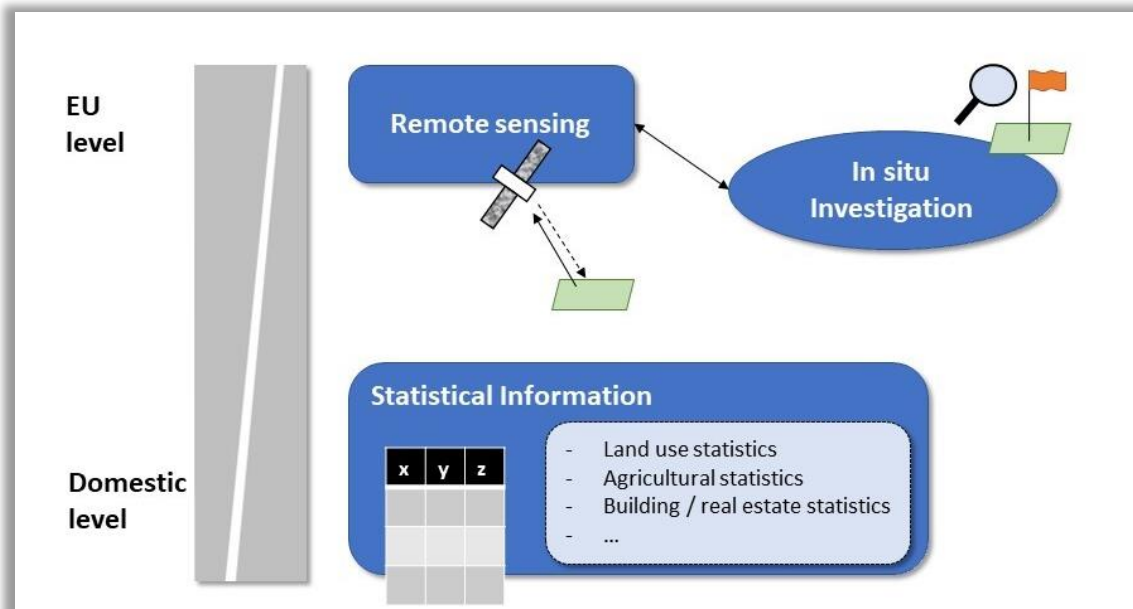


Fig. 2 Data gathering on different levels (Lambracht & Chilla 2021)

The institutional perspective: European and domestic initiatives

The available data are based on programmes and initiatives that are often interlinked. Fig. 3 provides a simplified overview.

As mentioned before, the Copernicus programme offers data in particular from the CORINE (Coordination of information on the environment) Land Cover (CLC) initiative and the HR (High Resolution) Layers. Both are explained in more detail below. They offer standardised data for all EEA39 countries and thus also for the entire Alpine Region. The urban Atlas provides interesting data but is limited to large cities and their suburban surrounding (e.g. Innsbruck and Bolzano/Bozen).

The BioPhysPar data, the Land Use and Coverage Area frame survey (LUCAS) and the land parcel identification system (LPIS) of the International Association of Classification Societies (IACS) complement the European initiatives.

On the domestic level, there are several national databases which combine the European CLC data with own data. They are the bases for further calculations and visualizations for national or regional purposes (e.g. the LISA database in Austria, the Arpa Piemonte in Italy, the Tiris in Tyrol or areal statistics in Slovenia). There are also national reference centres, which support the European data.

Also on the domestic level, there are some national databases which do not use the CLC data (e.g. ALKIS in Germany, Arealstatistik in Switzerland and Liechtenstein). These databases are

fed from official statistical data and surveys e.g. the real estate cadastre information system in Germany.

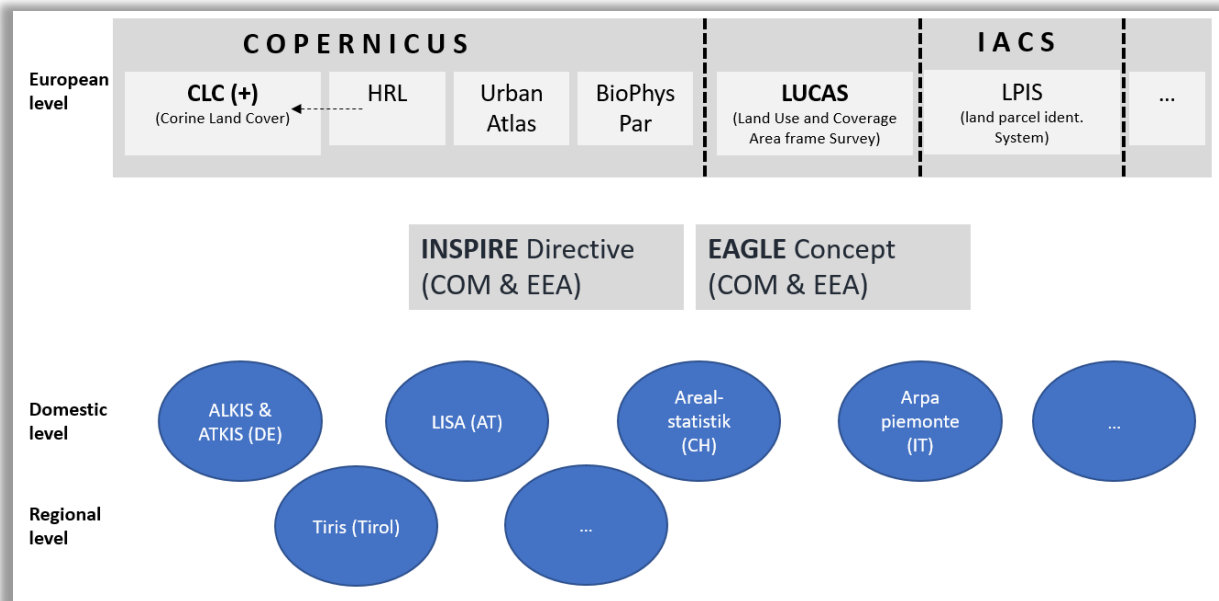


Fig. 3 Databases at different levels and homogenization concepts (source: <https://land.copernicus.eu/eagle/content-documentation-of-the-eagle-concept/manual/introduction-to-the-eagle-concept/referencemanual-all-pages>, and Arnold 2016 modified)

The INSPIRE Directive (Infrastructure for Spatial Information in Europe) and the EAGLE concept (EIONET Action Group on Land monitoring in Europe) of the European Commission and the European Environment Agency (EEA) were established in order to link both levels, i.e. the European and the national, and to homogenize the data and the understanding of nomenclature (cp. <https://land.copernicus.eu/eagle/pan-european-implementation-of-CLCplus>).

3. Zooming in concrete data

In order to understand the challenges of a pan-European land monitoring system with small-scale resolution, it is important to take a closer look at the existing data collection methods. Therefore, the CLC database and the LUCAS methodology will be further investigated. Both survey methods have strong and weak points, which will be discussed in this section of the report.

CORINE Land Cover (CLC)

The CORINE Land Cover data is the most comprehensive data set for land cover/use questions. The CORINE data is derived from satellites (Landsat-5, Landsat-7, SPOT-4/5, IRS P6 LISS III, RapidEye, Sentinel-2, Landsat-8), covering a spatial resolution of 10-30 m (cp.

Sleszynski et al. 2020). So far, five editions of the database are available, including the years 1990, 2000, 2006, 2012 and 2018.

The open access data from CORINE is provided as raster data, with a Minimum Mapping Unit (MMU) of 25 ha for areal objects and 100 m width for linear objects. The smaller areas are not identified.

CORINE Data come along with a series of challenges that limit the use for Alpine and/or cross-border spatial planning:

- Availability on a fine spatial scale: The already mentioned thresholds for mapping units and width limits detailed interpretations. The spatial resolution results in inaccuracies when mapping land cover change. Thus, changes in areal phenomena are only mapped when they show a minimum of 5 ha and linear phenomena are only mapped when they show a boundary displacement from minimum 100 m.
- Data quality management: The data quality control is hosted by EIONET National Reference Centres Land Cover, National Teams and the EEA. With a thematic accuracy of about 85%, the data quality is typical for remote sensing in general but raises questions for planning procedures.

One can conclude that “the CLC database has been designed as a basis for the creation of medium-scale (1:100,000) maps of land cover, particularly useful for the interregional comparisons” (Sleszynski et al. 2020: 4).

Copernicus High Resolution Layers (HRL)

The Copernicus High Resolution Layers are closely interlinked with CLC data. The HRLs are produced from Copernicus satellite imagery through a combination of automatic processing and interactive rule based classification. HRL provide Pan-European information (EEA 39) on specific land cover characteristics. The HRL are available for five themes (related to the main themes from CLC):

- level of sealed soil (imperviousness)
- tree cover density and forest type
- grasslands
- wetness and water
- small woody features

All products aim to provide time series and fine scale information. The table (Fig. 4) provides an overview of the available data features for each product. It is important to differentiate between status and change information. As land take is a process of time, change data are much more important than status information.

Type of product	Name of product	Available reference years or periods	Pixel size	Projection
Status layers	IMD – Imperviousness degree	2006, 2009, 2012, 2015, 2018	10m & 100m (2018) 20m & 100m (2006,2009,2012,2015)	National projections and LAEA (for pan-European mosaics)
	IBU - Impervious Built-up	2018	10m (IBU), 100m (SBU)	National projections and LAEA (for pan-European mosaics)
Change layers	IMC Imperviousness change	2006-2009, 2006-2012, 2009-2012, 2012-2015, 2015-2018	20m & 100m	National projections and LAEA (for pan-European mosaics)
	IMCC Imperviousness change classified	2006-2009, 2006-2012, 2009-2012, 2012-2015, 2015-2018	20m	National projections and LAEA (for pan-European mosaics)

Fig. 4 Features of the available HRL data (source: <https://land.copernicus.eu/pan-european/high-resolution-layers/imperviousness>)

It is important to note that HRL data are provided in raster format. This means that linking them with institutional information, like statistical units or regional affiliation, demands data processing that is not trivial. But even without this step, cartographic representations can be provided in way that is illustrated in Fig. 5 as an example.

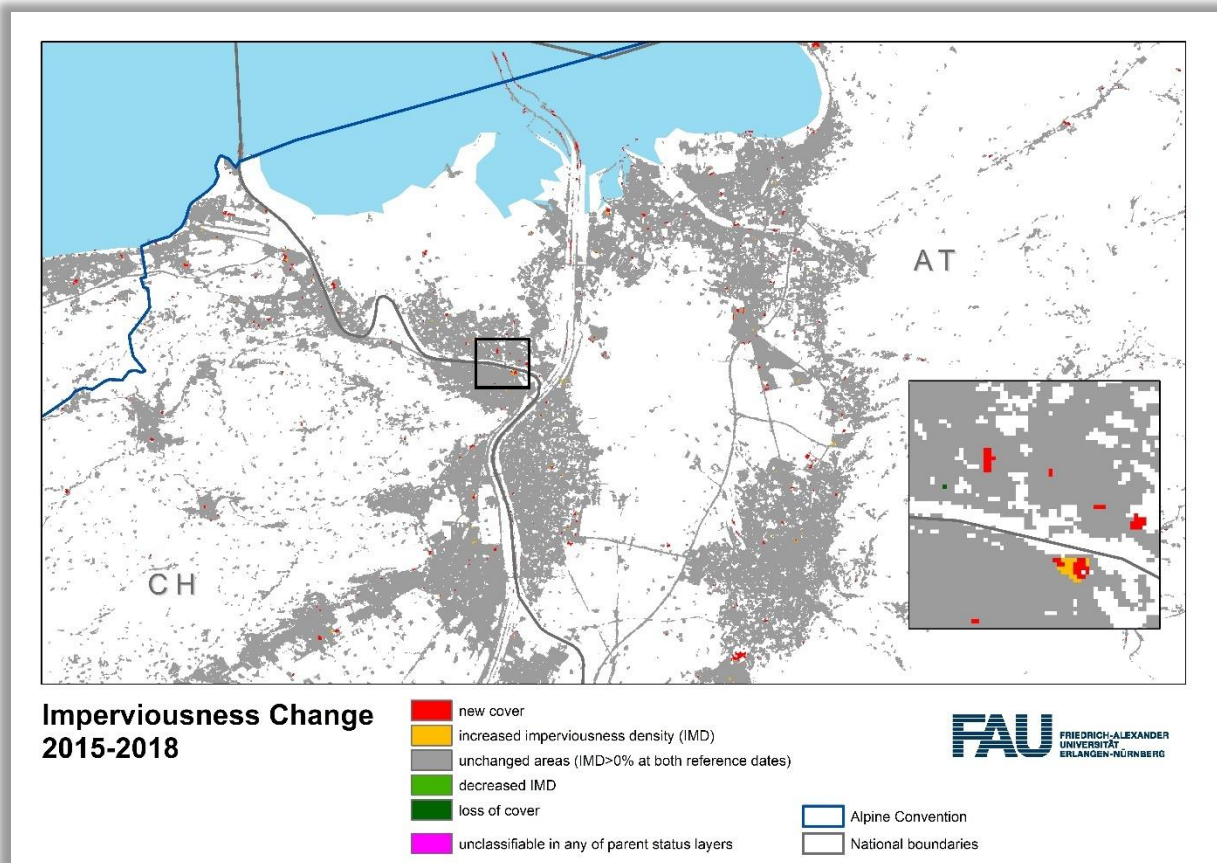


Fig. 5 Cartographic example for imperviousness change data

Land Use and Coverage area Survey (LUCAS)

The LUCAS survey is carried out by EUROSTAT every three years since 2006. This survey is not part of the Aerospace programme of Copernicus but combines orthophoto interpretation with an intensive in situ survey. The data is produced by covering a grid across Europe in the following way:

- First step: 1.1 million points across Europe (2 km square GRID) land cover information (orthophoto interpretation)
- Second step: sample of around 337,000 points: in situ investigation and data collection (parameters: Land cover, Land use, Pictures, etc.)

The focus of LUCAS data is on the state and dynamic of land use, but also additionally on land cover in the European Union.

The limitation of LUCAS with regard to Alpine spatial development is twofold. Firstly, the geographical focus does not comprise Switzerland and Liechtenstein as the coverage is not EEA 39 but EU member state (different from CLC and HRL). Secondly, the grid based approach comes along with limitations in data accuracy. LUCAS data are crucial for the interpretation and reliability of CLC data, but as stand alone data they do not reach the quality as the CLC and HRL data.

Domestic level

Statistical information

Official statistics comprise a series of indicators and topics that are of high relevance for the land take topic. The following three data foci are of particular interest (for a synthetic overview see the conclusion chapter):

- **Agricultural statistics** are of very good quality. They provide fine scale data details of agricultural use and coverage, and many data are harmonised. However, they are limited to only one sector and the relevant territories. The loss of agricultural land can be quantified, but land use dynamics or land take beyond the agricultural sector is beyond the scope.
- **Building statistics:** All countries provide data on building statistics, e.g. number of building permits, number of new houses. However, the indicator definitions are not harmonised and the spatial scales do not correspond. Eurostat only provides data on the national level (NUTS 0).
- **Land use/cover monitoring approaches** are in place in all parts of the Alpine area. Some of them provide very exact information on the land use dynamics, including land take. However, they are not harmonised. The next section illustrates this in more detail with regard to visual approaches. The EU context was introduced earlier.

Regional monitoring systems

On the domestic level, a series of innovative and helpful monitoring systems are in place. As mentioned before, they are often based on CLC data and complemented with further information. Some of them have very broad focus (ALKIS in Germany), other concentrate on land use (Tiris in Tyrol/AT) and the most specialised tool for land take might be the Italian tool, explicitly monitoring land consumption. They have all their strengths and are certainly helpful for domestic purposes, including the delivery of important information for regional and local planning procedures. Nevertheless, they share an important limitation, namely the focus on a given territory that does not allow covering neighbouring areas. Fig. 6 illustrates this for the case of the Austrian-Italian border at the Brenner pass. As a result, domestic monitoring systems provide interesting background information for planners 'on the other' side, but they do not provide cross-border or transnational information.

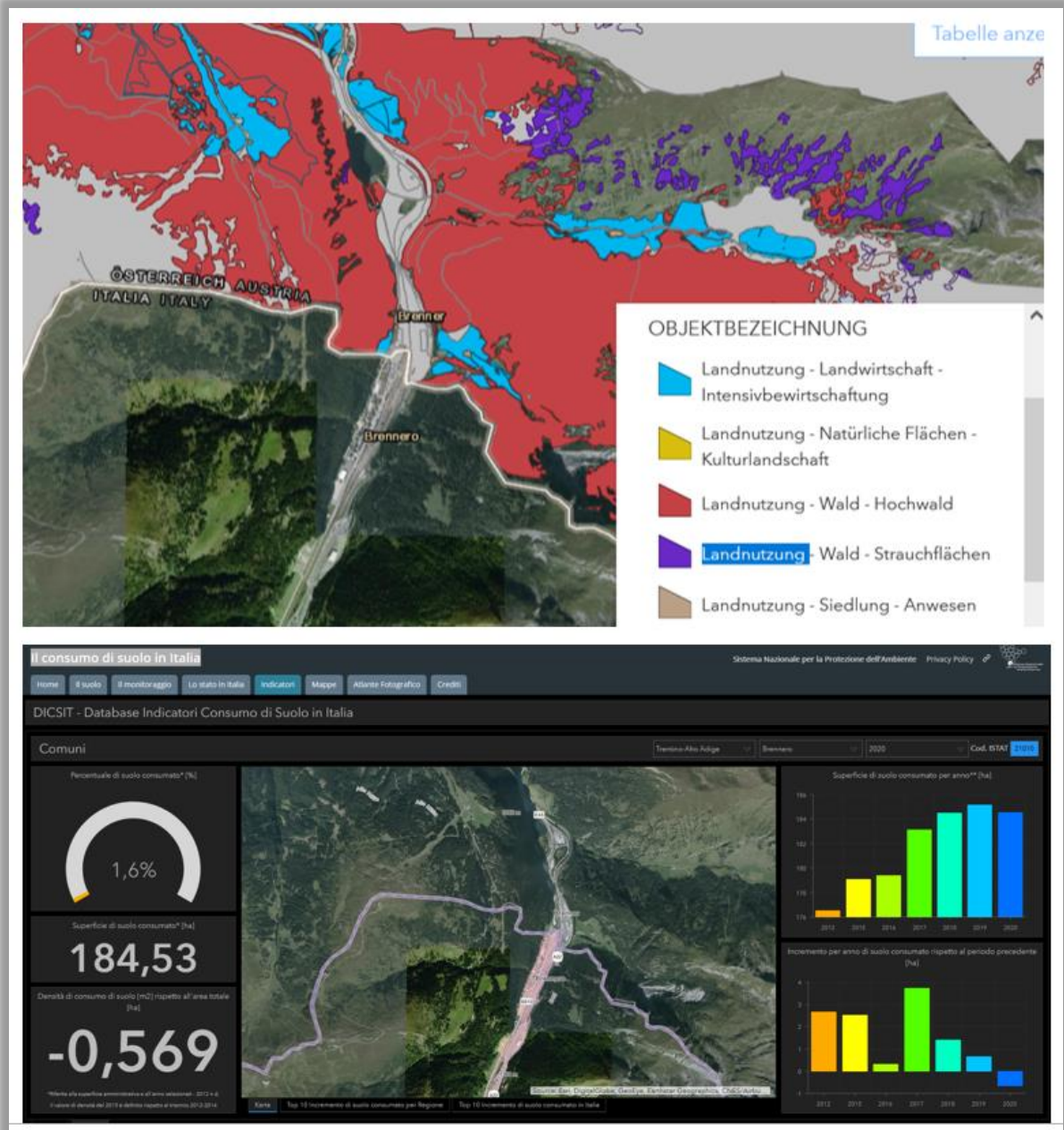


Fig. 6 Screenshots of two domestic monitoring systems, both for the Brenner pass at the Austrian-Italian border. Top: Tiris Tyol (source: <https://data-tiris.opendata.arcgis.com/datasets/72b154f150904d9482df893161222403/explore?location=47.008426%2C11.490991%2C13.38&style=OBJEKTBEZEICHNUNG>). Bottom: Italian Database on Soil Consumption (source: https://webgis.arpa.piemonte.it/secure_apps/consumo_suolo_agportal/?entry=4)

4. Conclusion

Fig. 7 provides a synthetic overview of this paper. The green background colour shows those parts where a fine scale and harmonised data availability is given in principle, even if other shortcomings have to be considered.

	AT	CH	DE	FR	IT	LI	MC	SI	EU
COPERNICUS (CLC/CLC+, HRL, BioPhysPar)	++ Fully harmonized, time series often possible ++ HRL for imperviousness and natural elements -- no information on land use -- land cover information for settlements only for large cities (Urban Atlas)								
LUCAS		(Areal- statistik, etc.)	++ good categorization, time series -- CH not included, grid based aprouch			(Areal- statistik, etc.)			
Agriculture statistics	++ Good data quality -- too selective thematic focus								
Building statistics	-- Problems of harmonization / availibilty								[NUTS0]
Land use/ cover monitoring	Lisa	Areal- statistik	Alkis	Portail de l'artificia- lisation des sol	Arpa	Areal- statistik	...	CLC data for area statistics	[CLC, HRL, Lucas]

Fig. 7 Land take knowledge on domestic level (own illustration)

For the time being, we can conclude that there is no tool in place that would provide a comprehensive monitoring basis with regard to land take. This is true for Alpine spatial development in general and in particular for cross-border spatial planning:

- The domestic monitoring approaches that are in place are certainly helpful, but they are limited to institutional borders and perimeters.
- European statistics are available on spatial scales that do not provide meaningful insights for spatial planning in concrete terms.
- On the European level, the regular CLC data are of limited use. The data accuracy and fine scale availability does not provide much insight for spatial planning use (Sleszynski et al. 2020: 1).
- The Copernicus HRL data are the most promising data basis. Even if the data treatment is rather demanding at the moment and time series are hardly available, the information on physical soil sealing is rich. However, socio-economic information like land use information is not available in this data set.

The topic is developing rapidly in these years and there is reason for optimism:

- The HRL data will allow longer time series and more change indicators in the future. Moreover, the data handling might become easier.

- The EU ambitions for systematic harmonization and adaptability of data are ongoing. The INSPIRE directive and the EAGLE concept are two important arguments in this context.
- The future CLC+ database will provide a bundle of data which are EAGLE harmonized and available as geometric vector reference layers and also 10 m spatial resolution raster products. The data availability as vector data and the high resolution of raster data will noticeably improve the future data situation.

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ANNEX

Important links:

European level:

- LUCAS – Land use and land cover survey: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=LUCAS -
Land use and land cover survey#The LUCAS survey](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=LUCAS_-_Land_use_and_land_cover_survey#The_LUCAS_survey)
- Copernicus – Europe's eyes on earth: <https://www.copernicus.eu/en>
- Copernicus Land monitoring service: <https://land.copernicus.eu/>
- Copernicus – CORINE Land Cover: <https://land.copernicus.eu/pan-european/corine-land-cover>
- Copernicus – CLC+: <https://land.copernicus.eu/pan-european/clc-plus>
- Copernicus – High Resolution Layers (HRL): <https://land.copernicus.eu/pan-european/high-resolution-layers>
- Copernicus – Biophysical parameters: <https://land.copernicus.eu/pan-european/biophysical-parameters>
- Copernicus – Urban Atlas: <https://land.copernicus.eu/local/urban-atlas>
- EAGLE Concept: <https://land.copernicus.eu/eagle/content-documentation-of-the-eagle-concept/manual/introduction-to-the-eagle-concept/referencemanual-all-pages>

Domestic level:

- LISA (AT): <https://www.landinformationssystem.at/#/lisa/overview>
- Arealstatistik (CH): <https://www.bfs.admin.ch/bfs/de/home/statistiken/raum-umwelt/erhebungen/area.html>
- Arealstatistik (LI): <https://www.llv.li/files/abi/pdf-llv-abi-arealstatistik-resultate.pdf>
- Arpa piemonte (IT): <https://webgis.arpa.piemonte.it/geoportale/>
- Tiris (AT - Tyrol): <https://www.tirol.gv.at/statistik-budget/tiris/>
- Portail de l'artificialisation des sols (FR): <https://artificialisation.developpement-durable.gouv.fr/>

Land take in the Alpine region: the data perspective

Summary

Tobias Chilla & Markus Lambracht, Friedrich-Alexander-Universität Erlangen-Nürnberg

Background

As part of its 2021-2022 Mandate, the Spatial Planning and Sustainable Development Working Group of the Alpine Convention contributed to the “Implementation Pathway Spatial Planning 1 IP_S3: Defining Alpine wide guidelines for minimised land-take and sealing” of the Alpine Climate Target System. Step 1 “Define land-take/sealing and the need to stop both” involved an overview of the data situation regarding land take in the Alpine region.

The variety of concepts and associated terminology have resulted in a complex situation that might be difficult to understand for those not familiar with the topic. In addition, the data situation and data availability can be characterised as diverse and non-harmonised on the transnational scale. The paper provides an overview of theoretical concepts, an explanation of data origins but also a comparison of the data situation at different levels and in different national contexts.

Results

The results show clear differences between the various concepts of ‘land take’. In order to structure the topic, it is helpful to differentiate between the quantitative and the qualitative perspective. With regard to data collection, two survey methods are employed: Remote sensing (in some cases closely connected to *In situ* investigation) and secondary statistical information. The main difference between these two approaches is their location on the territorial level. While remote sensing data covers large spatial perimeters in a harmonized

manner, it is mostly of limited resolution. In contrast, statistical information are often limited to national contexts and borders due to survey methods and data availability.

The paper provides an overview of the currently available survey methods and data providers on European level and so for the Alpine region as well. More concrete, it reflects on CORINE Land Cover (CLC/CLC+), Copernicus High Resolution Layer (HRL) and the Land Use and Coverage Area frame Survey (LUCAS). On the domestic level, there are several national statistical information (e.g. agricultural statistics, building statistics or land use/cover monitoring approaches) and regional monitoring systems (e.g. ALKIS in Germany, Tiris in Tyrol/Austria).

Data variety of available data is large, and the collection methods and national adaptations in the field of land use monitoring are diverse. The major problem remains the availability of harmonised data.

Conclusion

The topic of land take and land use is currently high on the agenda in many political and scientific contexts. This leads to vital dynamics in the field of data resolution (e.g. CLC+ database, HRL database), data harmonization (e.g. INSPIRE directive, EAGLE concept) and *dynamic* data (e.g. comparable time series), which is more meaningful than *status-quo* data. Thus, for the time being, there is no tool available, which could provide a comprehensive monitoring basis in terms of land take on the pan-Alpine, fine-scale level.

Soil functions and spatial planning in the Alps

Munich, 29-30 March 2022

Workshop documentation



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**Spatial Planning and Sustainable Development and
Soil Protection Working Groups of the Alpine Convention**

Mandate 2020-2022



ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

IMPRINT

This documentation summarises the results of a workshop organised jointly by the Spatial Planning and Sustainable Development Working Group of the Alpine Convention chaired by Germany and the Soil Protection Working Group of the Alpine Convention chaired by Austria. The workshop took place at the Catholic Academy in Munich on 29-23 March 2022. It was also organised as a contribution to the Climate Action Plan 2.0 of the Alpine Convention.

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Christian Steiner (*Amt der Niederösterreichischen Landesregierung* – Office of the Federal Government of Lower Austria)

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Permanent Secretariat of the Alpine Convention: Secretary General Alenka Smerkolj, Živa Novljan, Vera Bornemann, Laura Wittkopp, Federica Fasano

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Federal Ministry
for Housing, Urban Development
and Building



Federal Ministry
Republic of Austria
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1. Welcome notes

Dr. Daniel Meltzian and Christian Steiner welcomed the participants on behalf of the organising German Federal Ministry for Housing, Urban Development and Building, the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, the Federal Government of Lower Austria, and the Alpine Convention Working Groups Soil on Protection as well as Spatial Planning and Sustainable Development. Dr. Daniel Meltzian referred to the long-term objectives of net-zero land take in all Alpine countries and the currently high and diverse demands for land use. The role of spatial planning is to consolidate the spatial interests and mitigate conflicts. To discern and protect the functional most valuable soils in this process, tools and instruments are needed.



Dr. Daniel Meltzian (German Federal Ministry for Housing, Urban Development and Building)



Christian Steiner (Office of the Federal Government of Lower Austria)

Christian Steiner provided an overview over the mandate of the Soil Protection Working Group and presented the following key messages from the perspective of the Working Group: A legal framework creates a binding basis but does not guarantee the implementation of soil protection. For that, all relevant actors need to be involved to fulfil the obligations. Active networks are important for dissemination, joint action and cross-border exchange. Transnational exchange and national implementation examples are reciprocally important. Awareness raising and concrete local action are indispensable.



Alenka Smerkolj (Secretary General of the Alpine Convention)



Dr. Gerd von Laffert (Bavarian Ministry for Economic Affairs, Regional Development and Energy)

Secretary General Alenka Smerkolj stressed the importance of exchange and networking between the interrelated topics of soil protection and spatial planning and thanks the organizing Working Groups for their initiative to establish cross-sectoral and international cooperation and

collaboration. Climate change adaptation and mitigation, food production, biodiversity and quality of life heavily depend on a strong connection between spatial planning and soil protection. The workshop is one of many steps towards the implementation of the Alpine Climate Targets set for 2050. For future generations, we need to step up our efforts to save land and to ensure that high-quality soils are safeguarded. Looking for common ground and solutions to combat land take is crucial for sustainable life in the Alps.

Dr. Gerd von Laffert welcomed participants on behalf of the Bavarian Ministry for Economic Affairs, Regional Development and Energy. He drew attention to the manifold drivers of land take, including short-term policy effects. The objective of net zero land take requires a dramatic reductions and efficiency increases in land use.

2. Keynote Rethinking Land in the Anthropocene (Prof. Dr. Karen Pittel)

Prof. Dr. Karen Pittel provided an overview of the German Advisory Council on Global Change (WBGU) Flagship Report “Rethinking Land in the Anthropocene: from Separation to Integration” (see Annex 1). Humankind has fundamentally transformed the terrestrial biosphere. Growing global demand for land and terrestrial ecosystem services is increasingly resulting in the destruction of natural life-support systems. Overuse and competition are exerting ever-bigger pressures on terrestrial ecosystems, with the result that around a quarter of the global ice-free land surface is affected by human-caused degradation.



Prof. Dr. Karen Pittel (ifo Institute – Leibniz Institute for Economic Research at the University of Munich)

Climate protection, food security and biodiversity conservation pose diverse demands on land. They are already in competition with each other. Further land degradation will have a negative impact on all three aspects in the short and long term. The WBGU calls this the 'trilemma of land use': at first glance, it appears that each of these challenges can only be met at the expense of the other two. Finding solutions here will be decisive for sustainable land stewardship.

The Flagship Report argues for a changing perspective on land use – from separation to integration of uses. Land needs to be recognised as a global commons: The focus should be on halting the destruction of terrestrial ecosystems and on investing massively in their conservation and restoration. An integrated form of land stewardship that combines the

multiple goals and, where possible, realizes them all on the identical area can help overcome competition.

Of the five multiple-benefit strategies for sustainable land stewardship, Prof. Pittel focussed on two approaches: restoring terrestrial ecosystems and promoting diversity-based agriculture. The first encompasses the restoration of biodiverse and site-appropriate forests, wetlands and grasslands, while simultaneously removing CO₂ from the atmosphere as an additional benefit. The latter foresees a phasing-out of industrial farming methods by carrying out a comprehensive ecological transformation.

3. Keynote Youth Perspective on soil protection (Tassilo Lex)

Tassilo Lex (Youth Parliament to the Alpine Convention (2018-2021)) stressed that the topic of soil protection is not new. Nonetheless, open spaces continue to be transformed to settlement and traffic areas. Spatial planning plays a key role to address massive land consumption and soil sealing.



Tassilo Lex (Youth Parliament to the Alpine Convention)

The example of Tyrol illustrates the urgency of the issue, with only 5% of the total land area of 12% suitable for permanent settlement being left for agricultural use and further expansion of building areas. At the current pace, the Inn valley is expected to be built up entirely by 2050. Apart from the well-known negative effects of excessive land consumption and soil sealing such as flooding, loss of soil fertility, loss and fragmentation of habitats, loss of carbon storage capacities, the recent developments have illustrated our dependency on other countries in regard to food reliance and growing pressure on agricultural land globally.

Tassilo Lex pointed out the discrepancy between land-saving targets and missing action which will be at the expense of future generations. The system that drives land take remains in place, with a tax system that creates incentives for land take and spatial planning regulations being weakened. Besides strict legal guidelines, he called for a broad decision-making process encompassing expertise and real citizen participation and thinking beyond local boundaries and municipal interests. If given the chance, the young generation will get involved in such processes.

4. Land saving targets and present land take in the Alps (Florian Lintzmeyer, Prof. Dr. Tobias Chilla)

Florian Lintzmeyer gave an overview of land-saving targets in the Alps at national level and for selected Alpine regions/provinces (see Annex 2). In the past, land-saving targets were often missed due to insufficient policy frameworks, implementation instruments and their non-binding character. Consequently, the current mid-term (2030) and long-term (2050) land-saving targets remain a challenge and require substantial efforts at every spatial level.

Prof. Dr. Chilla drew attention to the specificities the Alpine territory poses for the issue of land take. The limited area suitable for settlement confines settlement and infrastructural development predominantly to valley floors and other mostly plain areas. On the other hand, Alpine towns are important as service providers for their catchment areas, which results in certain infrastructural needs. The situation is a particular challenge as most parts of the Alpine settlement system undergo demographic growth.

5. Implementations to combine qualitative and quantitative soil protection in Tyrol, Austria (Dr. Thomas Peham)

Before introducing the audience to soil function assessment in Austria, Dr. Thomas Peham gave a brief overview of different soil functions (see Annex 3). Soil function assessments are taken into consideration in various planning procedures. He stressed that while being a helpful tool for considering the value of soil in planning processes, soil function assessments by themselves are not sufficient to reduce land take.



Dr. Thomas Peham (Office of the Federal Government of Tyrol) discussing soil samples with participants

6. Good implementation practices

Soil protection in Tyrol, Austria (Christian Drechsler)

Christian Drechsler introduced the planning instrument of agricultural provision areas as an approach to determine spaces on which land use changes are not possible based on objective criteria (see Annex 4). Based on a mandate of the Tyrolean Parliament and the Provincial Government in 2015, these agricultural provision areas have been assessed and mapped for Tyrol according to a consistent methodology that takes location parameters (soil value, slope gradient, minimum extent), existing zoning and protected areas into account. After seven years of implementation, a positive resume can be drawn regarding the effectiveness of the instrument for soil protection and spatial planning on a function-oriented level.



Christian Drechsler (Office of the Federal Government of Tyrol)

Protection of agricultural areas in Slovenia (Jernej Červek)

Jernej Červek outlined the instrument of strategic areas for agriculture and food production in Slovenia (see Annex 5). Protection of agricultural land through spatial planning takes place in the form of a categorization of land according to its strategic importance for agriculture and food production. In coordination between spatial planning authorities and local communities, permanently protected agricultural land as well as subsequent agricultural land are being determined in the procedure of drafting municipal spatial planning documents, ensuring that they cannot undergo land-use changes for a 10-year period. Additional measures in regard to the protection and cultivation of agricultural land include mitigation measures, compensation payments, pre-emption rights and cultivation obligations.



Jernej Červek (Slovenian Ministry of Environment and Spatial Planning)

7. Parallel workshops

Regulatory framework: Which options do we have?

Moderator: Arthur Schindelegger

Background

The Net zero land take target 2050 is set in most Alpine Countries, but implementation into the national/regional regulatory framework differs. Looking at the approaching milestone of 2030, the group discussed the role and deficits of the regulatory framework in regard to meeting the targets and initiating or continuing reduction pathways for 2030 and beyond. The guiding questions were:

- What are your experiences – is the regulatory framework in your country/region sufficient to reach the target?
- Which regulations are successful in your country/region?
- Which regulations would you need?
- What is missing in the regulatory framework? What would be helpful? (e.g. land budgets, growth boundaries, tradeable land use certificates, fiscal instrument such as taxes on unused building plots)
- How can we prevent or mitigate potential negative side-effects of stricter land use policies?



Discussion

- Lack of national planning competences to implement national land take targets (AT)
- At national level, focus on quantitative only, not qualitative soil protection as well (AT)
- Instrument “Agricultural Priority Areas” (Tyrol):
 - Good experience with the regulatory approach: transparent deduction, common methodology

- Category of “Green Zones” – with its qualitative landscape focus – proved to be more controversial and subjective than protecting land for agricultural use
- Bavarian Land Saving Initiative as a bracket for regulatory steps such as the introduction of the 5 ha by 2030 benchmark in the Bavarian Spatial Planning Act and the Ministerial instruction on the methodology of needs assessments
- Municipalities are the decision-makers – they need to be addressed:
 - Assessment necessary what information on soil functions actually arrives and is understood at the local level
 - Soil awareness is lacking, very few municipalities are actively engaged (e.g. Bavarian pilot project “Urban fringe assessment soil / Pilotprojekt "Stadttrandbewertung Boden")
 - Six soil functions are too complex for decision-makers to take into consideration
→ information needs to be aggregated
- Challenge for communication and monitoring: Land take is comparably easy to measure, qualitative soil protection not
- Scope of instruments:
 - A combination of various types of instruments is necessary, informal instruments alone are not sufficient to reach targets:
 - Regulations (Bavarian Alpenplan was named as a good practice)
 - Financial incentives (fiscal, funding)
 - Informal instruments, including interdisciplinary aspects (e.g. building culture)
 - Public sector has to be a forerunner (role model)
 - Loopholes in regulatory instruments need to be closed (example Environmental Impact Assessment/Strategic Environmental Assessment → municipalities often manage to avoid obligations to address soil issues)
- Regulatory tools often at hand, but not properly implemented (example: land use plans should be based on evidence (needs assessment, quantitative and qualitative soil protection), but are often insufficiently balanced in reality)

The role of municipalities and regions: Which implementation options exist?

Moderator: Prof. Dr. Tobias Chilla

The municipal and regional level is key to implementing land saving targets, but at the same time, these territories rely economic prospering and demographic attractiveness. Municipalities are in the ambivalent situation to compete for inhabitants and businesses and at the same time contribute to the reduction of land take. The guiding questions were:

- Thinking about success stories: What approaches proved to be effective to limit land take?
 - Regulations and zoning at municipal and regional level
 - Participation and involvement of local population
 - Town planning and technical expertise (architecture, village planning)
- Net zero land take – what would it mean for municipalities/regions?

- How could a circular use of urbanised land be implemented at the regional or local level?
- Is regional coordination essential? In what respect?



Discussion

- Collection of good examples. Each participant contributed one or two examples for measures to limit land take from different planning levels and sectors
- The measures were clustered into four different categories:
 - Technical approaches (e.g. vertical use of land, densification, monitoring approaches)
 - Legislative implementation (e.g. legally binding targets, shift of competences)
 - Financial measures (e.g. financial support, management of real estate)
 - Participatory or soft measures (e.g. awareness rising, model projects)
- Importance to focus on functional areas when it comes to define entities for planning approaches or measures
- Benefits of joint planning approaches on a regional scale or cross-border cooperation
- Challenge and benefits of taking away competences from municipalities

Who benefits from land saving: potential stakeholder alliances?

Moderator: Maria Schachinger

Background

In order to create more momentum for land saving and soil protection, new alliances are necessary that help to create political pressure and support implementation activities at various levels. The guiding questions within this session were:

- Who has an interest in intact soils and non-urbanised land? Who will profit directly or indirectly from Net zero land take? Who are our potential partners?
- Existing stakeholder alliances? What benefits do they have and which obstacles are they facing?
- Can new alliances be forged among traditionally “unfamiliar partners”? How can stakeholder groups be involved and alliances be facilitated?



Discussion

The discussion focused mainly on the question: “Who has an interest in intact soils?”. The following stakeholder groups were identified:

- (most) farmers, seed donors (7 notes)
- Green economy players
- Tourism sector and tourists
- Plants and animals
- NGOs – Nature advocacy (4 notes)
- Future generations
- (Local) communities
- Broad public
- Citizen and society in general
- Municipalities
- Regional media should be interested in the issue – but are not yet interested

The following success factors were identified:

- Knowledge about soils and their role, this could be provided by expert organisations
- Budget
- Speaking with one voice
- Social consulting → sociologic process

Day 2: The role of soil functions in spatial planning

8. Introduction: Soil functions deserve more attention—the case of incorporating soil functions in spatial planning (Christian Steiner)

In his input, Christian Steiner outlined the threats that soils are facing in the EU and the specific role of invertebrates, fungi and mycorrhiza for soil fertility as well as the ecosystem services soils provide (see Annex 6).

Soil as an environmental medium is often undervalued, partly due to the fact that it is generally invisible and only perceived indirectly. The current droughts in Central Europe have brought to attention that desertification processes are not limited to the global south but can affect also Central Europe now and increasingly in the future.

Soil fertility constitutes a particularly important soil function, which heavily depends on an active diverse soil life in the form of e.g. earthworms, fungi and mycorrhiza. Soil-related ecosystem services can be differentiated into natural soil functions, utilisation, productivity or carrier functions and archive functions.

Christian Steiner underlined the importance of a legal basis for soil assessments, including the Soil Conservation Protocol of the Alpine Convention, the SEA Directive and the EIA Act. Still, soil is often dealt with in general declarations, but not in concrete detail in individual planning procedures. Therefore, a common technical level between of soil protection and spatial planning is necessary. Soil aspects should be more concretely integrated in planning processes.

9. Soil protection in local land use planning (Gertraud Sutor)

Gertraud Sutor presented results from the project “Implementing the Soil Conservation Protocol of the Alpine Convention in municipalities” (Bodenschutz in der örtlichen Raumplanung im Alpenraum, UBA Texte 220/2020) (see Annex 7). The project addressed soil function evaluation, communication measures as well as measures to incorporate soil protection in land-use planning in Bavarian and Austrian municipalities. Workshops in these municipalities provided valuable experiences how to communicate soil protection at the municipal level. The challenge remains to customize information and build capacities and decision-making levels to put soil function evaluations into practice.

10. Parallel workshops

Data for planning: What soil data do spatial planners need at which spatial level?

Moderator: Gertraud Sutor

Background

Practical soil science has developed considerably in recent years, but the general public still has little knowledge of soil and soil functions. Comprehensive statements on soil functions are indispensable so that soil as a protected resource can be taken into account appropriately in planning and environmental assessments. Following the example of individual Austrian

provinces (Upper Austria, Salzburg), a uniform approach could be envisaged in all countries of the Alpine region. The guiding questions were:

- What data are available for the assessment of soil functions in the countries of the Alpine region?
- Which are the good practice examples for the integration of soil functions in the balancing processes for spatial planning decision making?
- Which support and practical and technical aids are useful to have in daily work routine?
- Ideas on how soil functions could be implemented and integrated in the respective planning processes in the best possible way?



Discussion

- Data needed – there is no common database about soils in the Alps → what is the smallest common ground of available data? At which timescale may common data be available?
- In Bavaria soil estimation data (ongoing since the 1930s) for agricultural land, two types of data:
 - From laboratories
 - Classified data
- In Bavaria soil maps (1:25,000) are available (soil forms), from this information soil functions, and soil function maps are derived; not all functions, but five
- In Italy there is a lot of scientific soil data from universities and research, but they are patchy and not in adequately usable form → a unified way to get usable data (for spatial planners) is needed
- In Italy no data about soil functions are available
- Spatial planners need directly applicable data as base for decisions
- In Bavaria check lists for planners exist, but they are too complicated for non-experts → therefore best practice examples are needed
- “Translation” is needed from soil data to usable data for the planning process → Translation from soil expert to planners and municipalities → Soil function maps are such translations
- Key for implementation are qualified experts and budget
- In Bavaria soil maps as a good basis exist, but soil experts are lacking
- A task for the Alpine Convention could be to map Alpine-specific soils and to safeguard soils
- Alpine-specific system of soil classification needed
- It might be a question of valorising ecosystem services

Communication: How do we sensitize local and regional decision makers for the value of soil functions?

Moderator: Michael Roth

Background

The goal of economical and sustainable use of soils must be implemented especially at the local and regional level. The decision-makers responsible for this should be sensitized through suitable communication methods. The guiding questions in this session were:

- Thinking about success stories: Which methods are suitable for informing and convincing decision-makers, e.g.
 - Dissemination of good practice examples
 - Excursions with decision makers
- Application of soil function maps – what would it mean for the communication of the municipalities/regions with their residents and with population in general?
 - Would this change the perspective on which areas could be built on in the future and which could not?
- How could the use of soil function maps be communicated on the regional or local level?
 - Is regional coordination essential? In what respect?



Discussion

- Data:
 - Data need to be relatable and easily comprehensible
 - Complexity needs to be reduced (Mayors: "We need one map")
- Stakeholders to be involved
 - Local media are key, but rarely address soil function issues so far
 - CEOs, e.g. of supermarket chains etc.
- Obstacles:

- Municipalities face conflicts of interest: housing, commercial and business development, soil protection etc.
- Information events have their limits:
 - Online events reach a broad audience and require fewer staff resources, but effectiveness and impact are hard to assess
 - Smaller and personal formats produce better outcomes, but are more staff and budget intensive and cannot be significantly scaled up
- Promising approaches/good practices:
 - Use thematic trends to attach soil topic to issues with a political momentum (current example: wetland protection and its contribution to carbon sequestration is currently high on the political agenda)
 - Local cycles: Financial incentives for households to collect organic waste → locally transform organic waste to compost → redistribute it to farmers for melioration
 - Declaration “Protected green areas” (Deklaration Geschütztes Grünland¹) by the City of Salzburg: Designation of green zones → modifications of these zones require a 75% approval by the city council as well as a positive vote in a public referendum
 - Mobile architectural boards

Planning processes: How do we strengthen soil functions in the weighing of interest?

Moderator: Maria Legner

Background

Despite the importance of soils and their different functions, the aspect of soil protection is often not adequately represented in planning processes and the weighing of interests. Looking ahead the challenge remains how to strengthen soil function aspects in future planning processes. As guiding questions constituted:

- Different approaches for soils with high functionalities (worthy of protection) and compromised soils (in need of protection)
- Are planning authorities in the position to assess soil functions and weigh them against other interests on a case-basis and in the regional context?
- Can soil functions and the implications of land use changes be assessed to an extent that allows their adequate consideration in the weighing of interests?
- Can you name planning decisions that have been influenced by soil protection issues/soil qualities?
- Part of the weighing of interest are compensations (avoid – mitigate – compensate). Could stricter compensation schemes lead to a more economical use of soils?

¹ <https://www.stadt-salzburg.at/index.php?id=58294>



Discussion

- Qualitative and quantitative soil protection is needed
- Different efforts to improve soil protection
- Political dimensions of spatial planning
 - Pressure to serve different needs, some factors are prioritized such as housing or economy
 - Soil functions are often not considered at all or have no priority during planning processes
- In practice there is an implementation gap (AT, DE, IT, SI)
- Often discrepancy between different planning levels: on a national or regional level, the protection of soil is part of strategies and planning processes, however it is rarely implemented at the local level.
 - Quantitative aspects are best to be addressed on a regional scale, municipalities need defined targets for land consumption
- The legislation is often considered too weak for the protection of soil. There is the need to change legislation in a way that protecting soil is the standard and greenfield development an exception.
 - E.g. by German law you should use land and soil sparingly, however this is not the reality. You could change the law to the perspective that greenfield development is only permissible if brownfield development is not possible. (DE)
 - E.g. the federal forestry law, where forest is strongly protected in general. There is no comparable principle for open space. (AT)
 - The first step should be to protect open space by strong restrictions. When it comes to planning on open land, important soil functions must be considered in the decision-making process.
- Need for measurable targets: How to define the appropriate demand for land use?
- How can we make brownfield development easier and more attractive?

- Depending on the country, the information about soil functions is not adequate to be easily integrated into a planning process:
 - Good Practice example Tyrol/TIRIS (AT)
 - Good data is the foundation of protecting soil functions
 - Fear of the spatial planning discipline to provide information on soil, due to pressure and difficulties to fulfil all needs
- The true costs of greenfield development compared to brownfield development are often not transparent and not considered in the process of decision making, in particular the external costs of the loss of soil functions
- Measures to improve the integration of soil functions into the planning process
 - Procedural measures, e.g.
 - Capacity building
 - Workshops for communities
 - Provide easily accessible information on soil functions
 - Enhance visibility of soil functions
 - Soil functions as part of the requirements e.g. for public development projects or architectural competitions
 - Regulative instruments, e.g.
 - Changes in legislation
 - Measurable targets
 - Financial support
 - Communication measures, e.g.
 - demonstrate the real costs of greenfield development
 - demonstrate benefits for the planning when integrating soil functions
 - enhance communication between disciplines
 - bring together stakeholders
 - awareness raising for the effects of soil destruction

11. Panel discussion: What can be an ambitious target for “soil-sensitive” spatial planning at the Alpine Convention level? How can the Alpine Convention promote it?



Panellists (clockwise): Alenka Smerkolj (Secretary General of the Alpine Convention), Stefan Marzelli (moderator), Thomas Wimmer (EUSALP Youth Council, Youth Parliament to the Alpine Convention (2017-2018)), Maria Legner (Alpine Soil Partnership, Climate Alliance Austria), Michael Roth (Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology)

Moderated by Stefan Marzelli (ifuplan), a panel discussion put the discussions of the workshop in the context of activities at the Alpine-wide level:

Question 1: The need to limit the conversion of land and the loss of soils is obvious and has also arrived in terms of the net-zero goal at the political level. What would be a concrete vision to facilitate this paradigmatic shift at an Alpine level, in line with the Alpine Convention and its ambition and having your specific context in mind?

Alenka Smerkolj: Action is needed to protect soils. Spatial planning is an important tool to achieve that objective. This year marks the 20th anniversary of the Alpine Convention Protocols Soil Conservation and Spatial Planning and Sustainable Development. The topic of this workshop has been addressed by the Alpine Convention Compliance Committee in-depth review on Economical Use of Soil. I welcome building upon these existing documents.

Political targets and frameworks such as the SDGs (Agenda 2030) target on land degradation neutrality are important. It is on us to implement them.

Maria Legner: The necessary societal transformation process in regard to the 2050 targets is very slow. Currently, we may have reached the phase of “early adopters”. Still, it is important to have potential solutions readily available.

A different approach to governance and transformation as well as different solutions might be necessary in the future. The discussion about instruments might not be sufficient, a broader perspective is necessary.

Thomas Wimmer: Not enough is being done at the moment. It is interesting to see that there is no unified data base. This seems to be important for evidence-based decisions.

Michael Roth: Harmonisation of data and tools remains one of the biggest challenges. While the EU has no competence in the field of spatial planning, it can still exert influence, e.g. by tying EU funds to the formulation of soil protection strategies at national state level. Approaching an Alpine Spatial Planning Concept would be a very beneficial exercise.

The challenge for the Alpine Convention is that it has no regulatory competence for its perimeter. The implementation of the Alpine policies depends on bilateral agreements, which also makes exchanges between the Alpine Convention working groups so important. The municipal level remains very powerful.

I suggest to not only focus on open spaces, but also on settlement areas and the need to reduce land take. Construction of new buildings has a twofold negative effect: First on site through land take and soil sealing, the other through excavation at the origin of building materials and energy sources (grey energy). Architectural qualities (Baukultur) have a very important role to play, as well as the public sector as the biggest owner of land and consequently important role model.

Alenka Smerkolj: The fact that soil is an underestimated resource makes a collaborative approach to the weighing of functions even more important.

Thomas Wimmer: The most crucial soil functions in the Alps seem to be risk management, natural hazard prevention and water retention.

Maria Legner: We have to underline that soil protection is at the same time climate protection. The integrated landscape development concept presented by Prof. Pittel is fascinating. Soils can also be regenerated/improved. These improvement measures are usually also multiple-benefit strategies in the sense of the WBGU Flagship Report.

Adaptation processes require additional efforts and innovative governance approaches. Mobile land forums could be a promising governance structure.

Michael Roth: Multiple-benefit approaches would be very much in line with the objectives of the Alpine Space Programme and EUSALP action groups. In general, the “doors are open” at these institutions for respective project proposals. It is crucial to establish interfaces between thematic “silos” and the Alpine Space would be the perfect model case for that.

Comment Verena Ringler (Agora Green Deal): Given the urgency, time is running out. We are very late in addressing the issue of soil protection and therefore need to jump-start innovation and funding. We need to reframe soil as a public good and overcome the polarised idea of land ownership.

The topic is not present in regional broadcasting in the Alps, which is a relevant source for creating local awareness. How can the Alpine Convention help to improve media coverage?

Alenka Smerkolj: The Alpine Convention is not a decision-making body; it is a platform for discussion. It can use this platform also for educational purposes.

Question 2: If you could wish for something in the context of our workshop, what would it be?

Thomas Wimmer: I would opt for stricter regulation with more binding character. Additionally, I would transfer decision-making competences from the municipal to the regional planning level.

Maria Legner: My wish would be better implemented democratic decision-making processes, a culture of communication and decision-making. Additionally, I would wish for a better use of networks and resources at the Alpine Convention level.

Michael Roth: I would wish for better supporting municipalities in self-action, also through support by other levels, and capacity building for decision-makers and administrations. A big wish would be a positive narrative for protecting soils.

Alenka Smerkolj: I would wish for an increased awareness and life-long learning by all relevant stakeholders. The fact that two working groups meet to develop answers how to solve interdisciplinary problems is a good example for building necessary alliances.

12. Wrap-up: What does the soil sector expect from spatial planning? What are the needs of the planning sector to adequately consider soil functions? Outlook

Dr. Daniel Meltzian stressed the importance of reciprocal awareness between the soil and the spatial planning sphere and an increased consideration of soil protection in spatial planning. The challenge for spatial planning lies in the need to tackle and weigh a multitude of different aspects against each other. In this respect, not all tasks should be assigned to the municipal level – particularly when considering the difficulties of weighing abstract, supra-local interests and policy objectives with local interests.

According to Christian Steiner, multidimensional approaches are needed. The spatial planning sector needs to more intensively consider soil as a valuable resource in all spatially relevant planning processes. Soil protection must not remain at the level of a general and generic declaration of intent. Despite differing data bases across the Alps, a uniform output and resolution level for soil function maps would be desirable. The responsibilities will remain at the national level, but there is need to arrive at a common understanding of the importance of soil as a resource, its limitations and the numerous ecosystem services it provides.

A more uniform approach would strengthen this common understanding among different stakeholders as well as make data and information more usable across regional and national borders. The public sector has a particularly important function as role model.

Voluntary approaches are important, but for scaling-up, legal obligations and a legal anchoring is seen as indispensable by Mr. Steiner.

Both WG Chairs pledged that the cooperation between the Working Groups will continue. The results of the workshop will feed into the drafting of the new 2023/2024 mandate proposals of the Working Groups. After laying the groundwork in its current first mandate, the Spatial Planning and Sustainable Development Working Group will focus on concrete implementation activities in the future. In general, topic-specific cooperation between the two working groups has a great added value and should be continued in the future.

13. Further reading

Geitner, Clemens / Tusch, Markus / Dittfurth, Jörn (2018): Bodeninformation als Grundlage des Bodenschutzes am Beispiel des Fachplans Boden der Landeshauptstadt München. Schriftenreihe des Kompetenznetzwerkes Stadtökologie, CONTUREC 3 („Qualität der Stadtlandschaften – Indikatoren, Planung und Perspektiven“). Salzburg.

https://www.researchgate.net/publication/327350740_Bodeninformation_als_Grundlage_des_Bodenschutzes_am_Beiispiel_des_Fachplans_Boden_der_Landeshauptstadt_Munchen#read

Permanent Secretariat of the Alpine Convention (2018): Economical and prudent use of soil in the Alps. Innsbruck. Developed by the Soil Protection Working Group of the Alpine Convention:

https://www.alpconv.org/fileadmin/user_upload/Organization/TWB/Soil/Report-Economical_and_prudent_use_of_soil_in_the_Alps-afterACXVI.pdf

Permanent Secretariat of the Alpine Convention (2020): In-depth review of the Compliance Committee of the Alpine Convention on the subject “Economical use of soil” : <https://www.alpconv.org/en/home/news-publications/publications-multimedia/detail/in-depth-review-of-the-compliance-committee-of-the-alpine-convention-of-the-subject-economical-use-of-soil/>

Permanent Secretariat of the Alpine Convention (2021): Climate Action Plan 2.0: <https://www.alpconv.org/en/home/news-publications/publications-multimedia/detail/climate-action-plan-20/>

Sutor, Gertraud / Knoll, Sebastian / Voerkelius, Ulrich (2020): Bodenschutz in der örtlichen Raumplanung. In: Bodenschutz 2/2020. Pg. 73-79. <https://bodenschutzdigital.de/ce/bodenschutz-in-der-oertlichen-raumplanung/detail.html>.

Online resources:

- Alpine Soils Platform: <https://alpinesoils.eu/>
- Alpine Climate Target System with its Implementation Pathways Spatial Planning and Soil: <https://alpineclimate2050.org/>
- Soil Conservation and Spatial Planning and Sustainable Development Implementation Protocols of the Alpine Convention: <https://www.alpconv.org/en/home/convention/protocols-declarations/>

14. Impressions



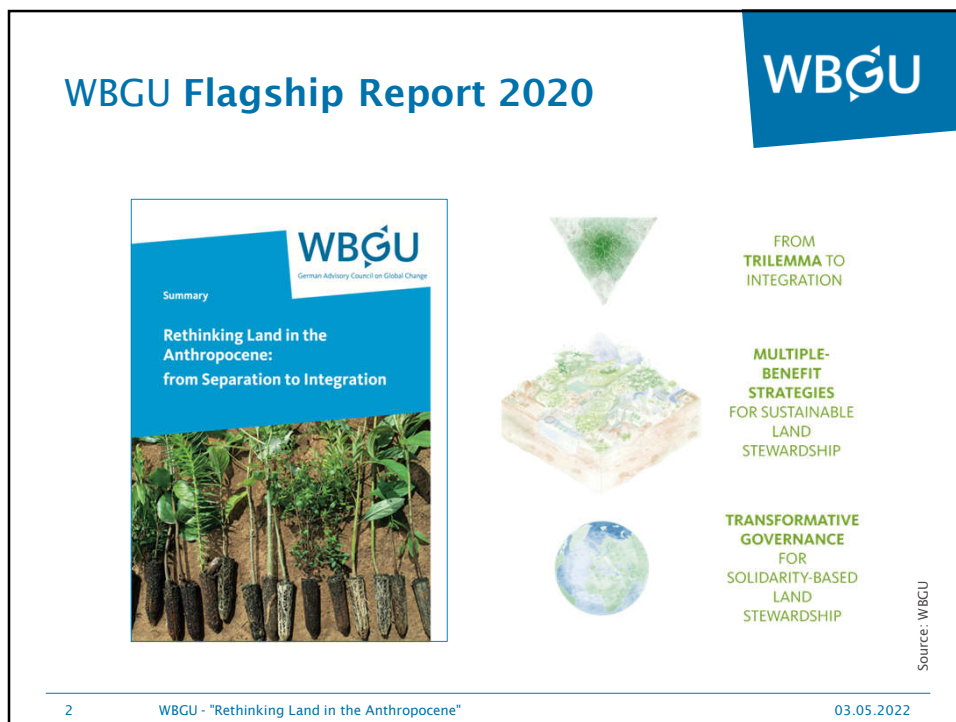


ANNEX 1 Presentation “Rethinking Land in the Anthropocene: the trilemma of land use and the role of soils”

Speaker: Prof. Dr. Karen Pittel (ifo Institute - Leibniz Institute for Economic Research at the University of Munich)



1



2

“Trilemma” of land use

WBGU


Climate
protection


Biodiversity
conservation


Food security

3

WBGU - "Rethinking Land in the Anthropocene"

03.05.2022

Source: WBGU

3

Land, climate, biodiversity and food security

WBGU



- > Terrestrial ecosystems and their biodiversity provide us with diverse **nature's contributions to people (NCPs)**
- > Land use focused on material NCPs, while reducing biodiversity and regulating and non-material NCPs

Source: IPBES Global Assessment, SPM 2019

4

WBGU - "Rethinking Land in the Anthropocene"

03.05.2022

4

Key messages for a global land-use transformation

WBGU

SYSTEMIC
INTERRELATIONS AS A
KEY TO GLOBAL
SUSTAINABILITY

SYNERGISTIC
INTERACTION: FROM
SEPARATION TO
INTEGRATION

SOLIDARITY-BASED
ASSUMPTION OF
RESPONSIBILITY



1
From conflict and
competition to
multiple benefits

2
From destruction
to the conservation
and restoration of
terrestrial ecosystems

3
Use the integrated
landscape approach
as an orientation
mark

4
Enable and strength-
en the assumption of
responsibility
along entire value
chains

5
Promote the
transformation of
land use through
effective global
governance

Source: WBGU

5

WBGU - "Rethinking Land in the Anthropocene"

03.05.2022

5

Five multiple-benefit strategies

WBGU



 **Ecosystem
restoration**

 **Protected-
area systems**

 **Diversified
agriculture**

 **Changing
dietary
habits**

 **Timber-
based
construction**

Source: WBGU

6

WBGU - "Rethinking Land in the Anthropocene"

03.05.2022

6

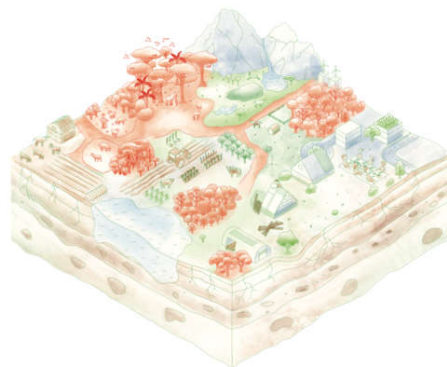
1 – Foster Ecosystem restoration



- > **Restoration** can make land-based CO₂-removal synergistic

Source: WBGU

2 – Expand and upgrade protected-area systems



- > An **effective protection** of 30% of the global land area can prevent the destruction of ecosystems

Source: WBGU

3 – Diversify farming systems



- > A diversified, **ecologically intensive agriculture** worldwide can secure food, protect the climate, enable landscape resilience and maintain biodiversity

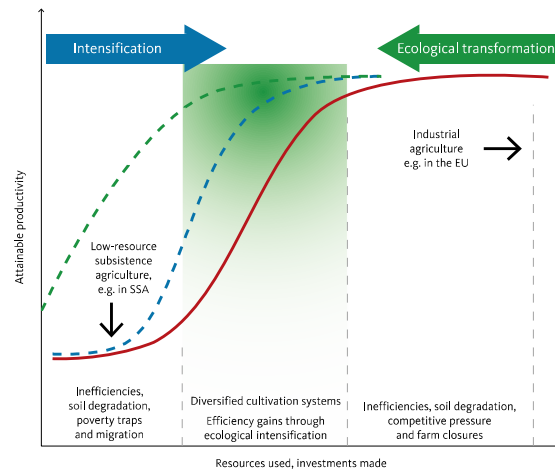
Source: WBGU

3 – Diversify farming systems

- > Both **industrial agriculture** and **subsistence farming** jeopardize climate-change mitigation and biodiversity and degrade the soils
- > **Need to transform** largely monofunctional, production-oriented agricultural systems into ecologically intensive, multifunctional systems

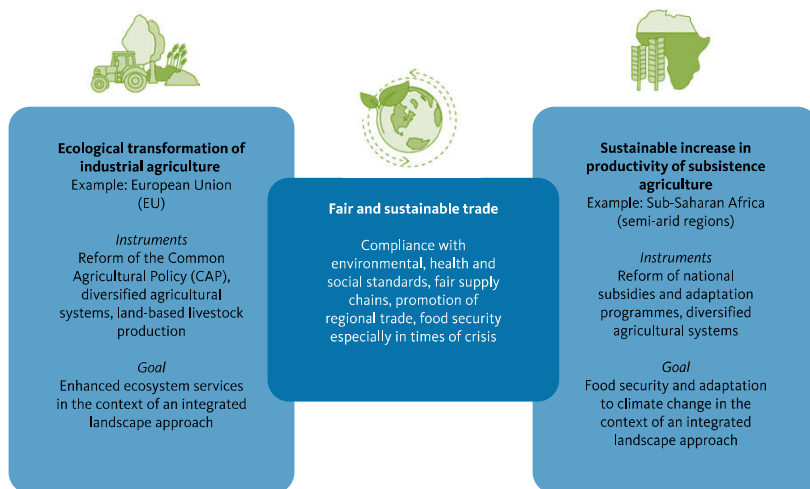


3 – Diversify farming systems



Source: WBGU

3 – Diversify farming systems



Source: WBGU

4 – Transform **dietary habits**



- > Healthy diets with low proportions of animal-based products, e.g. **Planetary Health Diet** are important levers for overcoming the trilemma

Source: WBGU

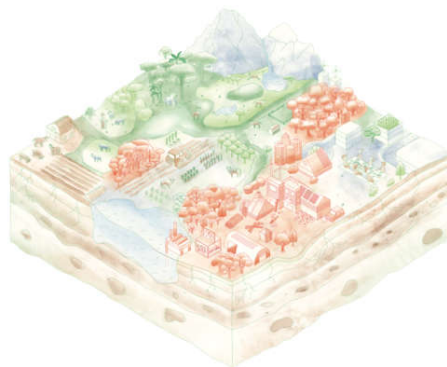
13

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13

5 – Shape the **bioeconomy** responsibly and promote **timber-based construction**



- > **Sustainable bioeconomy** needs a limiting framework and gives priority to material use cycles, e.g. timber construction

Source: WBGU

14

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14

Multi-gain strategies through integrated landscape approach

WBGU

Landscape

- area characterized by specific geographical, natural, ecological and historical similarities
- frame of reference for governance: small enough to keep decision-making processes manageable, large enough to accommodate the interests of different stakeholders

Integrated landscape approach

- multifunctionality and multiple benefits
- participation and reciprocity of stakeholders
- shared framework for monitoring and evaluation
- adaptive management



Source: WBGU

15

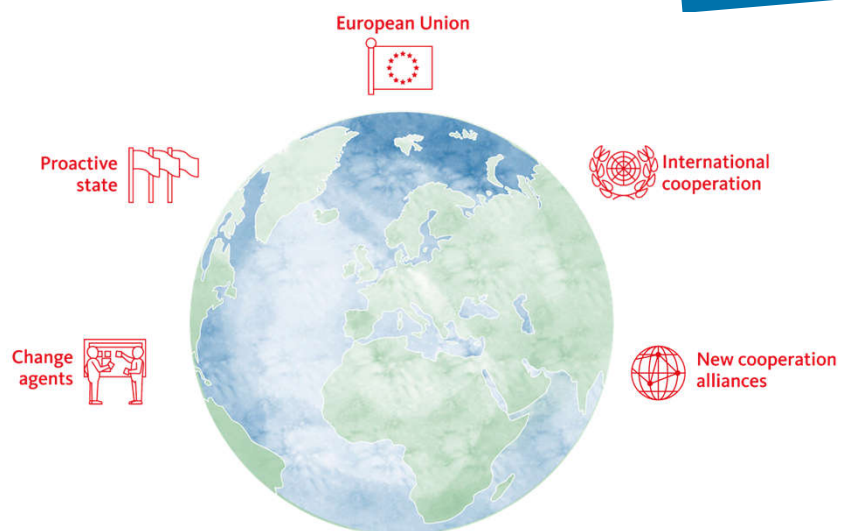
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15

Five governance strategies

WBGU



Source: WBGU

16

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16

1 – Support change agents

- > Numerous examples of individual and institutional change agents employing **new land-related practices**



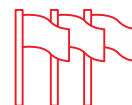
- > **Change agents**

- > are pioneers for sustainable land use
- > can transform everyday routines
- > generate change "from the bottom-up"

- > BUT: the right framework conditions are needed to **support such pioneering activities**

Source: WBGU

2 – Set national political framework conditions



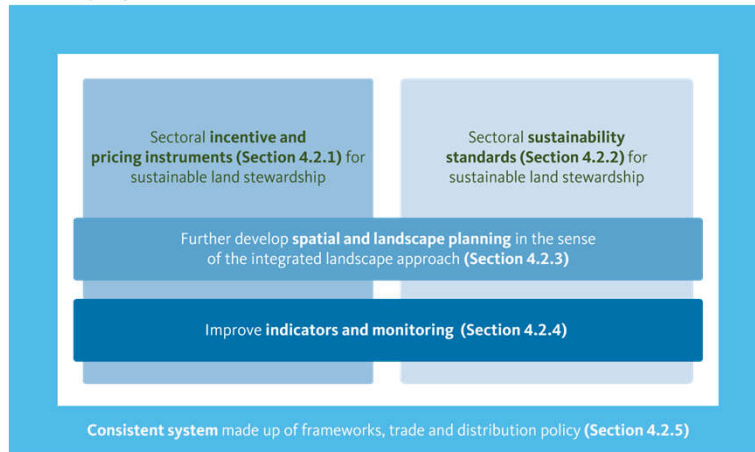
States should **pro-actively** ensure

- > that **negative impacts** of their land-related actions are taking into account
- > that **positive contributions** are rewarded

Source: WBGU

2 – Set national political framework conditions

(National) policy mix



Source: WBGU

3 – Tackle land-use transformation in the EU

- > EU is particularly well suited for **testing a land-use transformation** over a large area
 - > **European Green Deal** as an opportunity
 - > CAP should be further developed into a **Common Ecosystem Policy (CEP)**
- > Essential that the EU use its **foreign-trade policy** to promote a global land-use transformation
 - > "sustainable stewardship of land" a key issue in the negotiations on **trade agreements**
 - > integration of the protection of global commons into the regulations of the **World Trade Organization**

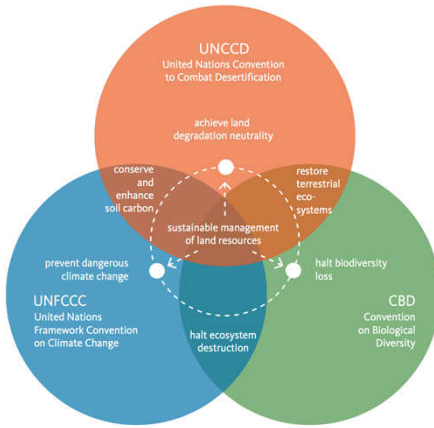


Source: WBGU

4 – Strengthen international cooperation



WBGU



> A **joint conference** of the Rio Conventions and a strong CBD post-2020 framework can promote the land transformation

> **New binding protocols for the CBD on the**

- > Sustainable Use of Biological Diversity and
- > Protection and Conservation of Biodiversity

21

WBGU - "Rethinking Land in the Anthropocene"

03.05.2022

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5 – Establish new cooperation alliances

WBGU

Regional alliances



Regional alliances that aim for the cross-border implementation of integrated landscape approaches

Supranational alliances



Supranational alliances that unite countries to jointly pursue sustainable land stewardship and agree on common values and regulation to achieve this aim

Global conservation alliances



Global conservation alliances that aim at conserving and restoring valuable ecosystems of special relevance

Source: WBGU

22

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Conclusions

1. How we handle land is **key** for a sustainable future
2. **Multiple-benefit strategies** allow addressing multiple crises at the same time
3. Multiple-benefit strategies need **suitable framework conditions and incentive systems at all governance levels**

Many thanks for your attention

German Advisory Council on
Global Change (WBGU)

Wissenschaftlicher Beirat der
Bundesregierung Globale
Umweltveränderungen (WBGU)



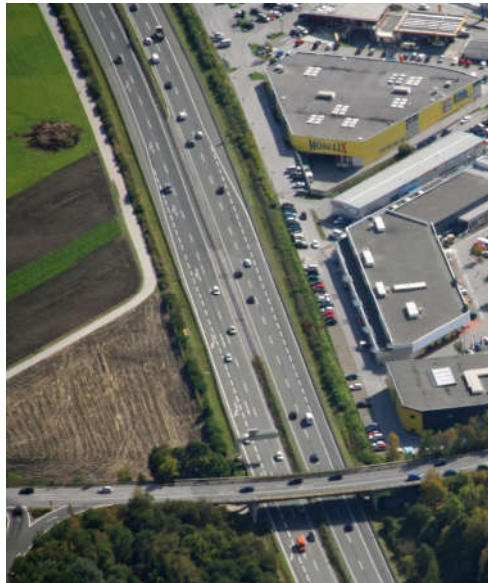
- > Twitter [@WBGU_Council](https://twitter.com/WBGU_Council)
- > Web wbgu.de/en
- > Full report wbgu.de/fr2020
(free download and print)



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ANNEX 2 Presentation “Land-saving targets in Alpine countries”

Speakers: Florian Lintzmeyer (ifuplan) / Prof. Dr. Tobias Chilla (FAU Erlangen-Nürnberg)



Land saving targets in Alpine Countries

Workshop „Soil functions and spatial
planning in the Alps

Munich, March 29 2022

Florian Lintzmeyer (ifuplan)

Prof. Tobias Chilla (FAU Erlangen-Nürnberg)

Land take: An increasingly pressing issue across Europe

var-matin

"Il est urgent de freiner l'artificialisation": les agriculteurs sont en manque de terres, notamment en Paca

Les terres les plus arables sont gorgées par l'étalement urbain. Le gouvernement a lancé le projet "Zéro
artificialisation des sols d'ici 2050", mais il ne profitera pas forcément aux producteurs également en concurrence
avec les espaces naturels.



Flächenverbrauch: Ein Land verliert den Boden

Österreichs verbaute Fläche wächst dreimal schneller als seine Bevölkerung. Damit
läuft das Land sogar im europäischen Spitzenfeld. Wie es so weit kommen konnte

Philip Pauer

20.06.2021, 10:08, 1.217 Aufrufe

Wer sich ein wenig mit Bodenverbrauch beschäftigt, stößt schnell auf das
eigenartige Wort "Flächenfresser". Dabei hat das Phänomen eher etwas mit
steigenden Kneadern zu tun: da ein paar Nüsse, hier ein paar Biber... Am
Ende des Abends ist die gesamte Packung des Partysafts weg - und
niemand will es gewesen sein.

Es sind viele kleine Stellen, die in Österreich angeknabbert werden: von
der Erweiterung einer Abfallanlage in Vorarlberg, vom Neubau einer
Schulstraße in Niederösterreich, eines neuen Supermarktes im
Bundesland Wien. Flächenfresser sind überall. Sie sind aber unterschiedlich



L'Espresso



Süddeutsche Zeitung

Bayern baut sich zu

Jeden Tag werden im Freistaat mehr als 60 Hektar Landschaft versiegelt. Das Problem ist bekannt, Staatsregierung und Kommunen
diskutieren seit Jahren darüber. Und doch ist keine Trendwende in Sicht. Das hat verschiedene Gründe

VON TIM BERGER, LENA BARNERT
UND JACOB BARNERT

M
an könnte meinen, Bayern sei ein
Land, das sich nicht verändert. Die
Landschaft ist immer noch so,
wie sie war. Die Städte sind immer
noch so groß. Die Dörfer sind immer
noch so klein. Die Landschaft ist immer
noch so schön. Die Städte sind immer
noch so groß. Die Dörfer sind immer
noch so klein. Die Landschaft ist immer
noch so schön.



Bayern. Aus Sicht der Staatsregierung
ist die Landschaft immer noch so schön.
Die Städte sind immer noch so groß.
Die Dörfer sind immer noch so klein.
Die Landschaft ist immer noch so schön.
Die Städte sind immer noch so groß.
Die Dörfer sind immer noch so klein.
Die Landschaft ist immer noch so schön.

Austria: Land saving target

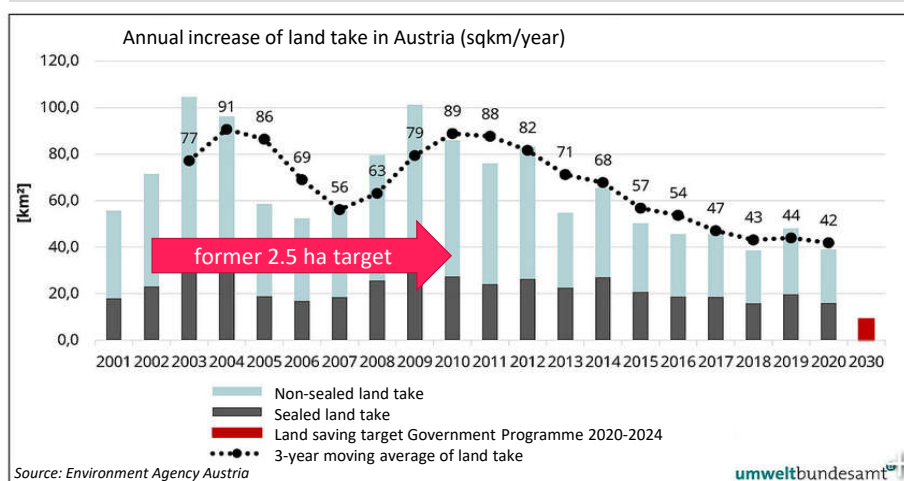
Target

- 2,5 ha/day until 2030 → Governmental Programme 2020-2024, Austrian Sustainability Strategy NSTRAT 2002 / ÖSTRAT 2010, Austrian Soil Protection Strategy (envisaged in 2022)

Measures mentioned (non-exhaustive)

- Soft measures (e.g. ÖROK-recommendations, information, good practices, capacity building, ÖREK-partnership “2,5 ha” for targets at Länder level)
- designation of high value agricultural land (e.g. Tyrol) and ecological priority sites
- promotion and extension of brownfield development, innerurban potentials

Austria: Land-take



10.7 ha/day
(2020) > 2,5
ha (2030)

France: Land saving targets

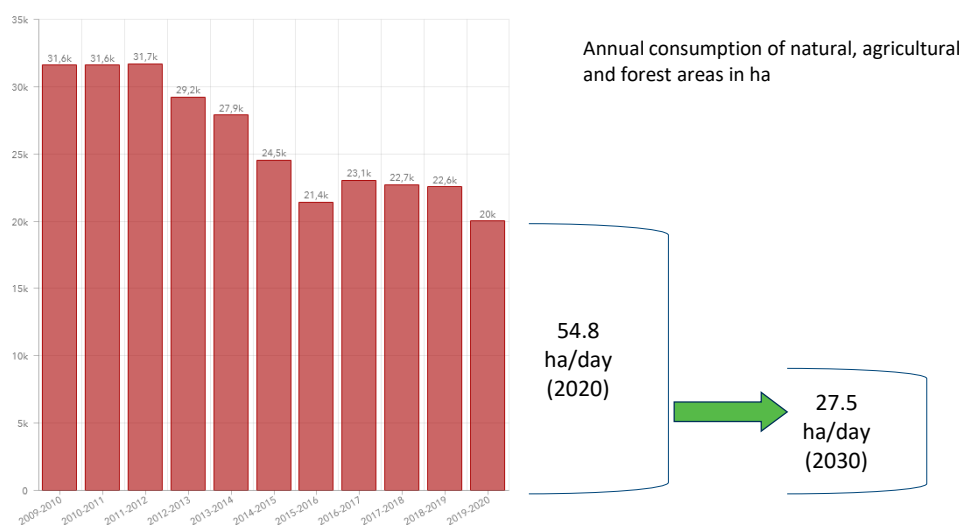
Targets and sources

- Half-reduction of land take within the next 10 years (2021-2031) → Climate and Resilience Law 2021
- Zero net land take (ZAN) by 2050 → Biodiversity Plan 2018 (Plan biodiversité)

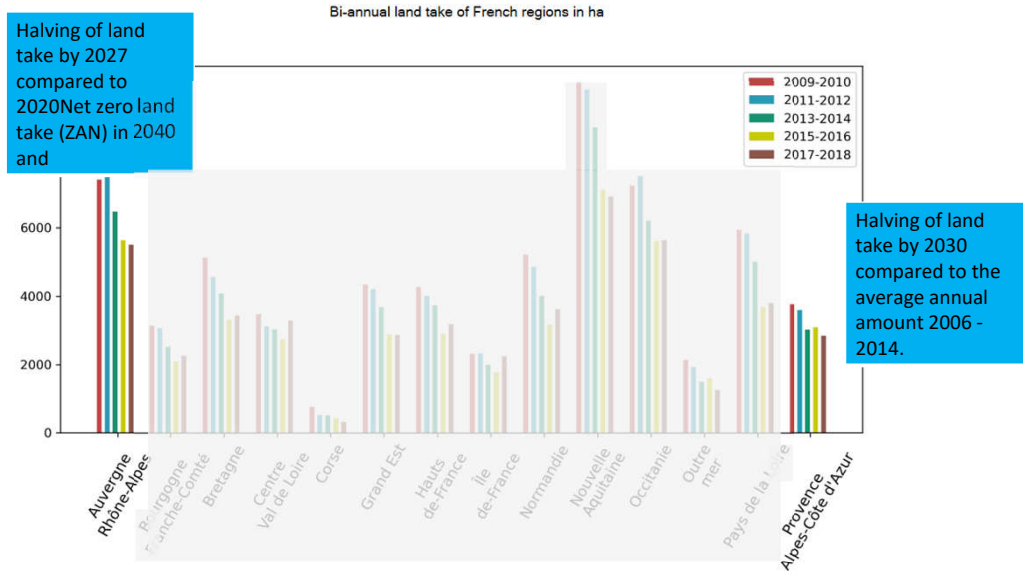
Measures mentioned (examples)

- Strict application in urban planning (needs assessment, priority densification, inner-urban development)
- Financial devices (promoting brownfield regenerations, ecoconditional aids)
- Soft measures (recommendations, information, good practices, capacity building)

France: Land-take



Land take and targets in French regions



Germany: Land saving targets

Targets

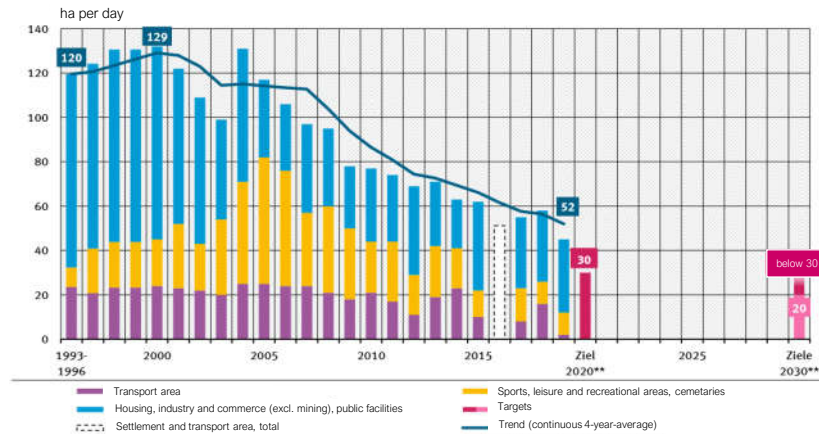
- 30 ha/day minus x until 2030 → Sustainable Development Strategy 2001/2018
- Net zero land take 2050 → Climate Action Plan 2050 (BMUB)

Measures mentioned (examples)

- Soft measures (recommendations, information, good practices, capacity building)
- Strengthening and vitalising urban centers
- Enabling federal states and regions to enact land saving targets

Germany: Land take

Increase in settlement and transport area (SuV)



Bavaria: Land saving benchmark

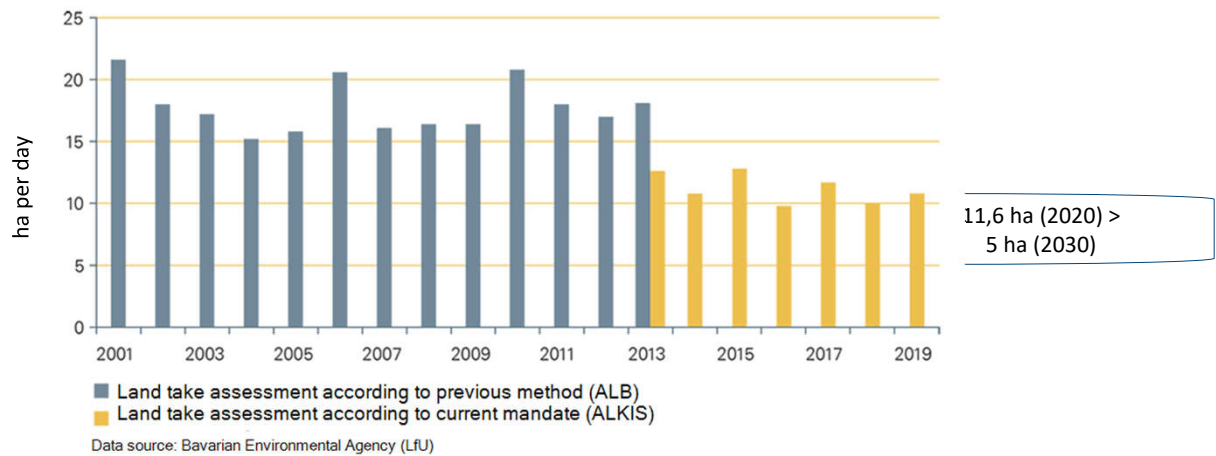
Benchmark

- 5 ha/day by 2030 → Coalition Treaty 2018-2023, Bavarian Spatial Planning Law, Bavarian Sustainability Strategy
- Circular land use (undefined timeline)

Measures mentioned (examples)

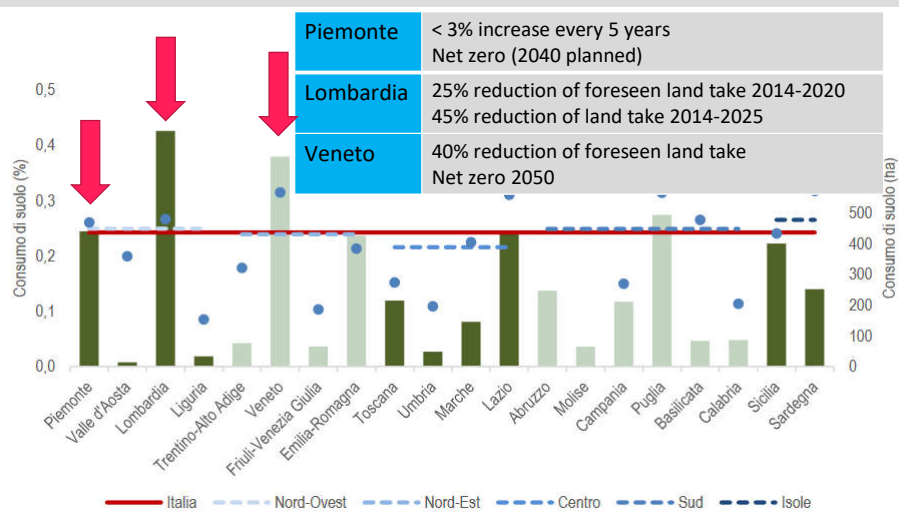
- Land saving initiative (Flächensparoffensive)
- Reuse of inner-urban potentials, densification
- Ministerial interpretation guideline for needs assessment
- Land-saving focal points at provincial governments

Bavaria: Land-take



11

Italy: Land-take and targets for Piemonte, Lombardia and Veneto



12

Veneto: Maximum remaining land take per municipality

Remaining land zoned for settlement 21.323 ha (1,15% of Veneto total)				CORRETTIVO INDICATORI PER A.S.O.				CORRETTIVO INDICATORI PER I COMUNI				Riferimento Tabelle Allegato D
			Pr	RESIDUO	RESIDUO RIDOTTO DEL 40%	percentuale dopo CORRETTIVO	RESIDUO DOPO CORRETTIVO	Variazione per classe sismica (2=-0,5%; 3=0%; 4=+0,5%)	Variazione per tensione abitativa (no=0%; si=+0,5%)	Variazione per varianti verdi (0,0001+0,05=-0,50%; 0,06+0,10=-1%; 0,11+0,14=-1,5%)	QUANTITA' MASSIMA DI CONSUMO DI SUOLO AMMESSO	
				ha	ha	%	ha	%	%	%	ha	
26	28001	Abano Terme	Padova	76,57	45,94	90,00%	41,35	0,50%	0,50%	-1,50%	41,13	②
23	29001	Adria	Rovigo	83,77	50,26	100,00%	50,26	0,50%	0,00%	-0,50%	22,24	① ②
16	23001	Affi	Verona	7,95	4,77	75,35%	3,59	0,00%	0,00%	-0,50%	3,58	
21	28002	Agna	Padova	27,73	16,64	92,13%	15,33	0,50%	0,00%	0,00%	15,41	
1	25001	Agordo	Belluno	7,17	4,30	100,00%	4,30	0,00%	0,00%	0,00%	4,30	
14	24001	Agugliaro	Vicenza	16,13	9,68	93,18%	9,02	0,50%	0,00%	0,00%	9,06	
4	25002	Alano di Piave	Belluno	6,61	3,97	95,39%	3,78	-0,50%	0,00%	-0,50%	3,75	

Source: ALLEGATO C DGR nr. 668 del 15 maggio 2018

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Slovenia: Land saving target

Target

- 25% reduction of net growth of built-up land until 2030 (~ 6,7 ha) → Resolution on the National Environmental Protection Programme (ReNPVO20–30)
- Zero net land take by 2050 → ibid.

Measures mentioned (examples)

- Efforts to avoid sealing
- Integration of land use and landscape protection in decision-making
- Reduction pathway towards net zero

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Switzerland: Land saving targets

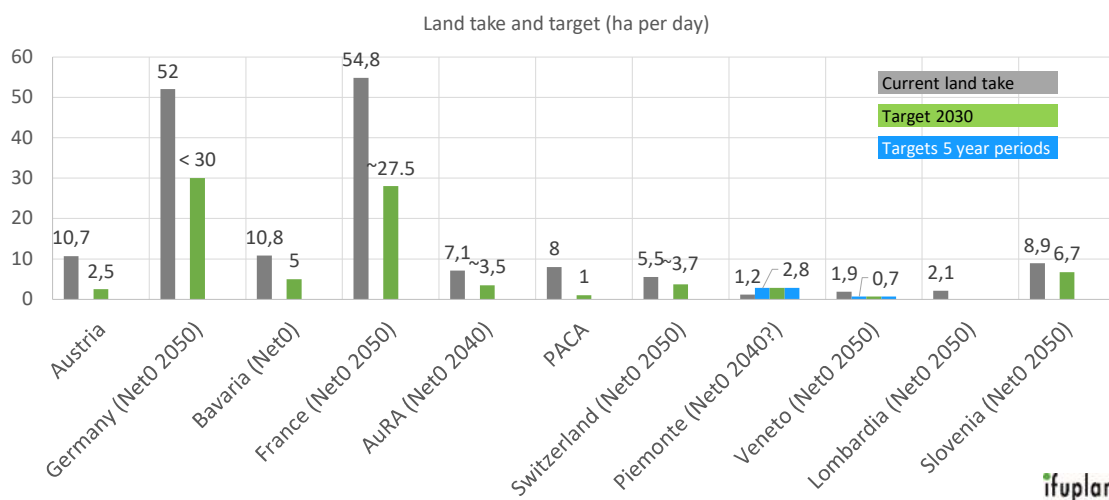
Targets

- Reduction of land take by a third to 3.7 ha/day by 2030 , compared to the 2020 rate
→ Swiss Soil Strategy
- Zero net land take by 2050 → Sustainable Development Strategy 2030

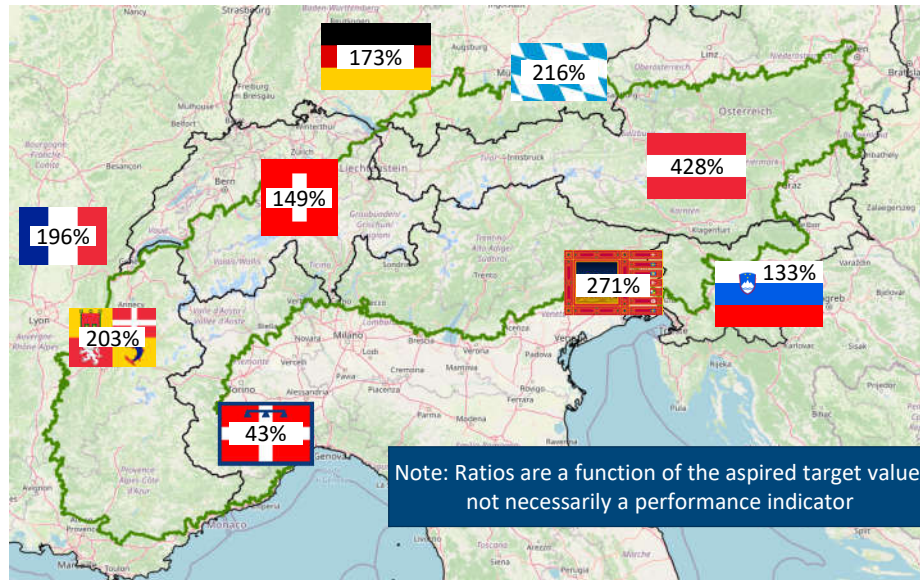
Measures mentioned (examples)

- 15-year building zone reassessment (Revision of the Swiss Spatial Planning Act)
- Consideration of soil functions in planning processes

Current land take and targets



Percentage of current land take in view of 2030 targets



ifuplan

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Challenges for the implementation process include...



ifuplan

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Land saving targets in Alpine Countries

Workshop „Soil functions and spatial
planning in the Alps

Munich, March 29 2022

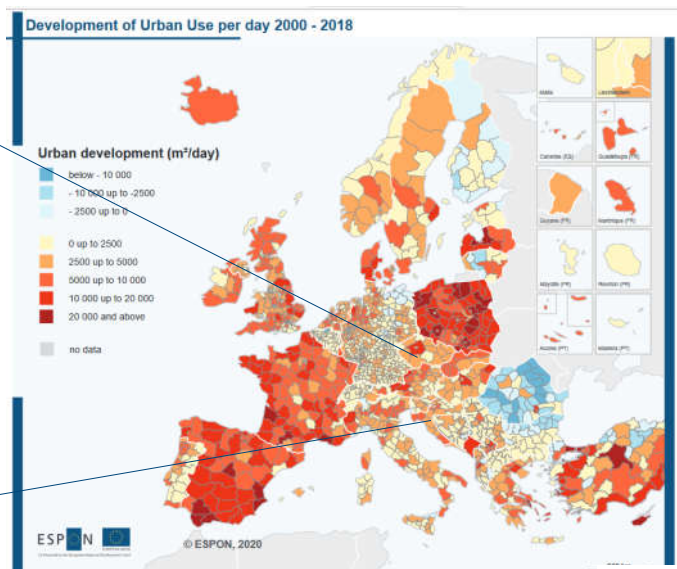
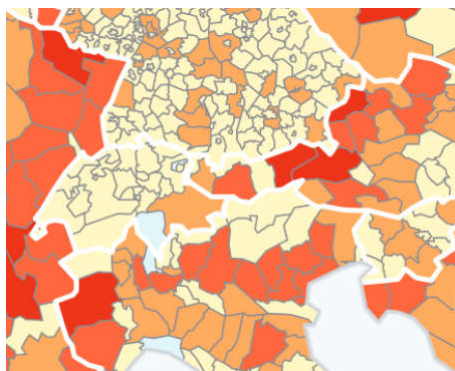
Florian Lintzmeyer (ifuplan)

Prof. Tobias Chilla (FAU Erlangen-Nürnberg)

The Alpine context

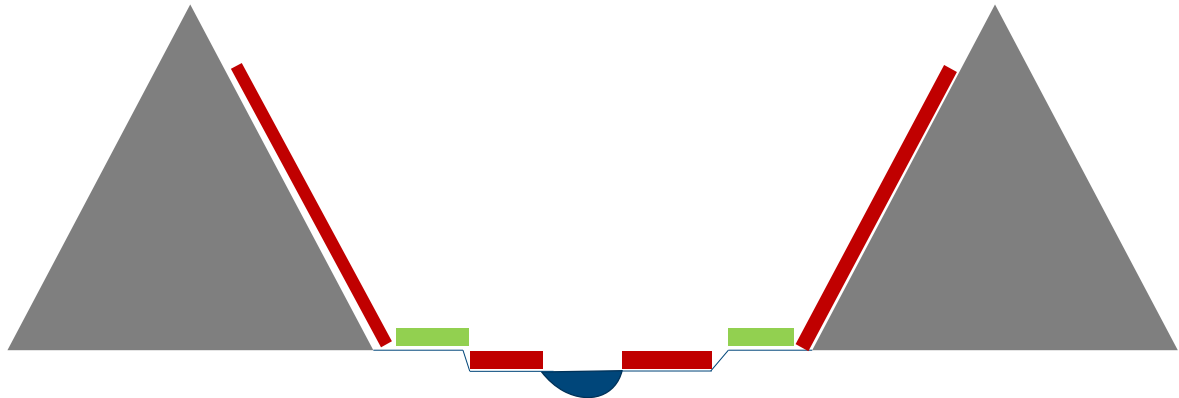


The Alpine Context





The Alpine Context



Particularity of Alpine Settlement Systems

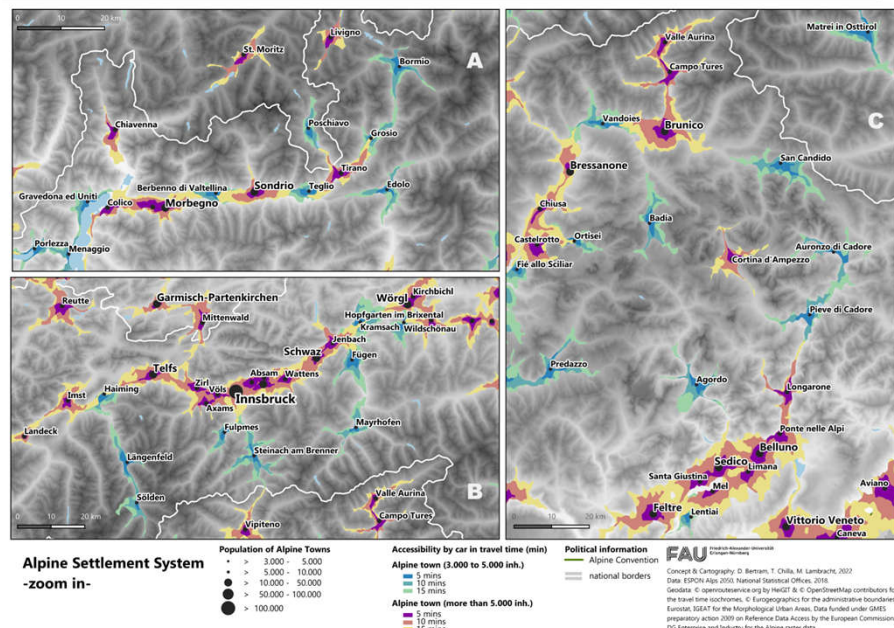
- a) Morphology
- b) Accessibility (Infrastructure, essential services)
- c) Compatibility of land use categories



21



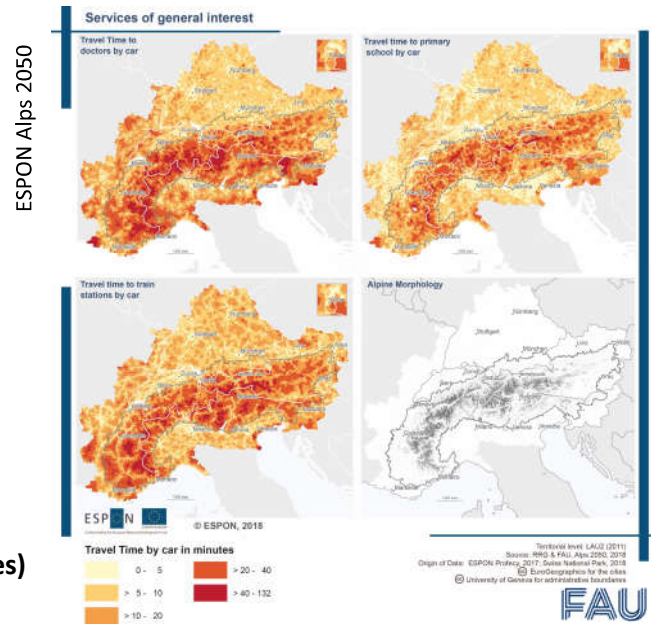
The Alpine Context



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The Alpine Context



Particularity of Alpine Settlement Systems

- a) Morphology
- b) Accessibility (Infrastructure, essential services)**
- c) Compatibility of land use categories

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The Alpine Context



<http://inmat.gemeinschaft.de/unsere-ziele>

Particularity of Alpine Settlement Systems

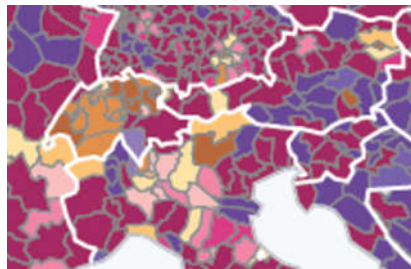
- a) Morphology
- b) Accessibility (Infrastructure, essential services)**
- c) Compatibility of land use categories**

FAU

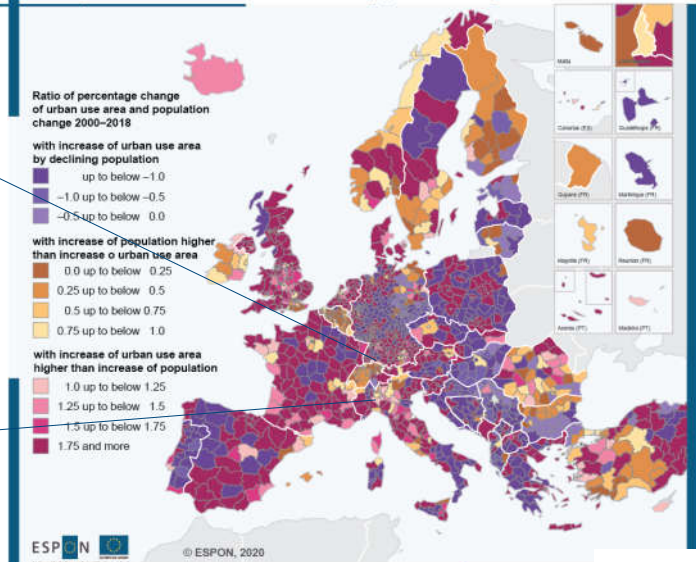
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The Alpine Context



Development of urban use areas in relation to population development 2000–2018



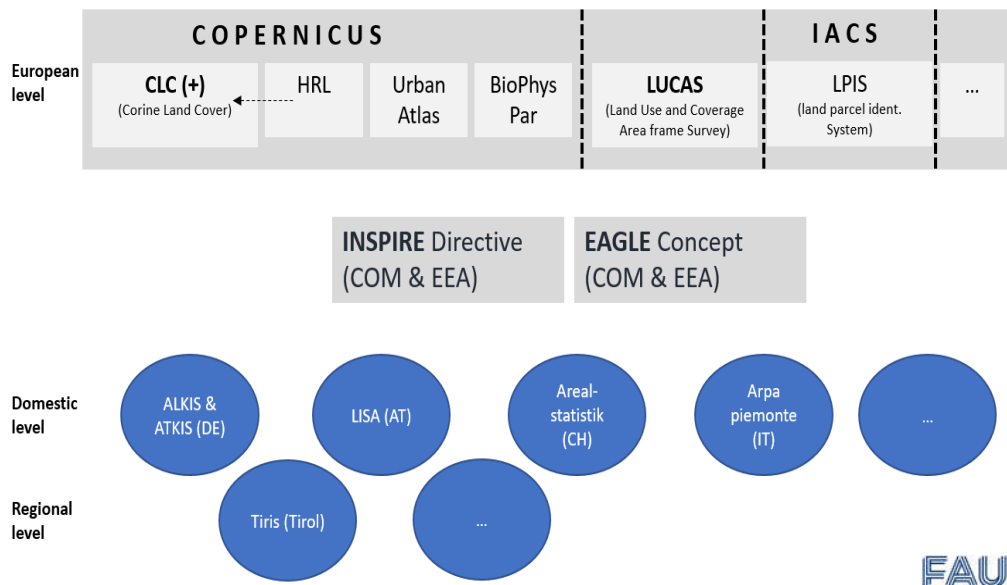
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FAU

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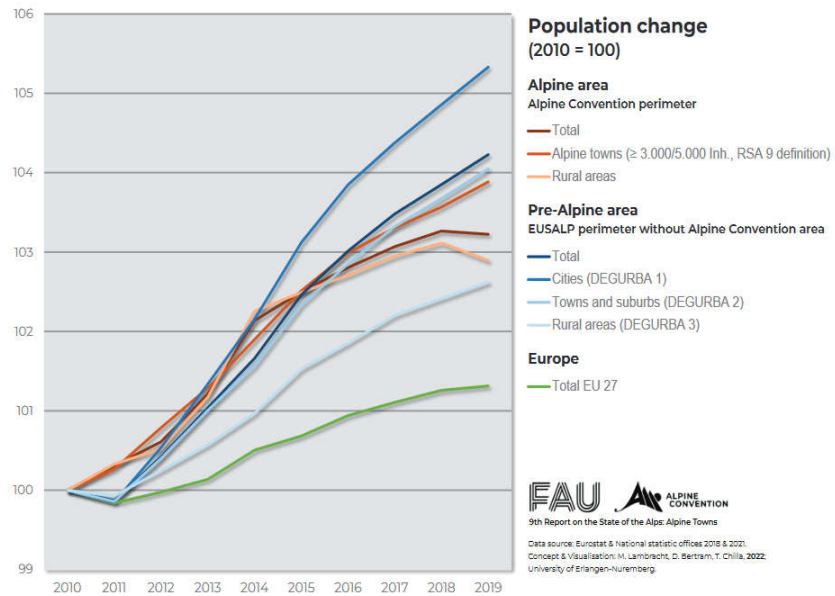
The Alpine Context



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The Alpine Context



Eigener Entwurf

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Land saving targets in Alpine Countries

Workshop „Soil functions and spatial planning in the Alps

Munich, March 29 2022

Florian Lintzmeyer (ifuplan)

Prof. Tobias Chilla (FAU Erlangen-Nürnberg)



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ANNEX 3 Presentation “Implementations to combine qualitative and quantitative soil protection in Tyrol, Austria”

Speaker: Dr. Thomas Peham (Office of the Tyrolean Government)



Implementations to combine qualitative and quantitative soil protection in Tyrol, Austria



Soil function implementations | 2022-03-29

DI Thomas Peham PhD

Overview

Objectives of the presentation

What is a soil function

How is soil function assessment done in Austria

Examples of soil function usage

Land take and soil functions

Take-away messages



Soil function implementations | 2022-03-29

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Objectives of the presentation

▪ Day 1

Soil functions

Day 2

- Provide some basic information on soil functions and their assessment



What is a soil function – basic questions


Basic requirement: define soil

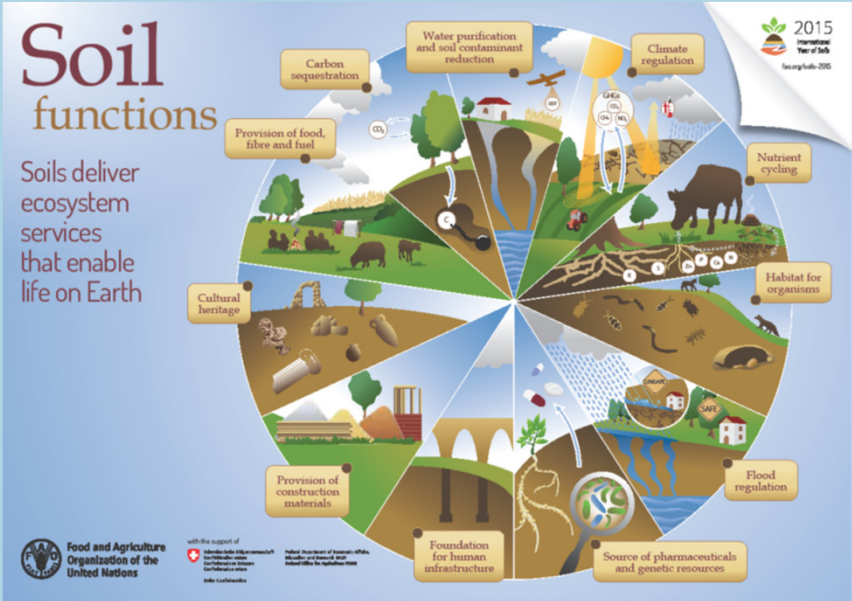
Distinguish soil functions
&
ecosystem services

Find your target function

Search for soil data








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What is a soil function – example from Austria

1. Habitat functions	
1.1	Basis of existence and habitat for humans
1.2	Basis of existence and habitat for soil organisms
	Habitat for soil organisms
	Gene reservoir and biodiversity
1.3	Habitat potential for plant communities
	Habitat potential for natural plant communities
	Natural soil fertility

2. Part of the ecosystem	
2.1	Function of soil in the water balance
	Runoff regulation
	Contribution to ground water recharge
	„Cooling factor“
2.2	Function of soil in the mass balance
	Nutrient potential and nutrient availability
	Carbon storage
	Gas household

3. Medium for degradation, compensation and transformation	
3.1	Filter and buffer for anorganic sorbable pollutants and substances
3.2	Filter and buffer for organic pollutants and substances
3.3	Buffer for acidic depositions

Sub-functions after BMLFUW (2013)
 Blue background: assessable sub-functions according to ÖNORM L 1076
 Tables by Elisabeth Schaber – Links4Soils

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What is a soil function



Country	Assessable soil sub-functions	Part of the following Ecosystem Service (CICES)
Austria & Bavaria	Habitat for soil organisms	Maintain nursery populations and habitats
Austria & Bavaria	Habitat potential for plant communities	Maintain nursery populations and habitats
Austria & Bavaria	Natural soil fertility Yield capacity (forestry, agriculture)	Provide Biomass (nutrition, biomass, energy)
Austria & Bavaria	Runoff regulation Precipitation retention	Mediation of liquid flows (flood protection)
Austria & Bavaria	Filtering and buffering of pollutants	Mediation of waste and toxics from biota and ecosystems by means of filtration/sequestration/storage/accumulation
Austria & Bavaria	Archive of natural and cultural history	Intellectual and representative interactions (science, education, cultural heritage)

The Common International Classification of Ecosystem Services (CICES) developed from the work on environmental accounting undertaken by the European Environment Agency (EEA).

Table by Elisabeth Schaber – Links4Soils

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What is a soil function – example: soil texture



Particle size

sand (0.06 mm – 2 mm)
silt (0.002 mm – 0.06 mm)
clay (<2 µm)
loam equal properties of sand, silt, and clay

Legend	
Symbol	Explanation
++	very good
+	good
±	medium
–	low
– –	very low

Characteristics / Soil texture	Sand	Silt	Clay	Loam
Cultivation	++	±	– –	+
Nutrient storage	– –	–	++	+
Nutrient provision	–	+	+	++
Pollutant accumulation	–	+	++	++
Water storage	– –	+	++	++
Water provision	–	++	–	+
Mechanical filtration	+	++	–	+
Physico-chemical filtration	– –	–	++	+
Drainage	++	– –	–	±
Erodibility	±	+	– –	–

Table after <https://de.wikipedia.org/wiki/Bodenart>

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How is soil function assessment done in Austria Austrian standard L 1076 and scientific concept



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Data basis – Soil evaluation maps



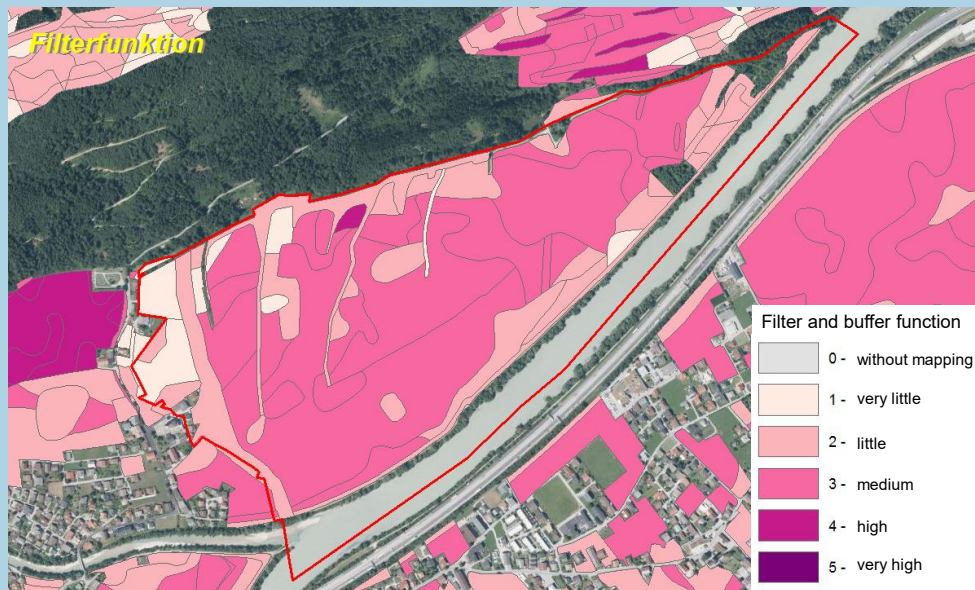
Spatial resolution:	1 : 2,000
Covered area:	Agricultural area (except high alpine pastures)
History:	Milanese cadastre - 1718 Soil evaluation law 1970
Data owner:	Customs office, Ministry of Finance
Currentness of data:	Evaluation cycle of 30 years
Data availability:	not public, acquirable

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Filter and buffer function



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Examples of soil function usage

Development of soil management plans
 Assessment of agricultural recultivation benefit
 Environmental impact assessment
 Basis for landscape programmes
 Land-use change decisions (e.g., spatial development concepts)
 Route comparisons during infrastructure building
 Search for ecological compensation sites
 Modelling/risk assessment of soil pollution

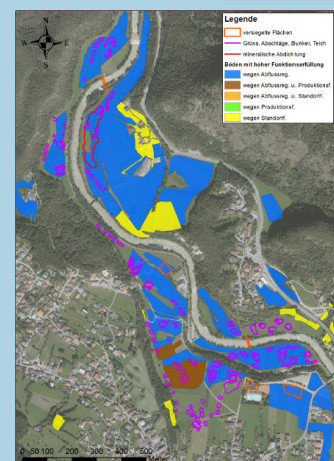


Figure by GEOWEST

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Land take and soil functions

Soil functions assessment does not stop land take

But they help to:

Minimize the space required while safeguarding the soil as a livelihood as far as possible.

Protect the best-performing fields!



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Take-away messages

Soils fulfil various functions

Soils are very heterogeneous

Soil function assessment is possible

Soil function assessment describes potentials

Soil function assessment is a fantastic information tool but no protection per se



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Thank you for your attention



Soil function implementations | 2022-03-29

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ANNEX 4 Presentation “Agricultural Provision Areas – A Contribution of Spatial Planning to Quantitative Soil Protection”

Speaker: Christian Drechsler (Office of the Tyrolean Government)

<div></div> <div><h1>Agricultural Provision Areas</h1><h2>A Contribution of Spatial Planning to Quantitative Soil Protection</h2><p>Christian Drechsler</p><p>Workshop on Soil Functions and Spatial Planning in the Alps 03/29/2022, Munich</p></div>		
Agricultural Provision Areas	Office of the Tyrolean Government, Dept. Spatial Planning & Statistics	1

1

<div></div> <div><h3>Questions:</h3><ol style="list-style-type: none">1. What are the challenges of open-space-planning in Tyrol?2. Why agricultural provision areas?3. How can agricultural provision areas be defined, delimited and legally regulated?4. What is the “effect”?5. Can agricultural provision areas be changed?</div>		
Agricultural Provision Areas	Office of the Tyrolean Government, Dept. Spatial Planning & Statistics	2

2

1. What are the challenges of open-space-planning in Tyrol?



- High dynamics in settlement development => need for “planning the unplanned”
- Attractiveness of landscape vs. multi-layered interests
- Permanent settlement area: 12,8 % of the area of the federal country
- Linear & concentrated arrangement of sealed areas
- Preserve land for agricultural production (self – nutrition)



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3

3

2. Why agricultural provision areas?



OBJECTIVELY

- Supra communal - planning and determining of “open spaces” was not comprehensive & countrywide until 2015 (only in Zillertal, Oberes Lechtal, Wörgl und Umgebung there were so called “green zones”)
- Delimitation of “green zones” was quite “subjective” (agricultural use, value for recreation, landscape) => need to delimitate hard- fact based
- Related to agricultural provision: Soil value, slope gradient, minimum area

INTER-COMMUNAL

-
- Tyrol: Spatial planning is exclusively in the competence of the municipality
 - 2005: Introduction of the 36 “Planungsverbände” - inter-communal public entities
 - 2015: Start of determining agricultural provision areas sorted by interest pressure on the space. Reference area: Planungsverbände.

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4

3.a.) How can agricultural provision areas be defined?



- Mandate: Resolution of the Tyrolean Parliament and the Provincial Government of summer 2015
- Methodology & Frame
 - Only large areas of **national and regional importance** for agriculture
 - Contiguous agricultural areas with an area size of **4 ha** or more and a soil credit rating of at least **25 points**. (best score in Tirol: 67 points)
 - Location of the areas **within the free areas** according to the local spatial planning concept.(ÖRK) There is no interference with legally binding local zonig plans (FläWi) and already protected areas (no „gold plating“) => GIS based draft
 - Excluded: „closed settlement“ (§ 2 TBO 2011: 5 houses) => desk & field
 - Included: smaller punctual & linear structures => desk & field

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3.b.) How can agricultural provision areas be mapped?



Soil Valuation
(Ministry of Finance)

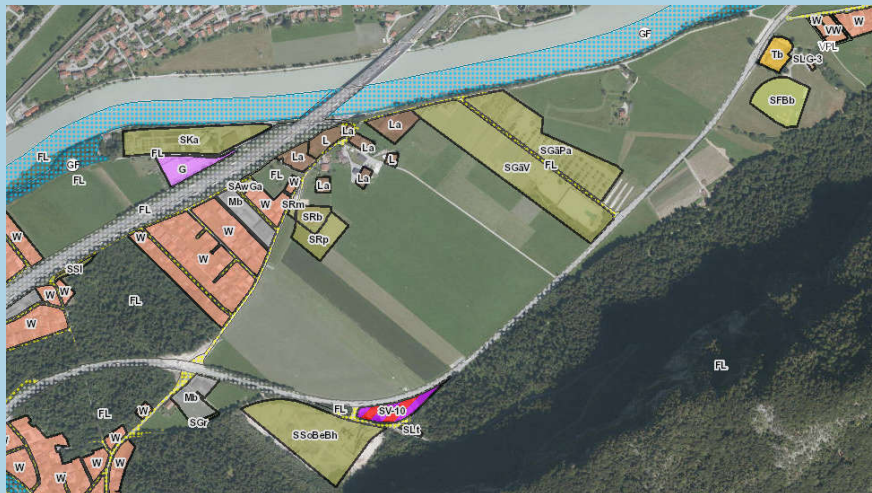
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3.b.) How can agricultural provision areas be mapped?



Local Zoning Plan

(Flächenwidmungsplan)

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Dept. Spatial Planning & Statistics

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3.b.) How can agricultural provision areas be mapped?



**Local Spatial
Planning Concept**

Örtliches
Raumordnungskonzept

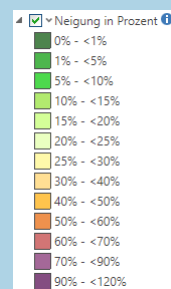
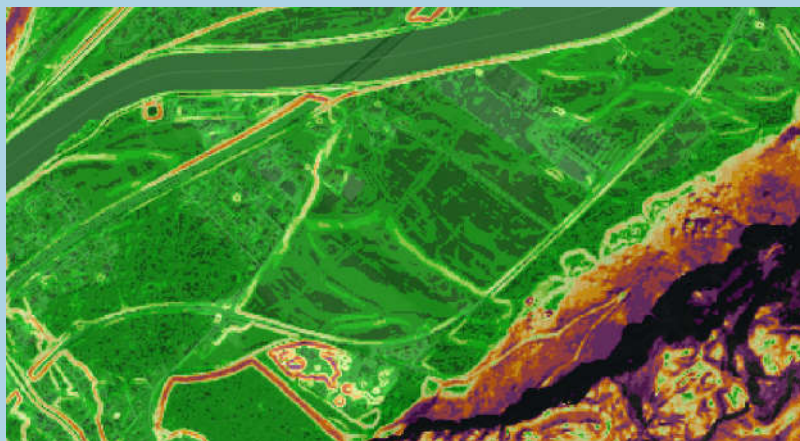
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3.b.) How can agricultural provision areas be mapped?



Slope gradient

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9

3.b.) How can agricultural provision areas be mapped?



Delimitation of
agricultural provision area

Online/tiris

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3.c.) How can agricultural provision areas be regulated by law?



- **Agricultural provision areas are an ordinance of the Tyrolean provincial government pursuant to § 7 of the Tyrolean Spatial Planning Act 2016 (TROG 2016).**
- Draft „ex officio“ (presented to the Planungsverbände in advance)
- Appraisal procedure (8 weeks, internal and external stakeholders & public)
- Redrafting & final draft as result of the appraisal procedure
- Regulation (Plans, explanatory report, environmental report) & publication (Landesgesetzblatt, online)
- Legally binding provision areas (mentioned e.g. as best practise in the draft of OpenSpaceAlps Strategic Recommendations: IR 7)

<https://www.tirol.gv.at/landesentwicklung/raumordnung/ueberoertliche-raumordnung/raumordnungsprogramme-1/>

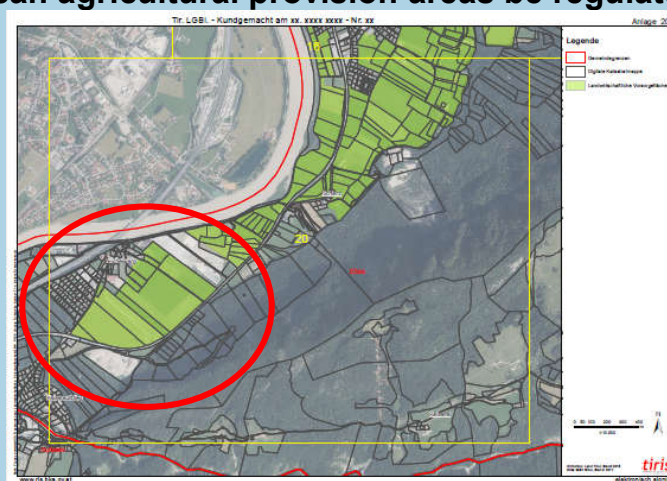
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3.c.) How can agricultural provision areas be regulated by law?



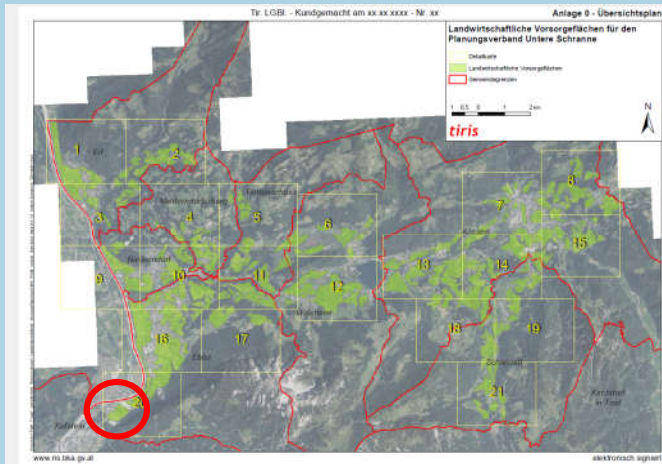
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3.c.) How agricultural provision areas can be regulated by law?



<https://www.tirol.gv.at/landesentwicklung/raumordnung/ueberoertliche-raumordnung/raumordnungsprogramme-1/>

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4. What is the “effect”?



- Prohibition of the designation of settlement extensions for building land in the local spatial planning concepts and of the dedication of building land in the zoning plans.
- Buildings that are permissible in the open countryside are still permitted.
- Special land dedications for agricultural purposes (farms, stables etc.) are also permissible (insofar as they are compatible with the objectives of local spatial planning and respective special criteria i.g. for big freestall-barns).

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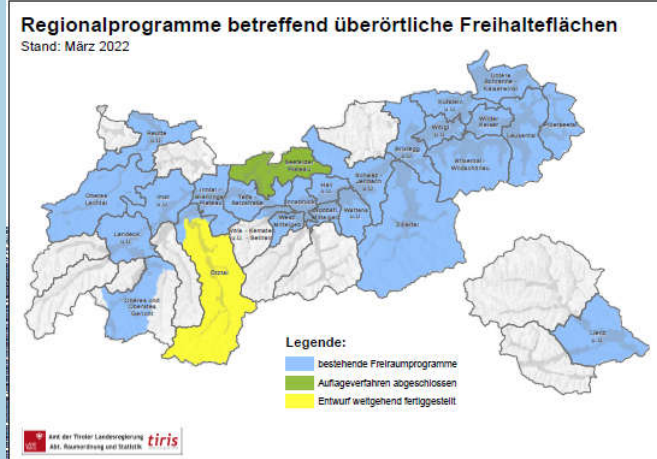
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4. What is the “effect”?



	DSR in ha	LWVF in ha	Anteil LWVF am DSR
VoIs und Kematen	916	420	46%
Zillertal	12390	2.312	19%
Wörgl und Umgebung	5593,1	3.590	64%
Oberes Lechtal	3030	1.148	38%
Hall und Umgebung	2695	1.132	42%
Reutte und Umgebung	3500	1.094	31%
Sudostl. Mittelgeb. und Innsbruck	5830	1.260	22%
Inntal - Mieminger Plateau	2.551	1.150	45%
Westliches Mittelgebirge	2167	885	41%
Lienz und Umgebung	7338	2.085	28%
Imst u. Umg., Haiming, Roppen	4.358	1.316	30%
Wattens und Umgebung	2949	742	25%
Kufstein und Umgebung	4278	1.573	37%
Telfs u. Umg. – Salzstraße	4.316	1.609	37%
Untere Schranne – Kaiserwinkel	7404,7	3.477	47%
Landeck und Umgebung	3600	393	11%
Oberperfuss, Unterperfuss und Ranggen	950	362	38%
Leukental	9404	2878,6	31%
Oberes und Oberstes Gericht, Serfaus	3.115	553,3	18%
Wilder Kaiser	4.140	1.183	29%
Pillerseetal	3845	1109	29%
Brixental – Wildschönau	10896	1845	17%
Schwarz – Jenbach und Umgebung	6313	1839	29%
Brixlegg und Umgebung	3.802	1174,1	31%
Gesamt	115380,8	35130	30%



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5. Can agricultural provision areas be changed?



- 10 – year evaluation cycles of regulation (ex officio; e.g. changes in the soil value, review of values every 30 years).
- Public interest for a change of delimitation (e.g. fire station, inter-communal recycling facilities) (§ 10 TROG 2016)
- When updating local development concepts
- Zoning authorization for special areas (§ 11 TROG 2016)
- Procedures (§ 10 & 11 TROG 2016) are quite elaborate:
 - Initiative by the municipality & argumentation of public interest
 - Technical examination => Committee (Government & Chambers)
 - Amendment to the regulation => when in force: zoning possible.

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Summary



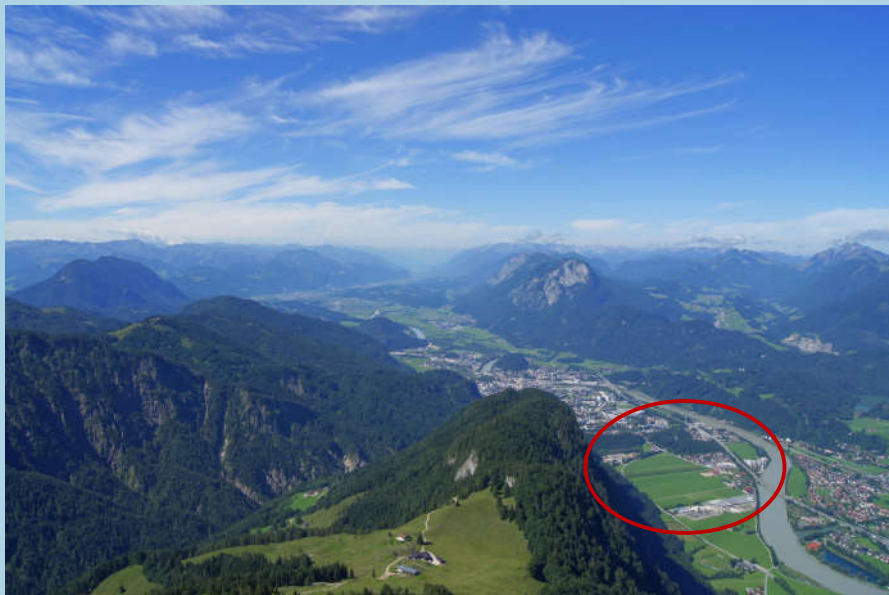
- Soil protection by spatial planning => no/very restricted sealing
- No sealing ≠ no use
- Use = agriculture, farms, stables, special areas of public interest
- But: effective measure to secure open, non sealed spaces
- First resume´ after 7 Years:
 - 30 % of the permanent settlement area is “protected”
 - “Relief” for Mayors (once convinced...)
 - Positive Example for spatial planning on a more function-oriented level

Agricultural Provision Areas

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Thank you!

Agricultural Provision Areas

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ANNEX 5 Presentation “Instruments for Agricultural Land Protection in Slovenia, Including Spatial Planning”

Speaker: Jernej Červek (Ministry of the Environment and Spatial Planning of the Republic of Slovenia)

Instruments for Agricultural Land Protection in Slovenia, Including Spatial Planning

Presentation at workshop on soil functions and spatial planning in the Alps

29-30 March 2022, Munich
Jernej Červek



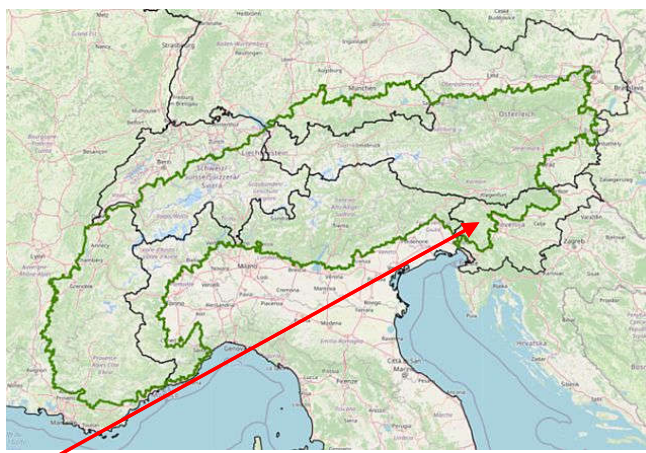
REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD




REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

1

The Alps in Slovenia



 The Alpine Region (map of the Alpine Convention)

2

Levels of government and their responsibilities

Slovenia is a unitary country with two levels of government; the national level and local level (212 municipalities).

No **regional level** of government exists in Slovenia, but *Regional Development Agencies* exist to support economic development at the sub-national level (NUTS3). A regional spatial plan has been introduced recently with the Spatial Planning Act.

Municipalities have the right to manage the spatial development in their jurisdiction except for those aspects that are under the direct control of the national government.



212 Municipalities of Slovenia

source: insert map/ image source

The protection of agricultural land

Agricultural land important for many reasons:

- food production,
- environment protection,
- the preservation of cultural landscape,
- rural settlement and
- the fulfilment of ecological functions.

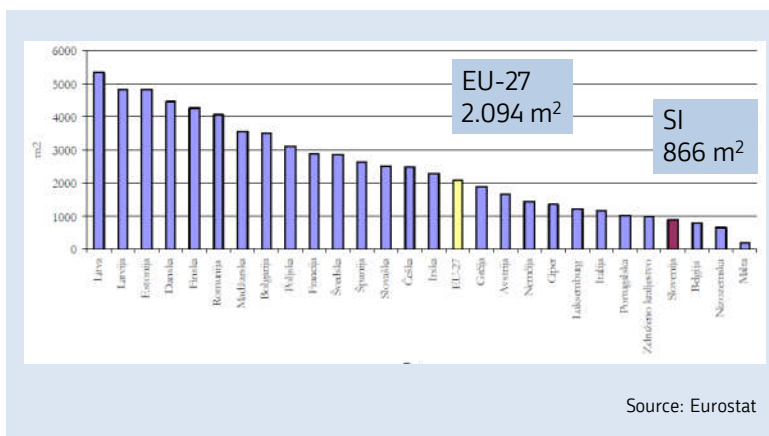


Tasks of the Ministry for Agriculture, Forestry and Food:

- One of the most important tasks of the is **to ensure an appropriate level of self-sufficiency and food safety.**
- Is responsible for **preparing expert bases, opinions and guidelines** that are in accordance with regulations.
- It participates at **all levels of preparation of spatial acts** and represents the public interest.



Agricultural land per capita in the EU-27



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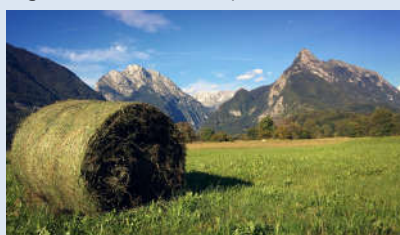
Measures for reversing loss of agricultural land

- ☐ Determining strategic areas for agriculture and food production
- ☐ Determining the areas of permanently protected agricultural land
- ☐ Mitigation measures
- ☐ Compensation
- ☐ Pre-emption right for the purchase of agricultural land
- ☐ The obligation of cultivating agricultural land

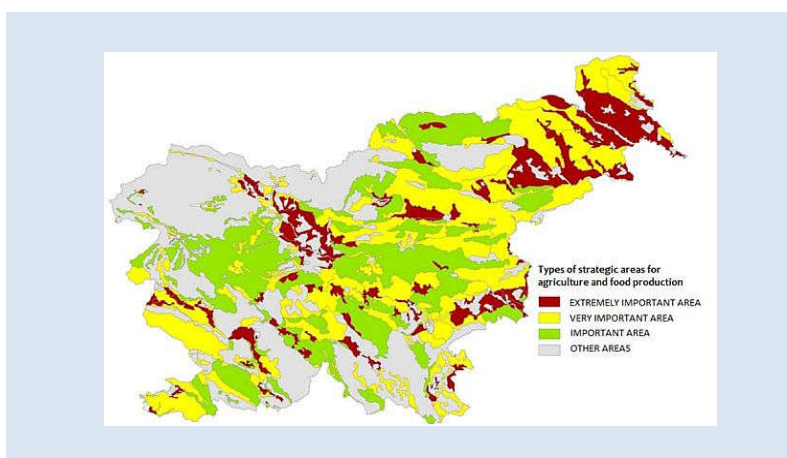
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Protection of the agricultural land in the framework of spatial planning

- ❑ Tradition of agricultural land protection through spatial planning since 1981
- ❑ Agricultural land was classified as a first and a second agricultural areas
- ❑ Category of the first agricultural area was binding for spatial planning and had been checked in the process of giving consents to spatial planning documents by the ministry, responsible for agriculture
- ❑ According to the law, exemptions permitting building in the first category agricultural areas were possible and were examined case by case



Types of strategic areas for agriculture and food production



The expert basis for permanently protected agricultural land

The areas of **permanently protected** agricultural land and **other** agricultural land:

- ☐ **determined in the procedure of drawing up a municipal spatial planning document** (after coordination between the spatial planning authority and the local community),
- ☐ **cannot be changed for at least 10 years** after they have been determined by the spatial plan.



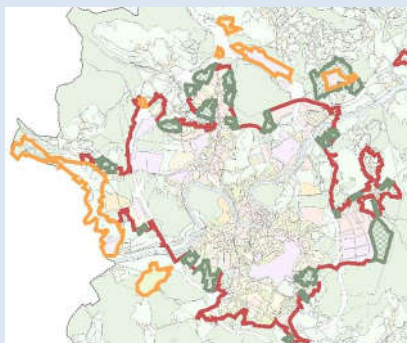
permanently protected agricultural land
other agricultural land

Determining of Settlement's Zone

As a basis for a Municipal Spatial Plan settlements' zones are defined for all settlements except for dispersed settlement



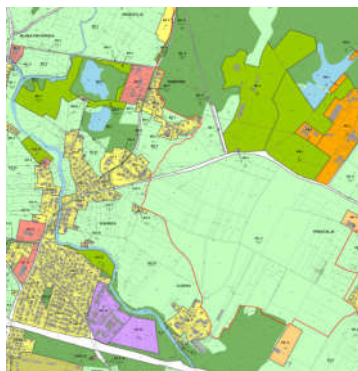
- Settlement's zone
- Zone for a long term settlement development
- Other settlement zone (no housing)
- Dispersed settlement zone of less than 10 houses



Municipal level of spatial planning

Municipal Spatial Plan

At the municipal level, the main spatial planning document is the Municipal Spatial Plan. It contains a strategic map and land use maps (typically at a scale of 1: 5 000), associated with zoning regulations and permitted uses specified arranged according to land use types or even detailed, covering the entire municipality.



Example: Municipal Spatial Plan City of Kranj

Mitigation measures

When it is not possible to avoid the intervention in agricultural land, it is **necessary to replace the lost resources**. For example:

- ☐ **returning or reallocating** the planned use of construction land to agricultural land
- ☐ **establishing replacement** agricultural land in forests, degraded areas, the areas for extracting mineral resources, etc.
- ☐ **improving the production potential** of the existent agricultural land (e.g. eliminating overgrowing)



Compensation payment

When agricultural land is changed → it is necessary to **pay compensation** for the intervention.

The amount of compensation depends on:

- ☐ **surface**
- ☐ **and quality** of agricultural land.

The funds received from compensation are part of the state budget and are used for the implementation of land policy:

- ☐ purchasing agricultural land,
- ☐ water reservoirs,
- ☐ irrigation systems,
- ☐ expert bases.



Transactions involving agricultural land, forests and farms

Purchasing agricultural land, a forest or a farm → **pre-emption beneficiaries** may exercise their pre-emption right according to the following order of priority unless otherwise provided by other acts

The aim of this regime is mainly:

- ☐ **to prevent speculative purchase of agricultural land** and
- ☐ enable pre-emption right to the subjects that would **use the agricultural land according to its planned use.**



The obligation of cultivating agricultural land

This kind of protection of agricultural land is important in particular **for preventing the degradation or overgrowing of agricultural land.**

There are two ways of preventing the degradation of agricultural land:

- ☐ **stimulation** (subventions for agricultural land cultivators),
- ☐ **repressive policy** (fines for the non-cultivation of agricultural land).



Possibilities for further strategic planning in agriculture

- ☐ revitalisation of functionally **degraded areas**,
- ☐ revitalisation of agricultural land that is being **overgrown**,
- ☐ establishing **records of available land**,
- ☐ **awareness-raising of the public** about the importance of good spatial planning and not only taking into account the wishes and initiatives of individuals. **The ownership should not be the main guiding principle.**
- ☐ **encouraging land operations** (land consolidation, agglomeration, irrigation),
- ☐ **enhancing the development of agriculture in general** (enhancing knowledge transfer, establishing producer organisations, raising awareness of the public of the situation in agriculture and its importance, promoting the profession of a farmer, promoting the functioning of the public agricultural advisory service, absorbing European funds from the common agricultural policy..).

REVITUM project – Soča Valley in the Julian Alps → preventing overgrowing areas

- ❑ Local partners; revitalising agricultural land and removing non-native species to promote settlement in remote villages,
- ❑ setting up 8 hectares of grazing areas and conducted trainings for land owners on the importance of preventing overgrowing,
- ❑ future plan to set up an irrigation system.



Before and after of one of the locations. See the sign indicating the same area.

ČERNELIČ good practice example – revitalisation of a degraded area

- ❑ Hydropower plant invited the Biodynamic Farm Černelič **to regenerate the soil** in the area (degraded area of 1,4 ha),
- ❑ by adopting a natural approach, they managed to revitalise the land in approximately **two years**; today, **agricultural activity** takes place on the land.





More information:

- ❑ a legislation governing the protection of agricultural land in Slovenia: [Agricultural Land Act](#)
- ❑ [Decree](#) on Areas for agriculture and food production that are of strategic importance for the Republic of Slovenia



Thank you for your attention

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&
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darko.brulc@gov.si

ANNEX 6 Presentation “Soil functions deserve more attention”

Speaker: Christian Steiner (Authority of Land Reform of Lower Austria)



ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

Soil functions deserve more attention

30 March 2022, Munich

Christian Steiner, Authority of Land Reform of
Lower Austria, Department for Rural Development

alpconv.org

1



Soil Threats

according to the EU Soil Strategy

- Erosion (by wind & water)
- Loss of organic matter
- Local and diffuse contamination
- Soil sealing
- Compaction
- Loss of biodiversity
- Salinisation
- Landslides



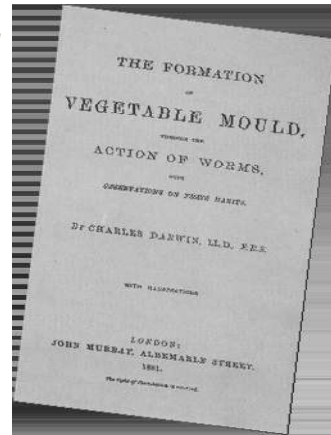
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Soil Fertility and Earthworms

Charles Darwin, 1881

... long before the plough existed the land was regularly ploughed by earthworms ...



3



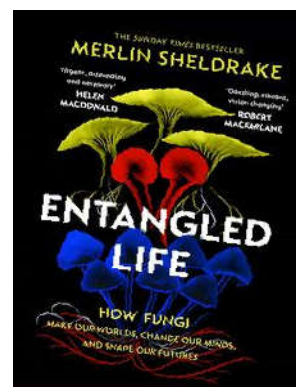
Soil, Fungi and Mycorrhiza

Wood Wide Web

Mycorrhiza

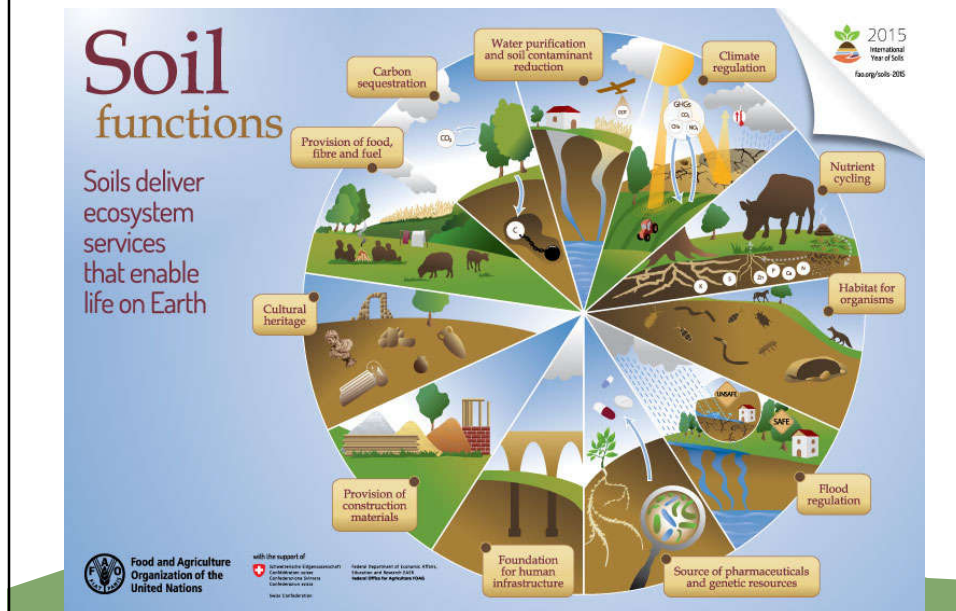
is a symbiosis between fungi and plants:

... more than than 90% of all plant species depend on mycorrhizal fungi ...



4

Soil Functions & Ecosystem Services



5

Lois Weinberger „Holding the Earth”



Lois Weinberger, Die Erde halten, 2010, mumok - Museum moderner Kunst
Stiftung Ludwig Wien, Schenkung von Phileas – A Fund for Contemporary
Art © Lois Weinberger 2020

6

ANNEX 7 Presentation “Soil Protection in Local Land Use Planning”

Speaker: Gertraud Sutor (LAND-PLAN, Ebersberg)



Büro für landschaftsökologische
Gutachten und Planung
LAND-PLAN
Kriegensiedlung 3 • D-85560 Ebersberg

Soil Protection in Local Land Use Planning

Implementing the Alpine Convention's Protocol on Soil Conservation in Bavarian and Austrian Municipalities

Dr. Gertraud Sutor
Büro LAND-PLAN, Ebersberg (near Munich), Germany

*Results from the project on
"Implementing the Protocol on Soil Conservation (BodP) in Municipalities"*

Presentation for the Workshop on soil functions and spatial planning in the
Alps, Munich, 29 - 30 March 2022


organised by the Alpine Convention working groups on Soil Protection as
well as Spatial Planning and Sustainable Development

Page 1

Der Vortrag präsentiert die Ergebnisse des Projektes „Alpenkonvention – Umsetzung Protokoll Bodenschutz – Aufbau und
Transfer von Wissen zum Bodenschutz in den Gemeinde – Transnationale Kooperation Bayern – Oberösterreich – Tirol“
Das Projekt wurde gefördert von:
Berlin, Deutschland



1




Topics

- Presentation of the project on
"Implementing the Protocol on Soil Conservation in Municipalities"
- Methods
 - Soil function evaluation and
soils with special importance for the ecological balance
 - Communicative measures to successfully achieve the goal set
 - List of measures and how to stipulate them in land-use plans
- Results
- Conclusion and outlook

Source: Hofer, R. (2017): Die verborgene Welt der Bodentiere. – Amt der Tiroler Landesregierung (Hrsg.), 58 Seiten, Innsbruck.

Page 2

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2



Alpine Convention - Implementation of the Protocol on Soil Conservation Development and Transfer of Knowledge for Soil Protection in Municipalities Transnational Cooperation between Bavaria - Upper Austria – Tyrol

- This project should contribute to the implementation of the Alpine Convention, in particular of the Protocol on Soil Conservation in municipalities.
- According to sect. 1, par. 2
"the ecological soil functions in particular, which form essential elements of the ecological balance, shall be safeguarded and preserved both qualitatively and quantitatively on a long-term basis."
- The goals of the project submitted therefore were:
 - ✓ preparing existing regional and national soil data and provide this data in a user-friendly manner
 - ✓ focusing on knowledge transfer to decision makers and other municipal stakeholders

Page 3

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3



Alpine Convention - Implementation of the Protocol on Soil Conservation Development and Transfer of Knowledge for Soil Protection in Municipalities Transnational Cooperation between Bavaria - Upper Austria – Tyrol

- **Knowledge transfer:**
Teach basic knowledge regarding the soil system
- **Capacity building:**
Develop competence in making independent decisions; here, the competence of non-soil specialists regarding soil protection planning issues



VERNETZEN – VONEINANDER LERNEN
Workshop-Reihe zu Bodenschutz, Boden in der Raumplanung

Page 4

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Klimabündnis Tirol

Interreg Alpine Space

Land Oberösterreich

tirol

santhofen

4

Alpine Convention - Implementation of the Protocol on Soil Conservation
Different Initial Situations



Interreg Alpine Space
Linksoils

LAND OBERÖSTERREICH

- a lot of experience, active since 2009, all municipalities in Upper Austria get support

tirol Unser Land

- medium experience, active since 2016, a soil function evaluation has been carried out

sonthofen

- no experience yet

AM


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Soil - an abiotic resource



2015 Internationales Jahr des Bodens

Air

Water

Soil

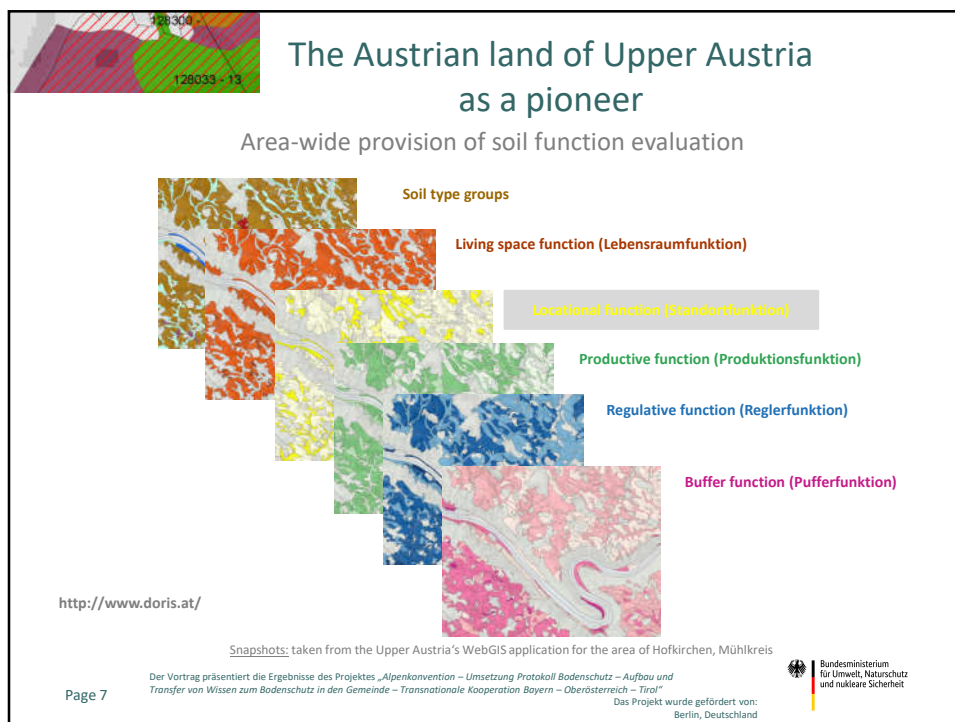
Source: Österreichische Bodenkundliche Gesellschaft (2015): Schulwandbild „Bruno Braunerde und die Bodentypen“. - <http://oebg.boku.ac.at/>

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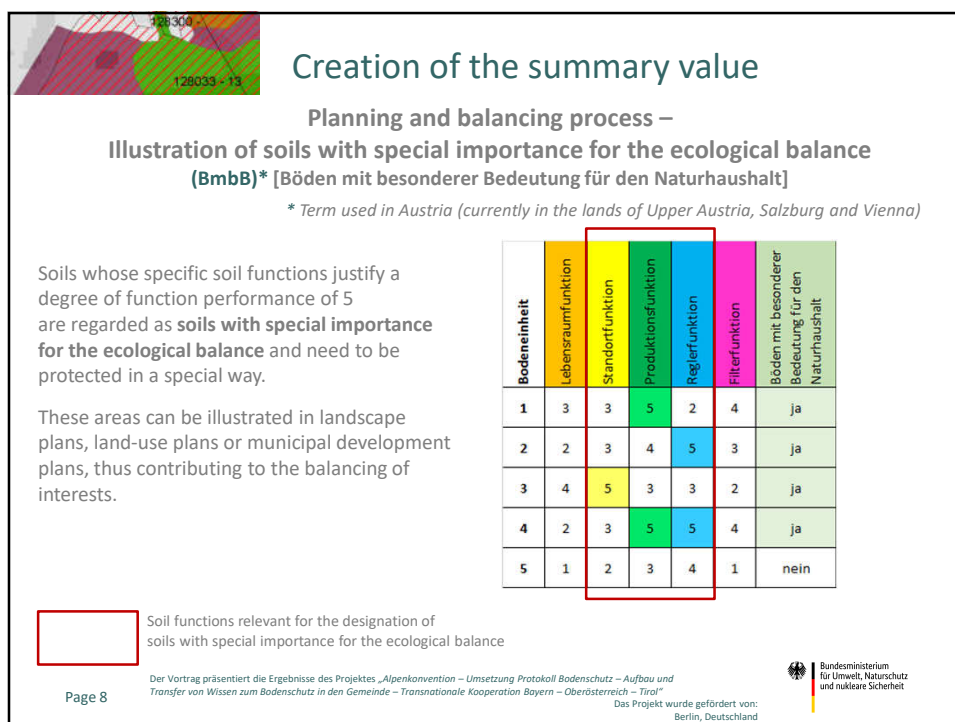
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6



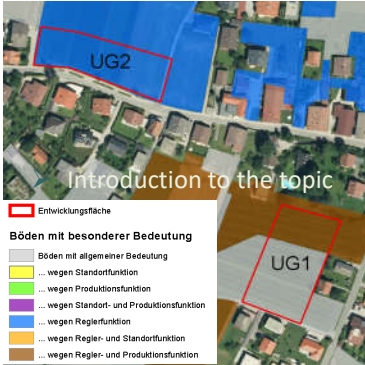
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8



Soils with special importance for the ecological balance



Introduction to the topic

Entwicklungsfläche


Böden mit besonderer Bedeutung

- Böden mit allgemeiner Bedeutung
- ... wegen Standortfunktion
- ... wegen Produktionsfunktion
- ... wegen Standort- und Produktionsfunktion
- ... wegen Regierfunktion
- ... wegen Regier- und Standortfunktion
- ... wegen Regier- und Produktionsfunktion

Soils with special importance for the ecological balance (Source: Municipality of Mutters, one of Tyrol's pilot areas)

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List of measures and examples

TYPE OF MEASURES	EXAMPLES
Qualitative mitigation measures	Preserve valuable soil thanks to an adapted use (in particular regarding their productive function)
	Preserve valuable topsoil
	Store soil temporarily and recultivate it in a technically correct manner
	Avoid soil sealing as much as possible where soil is cleared
Quantitative mitigation measures	Limit additional sealing by, first of all, using already cleared soil
	Build upwards or downwards (add another floor to existing buildings, build underground parking spaces)
Concept development and implementation	Develop and implement soil protection concepts
	Develop and implement soil management plans
	Integrate a professional site support (so-called pedological site support)
Commitment of the municipality to "actively protect soil during construction"	Stipulate measures already when setting up land-use plans, if possible
	Become member of the European Land and Soil Association

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Different workshop formats


Upper Austria (Austrian land):	
	Duration [h]
Format: one-day workshop	
Lectures	1.00
Group work	2.00
Discussion (results and questions)	1.00
Lunch break / Networking	1.00
Presentation of the best-practice examples and discussion	2.00
Total:	7.00

Tyrol (Austrian land):	
	Duration [h]
Format: half-day workshop	
Lectures	1.00
Group work	1.50
Break / Networking	0.50
Discussion (results and questions), best-practice example	0.50
Total:	3.50

Sonthofen (German town):	
	Duration [h]
Format: 3 workshops of 2 hours	
Workshop 01	
Lectures	1.00
Discussion (results and questions), best-practice example	1.00
Total:	2.00


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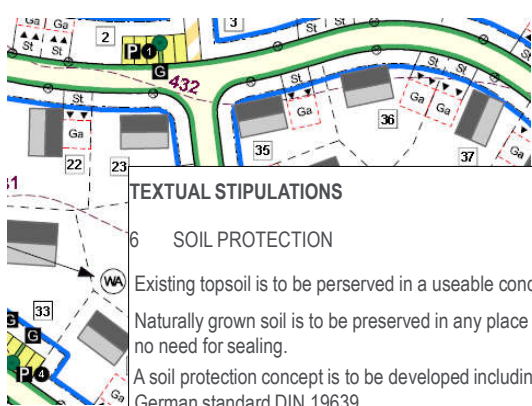


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11



Possible stipulations in land-use plans



BEBAUUNGSPLAN

TEXTUAL STIPULATIONS

6 SOIL PROTECTION

Existing topsoil is to be preserved in a useable condition, if possible. Soil compaction is to be avoided.

Naturally grown soil is to be preserved in any place where there are no buildings and where there is no need for sealing.

A soil protection concept is to be developed including a soil protection plan according to the German standard DIN 19639.


Topsoil that is removed from the construction field is to be reused according to the German Federal Soil Protection Act, section 12.

Soil samples are to be taken from the soil material that is removed from the construction field (according to the German Federal Soil Protection Act section 12, para. 3, and section 4).

In the event that topsoil is reused a building permission is needed.

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Volders, Tyrol – an example for a best practice municipality

BODENSCHUTZ in der örtlichen Raumplanung am Beispiel VOLDERS



© TVB Region Hall-Volders-Wattens

Land, Region:	Tirol, Bezirk Innsbruck, A-6111 Volders
Organisation:	Gemeinde Volders – Bundesstraße 23 – A-6111 Volders +43 5224 52311 - gemeinde@volders.tirol.gv.at
Bodenrelevante Sektoren:	Landwirtschaft, Siedlungsraum,
Landnutzungen:	landwirtschaftlich genutzte Flächen
Hauptbedrohungen für den Boden:	Versiegelung, Überbauung --> Verlust der Produktionsfunktion – hohe Bodenfruchtbarkeit, Verlust der Reglerfunktion
die wichtigsten Bodenfunktionen:	Produktionsfunktion, Reglerfunktion

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Results

- Workshops to teach *knowledge transfer* and *capacity building* do work well.
- *Knowledge transfer* can be achieved by means of introductory presentations and group work.
- Underlying data must be compiled and processed for the respective project area (soil function evaluation, soils with special importance).
- Very important: provide working material
(list of measures, examples of stipulations used in land-use plans, instruction manual)
- Cartographic illustration of the summary value and resulting conflicts during planning
- *Capacity building* works best in group work situations based on the provided working material.

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Conclusion


- Soil is a resource that is essential for our life.
Loss of soil and soil impairments cannot be regenerated - measured in human time periods.
- There are different soil types.
They all fulfil a large number of different functions.
- In Austria, four lands (Upper Austria, Salzburg, Tyrol and Carinthia) already have an area-wide soil function evaluation.
- The data of "soils with special importance for the ecological balance" can be used as a decision-making tool for municipal planning issues.
- Possible solutions can be developed for conflict areas using the data of "soils with importance for the ecological balance".

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Outlook

- The municipalities in the Alpine region can benefit from the lessons learned.
- The public sector and the politicians could provide support by carrying out soil function evaluations.
- Ideally, this information would be available for free to the public by means of a WebGIS application.
- A customized instruction manual based on the specific area and needs of the decision-makers (*capacity building*) helps to develop solutions that are easy to put into practice.
- We would wish that the stakeholders consider this approach as useful when implementing the Protocol on Soil Conservation in the future.

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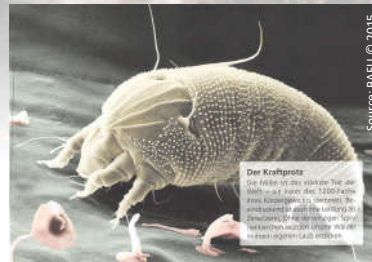
Thank you very much
for your attention!

Büro LAND-PLAN
Dr. Gertraud Sutor
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D-85560 Ebersberg

Phone: +49/(0)8092/865011
Fax: +49/(0)8092/865012

www.land-plan.de
gertraud.sutor@land-plan.de

This is how the soil system works!



Source: BATU © 2015

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ANNEX 8 Programme

Workshop on soil functions and spatial planning in the Alps

29-30 March 2022

Munich, Germany

© Tomas Peham/Land Tirol

29 March, day 1: Land take and soil protection

Time	Topic	Speaker
11:45	<i>Lunch</i>	
13:00	Welcome	Daniel Meltzian , German Federal Ministry for Housing, Urban Development and Building, Chair of the Spatial Planning and Sustainable Development Working Group Christian Steiner , Office of the Provincial Government of Lower Austria, Chair of the Soil Protection Working Group Alenka Smerkolj , Secretary General of the Alpine Convention Gerd von Laffert , Bavarian Ministry of Economic Affairs, Regional Development and Energy
13:25	Keynote: Rethinking land in the Anthropocene—the trilemma of land use and the role of soils	Karen Pittel , ifo institute—Leibniz institute for Economic Research at the University of Munich
13:50	Keynote: The youth perspective on soil protection	Tassilo Lex , Youth Parliament to the Alpine Convention (2018-2021)
14:05	Land saving targets and present land take in the Alps	Florian Lintzmeyer , ifuplan—Institute for Environmental Planning and Spatial Development Tobias Chilla , Friedrich-Alexander University Erlangen-Nürnberg
14:30	Implementations to combine qualitative and quantitative soil protection in Tyrol, Austria	Thomas Peham , Office of the Tyrolean Provincial Government
14:50	Good implementation practices <ul style="list-style-type: none">• Soil protection in Tyrol, Austria• Protection of agricultural areas in Slovenia	Christian Drechsler , Office of the Tyrolean Provincial Government Jernej Červek , Slovenian Ministry for the Environment and Spatial Planning
15:30	<i>Coffee break</i>	

Time	Topic	Speaker
15:50	Workshop in 3 groups: Alps as a model region for Net0? What is needed to achieve the land saving targets <ul style="list-style-type: none"> • Regulatory framework: Which options do we have? • The role of municipalities and regions: Which implementation options exist? • Who benefits from land saving: potential stakeholder alliances 	Moderators: Arthur Schindelegger , <i>Vienna University of Technology</i> Tobias Chilla , <i>Friedrich-Alexander University Erlangen-Nürnberg</i> Maria Schachinger , <i>WWF Österreich</i>
16:50	Briefing on and discussion of the workshop results	Plenum participants
17:20	Closing remarks	
17:30	End of session	
19:00	<i>Dinner</i>	

30 March, day 2: The role of soil functions in spatial planning

Time	Topic	Speaker
9:30	Introduction: Soil functions deserve more attention—the case of incorporating soil functions in spatial planning	Christian Steiner , <i>Office of the Provincial Government of Lower Austria, Chair of the Soil Protection Working Group</i>
9:40	Soil protection in local land use planning	Gertraud Sutor , <i>LAND-PLAN—Office for Landscape Ecology Assessment and Planning</i>
10:15	Workshop in 3 groups: How can including soil functions improve spatial planning? <ul style="list-style-type: none"> • Data for planning: What soil data do spatial planners need at which planning level? • Communication: How do we sensitize local and regional decision makers for the value of soil functions? • Planning processes: How do we strengthen soil functions in the weighing of interest? 	Moderators: Gertraud Sutor , <i>LAND-PLAN—Office for Landscape Ecology Assessment and Planning</i> Michael Roth , <i>Austrian Federal Ministry for Agriculture, Regions and Tourism</i> Maria Legner , <i>Klimabündnis Tirol</i>
11:15	<i>Coffee break</i>	
11:30	Briefing on the workshop results	

Time	Topic	Speaker
11:45	Panel discussion and plenary: What can be an ambitious target for “soil-sensitive” spatial planning at the Alpine Convention level? How can the Alpine Convention promote it?	<p>Alenka Smerkolj, <i>Secretary General of the Alpine Convention</i></p> <p>Thomas Wimmer, <i>EUSALP Youth Council, Youth Parliament to the Alpine Convention (2017-2018)</i></p> <p>Maria Legner, <i>Klimabündnis Tirol</i></p> <p>Michael Roth, <i>Austrian Federal Ministry for Agriculture, Regions and Tourism</i></p>
12:30	<p>Wrap up:</p> <ul style="list-style-type: none"> • What does the soil sector expect from spatial planning? • What are the needs of the planning sector to adequately consider soil functions? • Outlook 	<p>Christian Steiner, <i>Office of the Provincial Government of Lower Austria, Chair of the Soil Protection Working Group</i></p> <p>Daniel Meltzian, <i>German Federal Ministry for Housing, Urban Development and Building, Chair of the Spatial Planning and Sustainable Development Working Group</i></p>
12:45	<i>Lunch</i>	
14:00	Excursion: English Garden	

The event will be moderated by **Stefan Marzelli**, *ifuplan—Institute for Environmental Planning and Spatial Development*

This Workshop is being jointly organised by the Alpine Convention working groups on Soil Protection as well as Spatial Planning and Sustainable Development and is financed by the German Federal Ministry for Housing, Urban Development and Building as well as the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology.



Federal Ministry
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ALPENKONVENTION
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CONVENZIONE DELLE ALPI



Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

Overview of statistical definitions of cities and towns according to the German continuous spatial observation of the Federal Institute for Research on Building, Urban Affairs and Spatial Development (laufende Raumbeobachtung des BBSR)

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This overview has been checked for accuracy by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR). We wish to thank Mrs. Antonia Milbert and Nina Kuenzer for their valuable contribution.

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Criteria for assessing city and settlement types include the population size of a municipality and its central-place function. A municipality of an administrative association (Gemeindeverband) or single municipality (Einheitsgemeinde) with at least 5,000 residents or at least a low-order centrality is categorised as “city”. If one of these criteria is not met by the administrative association (Gemeindeverband) or single municipality (Einheitsgemeinde), it is defined as a rural municipality. Among the roughly 4,500 German communities, 1,700 are rural municipalities and 2,800 are cities/towns.

The administrative associations are the basis of all delineations and categorisations on a municipal level by the BBSR, with the exceptions of

- Agglomerations of the Conference of Ministers for Spatial Planning (MKRO) of 1993
- Spatial types 2010¹ (Raumtypen 2010) categorisation based on basic structural features of population and location
- Eurostat Degree of Urbanisation
- Eurostat Functional Urban Areas (FUA) following 2020

Urban categories in Germany

In its “federal continuous spatial observation” (laufende Raumbeobachtung des Bundes), the BBSR – the agency in charge of spatial observation and research on a federal level in Germany - differentiates the observation unit of urban categories² according to the criteria

- population size,
- and central-place function.

¹

https://www.bbsr.bund.de/BBSR/DE/forschung/raumbeobachtung/Raumabgrenzungen/deutschland/gemeinden/Raumtypen2010_vbg/Raumtypen2010_alt.html

²

<https://www.bbsr.bund.de/BBSR/DE/forschung/raumbeobachtung/Raumabgrenzungen/deutschland/gemeinden/StadtGemeindetyp/StadtGemeindetyp.html> [accessed 2021-03-17]

The central-place hierarchy is an important paradigm in the German spatial planning system. Central-place categories are assigned to cities and municipalities at the level of state and regional spatial programmes and plans, not on a federal level. There is largely a consistency in the definition, although not entirely. Particularly in Bavaria, a much disputed enlargement (upgrading) of central-place designations has taken place in the recent past. Promoters saw it as a way to strengthen rural areas, while critics saw it as a “cosmetic” procedure that threatens the provision function of basic services through bundling them in a limited number of settlements particularly in peripheral areas. The central-place approach needs to be differentiated into a descriptive and a normative function: Descriptive as a tool of spatial observation and categorisation, normative as a tool of pursuing equivalent living conditions in all territories. Three levels of central-place functions³ are assigned by spatial planning on a state level:

- low-centrality order: everyday needs, basic and local supply. Minimum population size of the catchment area: 7,000 – 10,000.
- medium-centrality order: more sophisticated needs, largely equivalent to regional relevance. Minimum population size of the catchment area: 30,000 – 40,000.
- high-centrality order: specialised, higher needs, largely equivalent with supra-regional or state-wide relevance. Minimum population size of the catchment area: 200,000 – 300,000.

On an annual basis, the BBSR collects central-place categorisations from state spatial plans at a federal level.

The remaining municipalities are defined as rural municipalities (Landgemeinde), which thus is a residual category (= everything that is not a city).

Table 1 Urban categories and criteria used by federal spatial observation in Germany

Urban category	Large city (Großstadt)		Medium-sized town (Mittelstadt)		Small-sized town (Kleinstadt)		Rural municipality (Landgemeinde)
Population size	with a minimum of 100,000 residents		with a population between 20,000 and 100,000		with a population between 5,000 to under 20,000 residents		Remaining municipalities that do not fall under the previous categories.
Central-place function	predominantly these cities possess high-order centrality, but at least medium-order centrality		predominantly these cities possess middle-order centrality		<u>or</u> possessing at least lower-order centrality with partly middle-order function (grundzentrale Funktion mit mittelzentraler Teilfunktion)		
Urban sub-category	Very large city (15 in Germany)	Smaller large city	large middle-sized towns	small middle-sized town	larger small-sized towns	small small-sized town	
Population	about 500,000 residents or more	less than 500,000 residents	at least 50,000 residents	less than 50,000 residents	minimum of 10,000 residents	less than 10,000 residents	

³ Municipalities can also partly carry out functions of a higher centrality or share functions in urban groups (Städteverbünde).

Designating municipalities to the category of large cities has ramifications for further spatial categories and delineations: large city region catchment areas, large city regions, district regions, including the designation of district-free large cities (kreisfreie Großstädte). Before designating a middle-sized town to a large city or vice versa, the BBSR checks through various sources if the city exceeds the threshold of 100,000 inhabitants as part of a medium- or longer-term trend.

Table 2 Map of urban and municipality types 2017 (red=large city, dark orange=medium-sized town, light orange= large small-sized town, cream= small small-sized town, green= rural municipality)

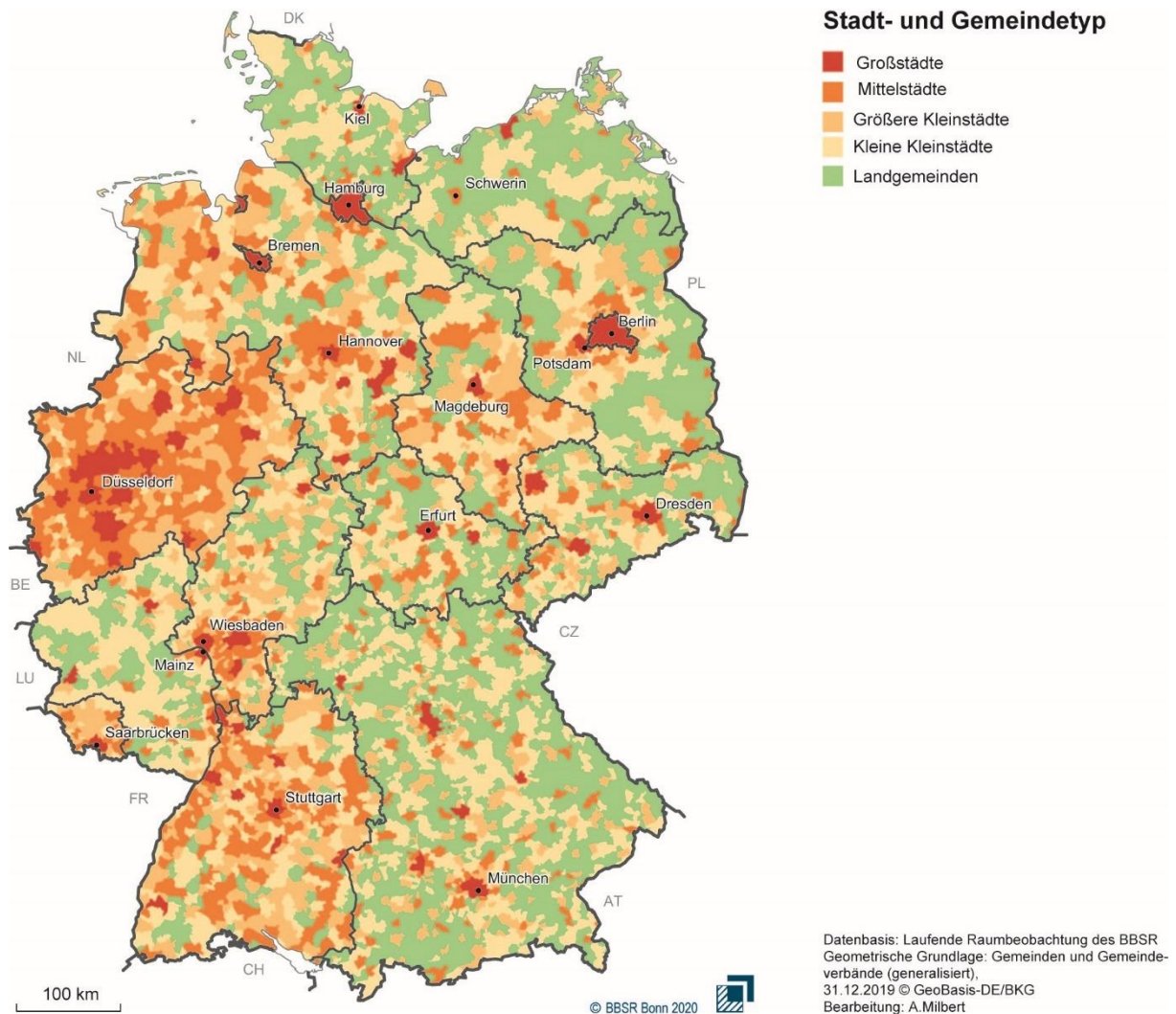
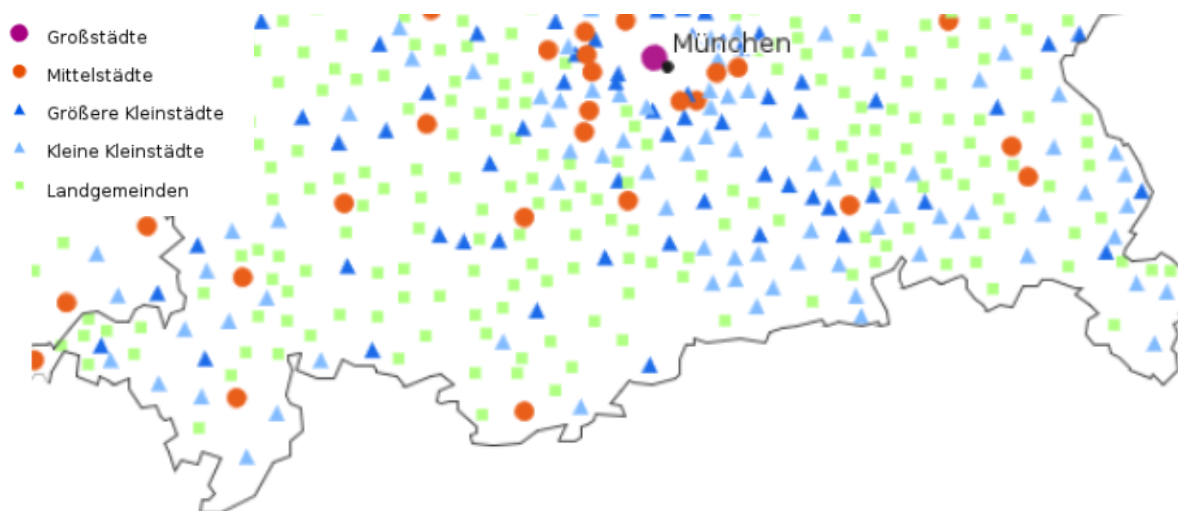


Figure 1 illustrates the pattern of cities in the German Alpine Convention area. There is no large city in the German Alpine Convention area. The red dots from West to East represent Lindau, Sonthofen, Kempten, Kaufbeuren, Garmisch-Partenkirchen, Weilheim i.OB, Rosenheim, Traunreut and Traunstein.

Figure 1 Urban categories in Southern Bavaria (Source: BBSR 2021)



Additional spatial categories include large city regions and urban-rural regions:

Large city region (Großstadtregion)

Large city regions (Großstadtregionen)⁴ visualise the linkages between major cities and their surrounding area through commuter relations.

Table 3 Criteria for large city regions (core and surroundings)

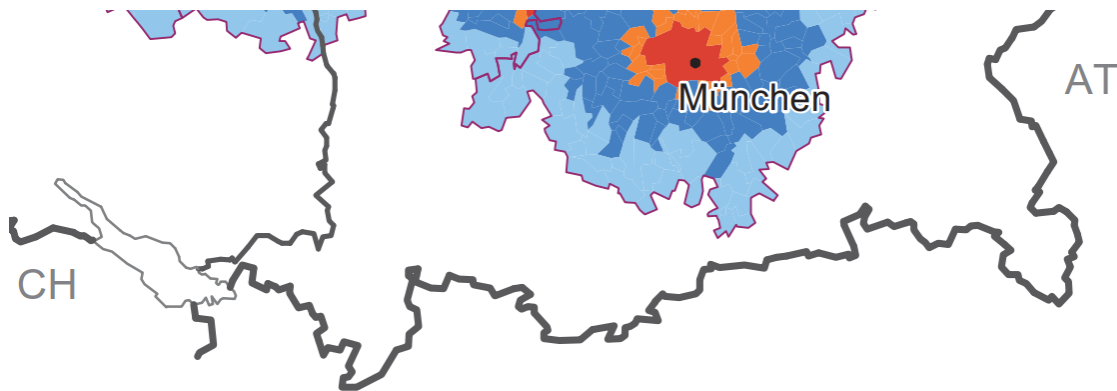
Center of a large city region	Category of city/municipality = large city, high-order center Commuter surplus (in-commuter/outcommuter ≥ 1), (day) population > 100,000 (major city), (day) population > 500,000 (metropolis) main source of commuters is not the neighboring center
Supplementary area	Day population > 500/sqkm, commuter surplus and/or 50% of out-commuters commute to a core city
Immediate commuter catchment area	At least 50% of out-commuters commute to a center / supplementary area
Extended commuter catchment area	25 to 50% of out-commuters commute to a center / supplementary area

These catchment areas are updated roughly every five years. The only German large city region reaching into the German Alpine Convention perimeter is the extended commuter catchment area of the Large City Region of Munich, covering parts of the counties of Miesbach and Bad Tölz-Wolfratshausen.

⁴

<https://www.bbsr.bund.de/BBSR/DE/forschung/raumbeobachtung/Raumabgrenzungen/deutschland/regionen/Grossstadtregionen/Grossstadtregionen.html?nn=2544954>

Figure 2 Large city regions in Southern Bavaria (Source: BBSR 2021)



Urban-rural regions (Stadt-Land-Regionen)

Urban-rural regions are an approach to reflect the idea of regional identity and socio-economic integration, based on criteria of commuter linkages and accessibility⁵:

- They are delineated to portray urban-peri-urban linkages with potential spatial interactions and supply functions.
- They should create a continuous, disjunct (no overlaps) spatial categorisation without exclaves, based on municipalities.
- They should have a certain minimum size.
- Bipolar or multipolar regions are possible.

These stipulations determine the number of German regions to range between 100 and 1,000.

⁵ Source:

<https://www.bbsr.bund.de/BBSR/DE/forschung/raumbeobachtung/Raumabgrenzungen/deutschland/regionen/StadtLandRegionen/StadtLandRegionen.html?nn=2544954> [accessed 2021-03-17]