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

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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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Permanent Secretariat of the Alpine Convention, May 2022

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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 CO_2 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 (Office of the Federal Government of Tyrol)

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.

Protection of agricultural areas in Slovenia (Jernej Červek)


Jernej Červek (Slovenian Ministry of Environment and Spatial Planning)

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.

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 "Stadtrandbewertung 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 Grünland[1]) 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_Beispiel_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


Thank you!

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)

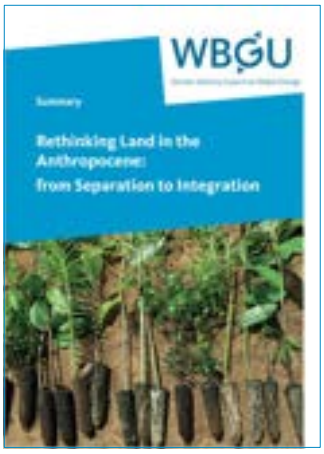
WBGU
German Advisory Council on Global Change

Rethinking Land in the Anthropocene: the trilemma of land use and the role of soils

1

WBGU **Flagship Report 2020**

WBGU



Source: WBGU

2

"Trilemma" of land use

Source: WBGU

3

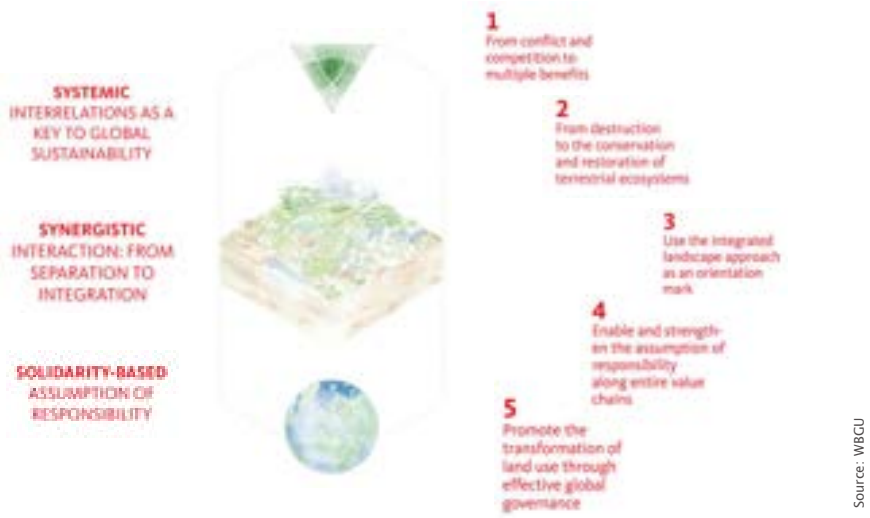
Land, **climate**, **biodiversity** and **food security**

- 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 Asessment, SPM 2019

4

Key messages for a global land-use transformation



Source: WBGU

5

Five **multiple-benefit strategies**

- **Ecosystem restoration**
- **Protected-area systems**
- **Diversified agriculture**
- **Changing dietary habits**
- **Timber-based construction**

Source: WBGU

6

1 – Foster **Ecosystem restoration**

> **Restoration** can make land-based CO_2-removal synergistic

Source: WBGU

7

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

8

3 – Diversify **farming systems**

> A diversified, **ecologically intensive agriculture** worldwide can secure food, protect the climate, enable landscape resilience and maintain biodiversity

Source: WBGU

9

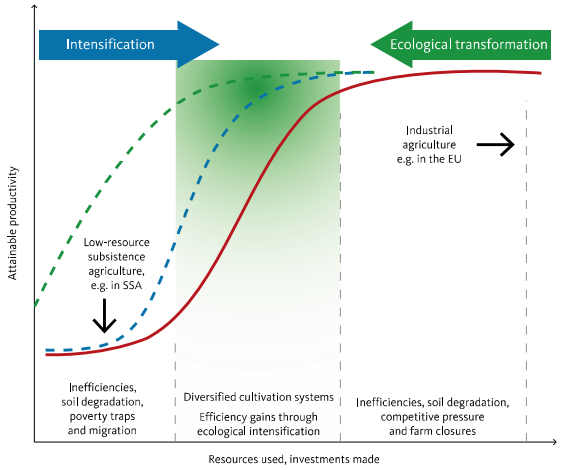
3 – Diversify **farming systems**

> 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

10

3 – Diversify **farming systems**



Source: WBGU

11

3 – Diversify **farming systems**

Ecological transformation of industrial agriculture
Example: European Union (EU)

Instruments
Reform of the Common Agricultural Policy (CAP), diversified agricultural systems, land-based livestock production

Goal
Enhanced ecosystem services in the context of an integrated landscape approach

Fair and sustainable trade

Compliance with environmental, health and social standards, fair supply chains, promotion of regional trade, food security especially in times of crisis

Sustainable increase in productivity of subsistence agriculture
Example: Sub-Saharan Africa (semi-arid regions)

Instruments
Reform of national subsidies and adaptation programmes, diversified agricultural systems

Goal
Food security and adaptation to climate change in the context of an integrated landscape approach

Source: WBGU

12

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

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

Multi-gain strategies through **integrated landscape approach**

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

Five **governance strategies**

Source: WBGU

16

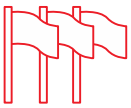
1 – Support **change agents**

- 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

17

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

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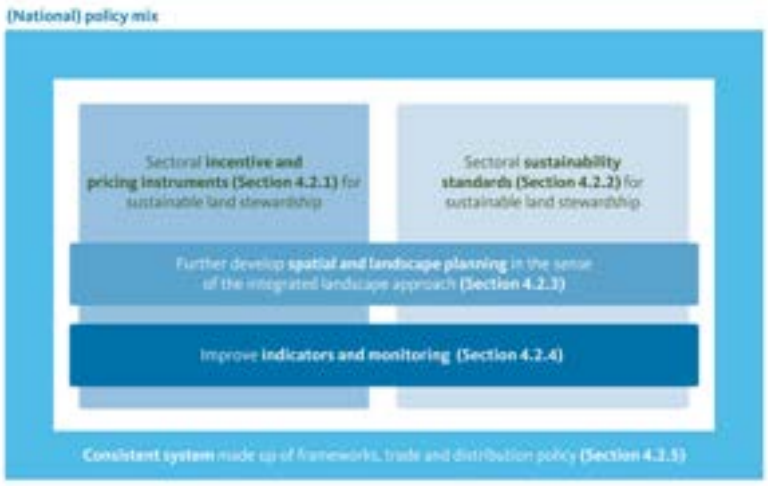
2 – Set **national political framework conditions**



Source: WBGU

19

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

20

4 – Strengthen **international cooperation**

- 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

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5 – Establish **new cooperation alliances**

Regional alliances that aim for the cross-border implementation of integrated landscape approaches

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 that aim at conserving and restoring valuable ecosystems of special relevance

Source: WBGU

22

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**

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Many thanks for your attention

German Advisory Council on Global Change (WBGU)

Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU)

> Twitter @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)

1

Land take: An increasingly pressing issue across Europe

2

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

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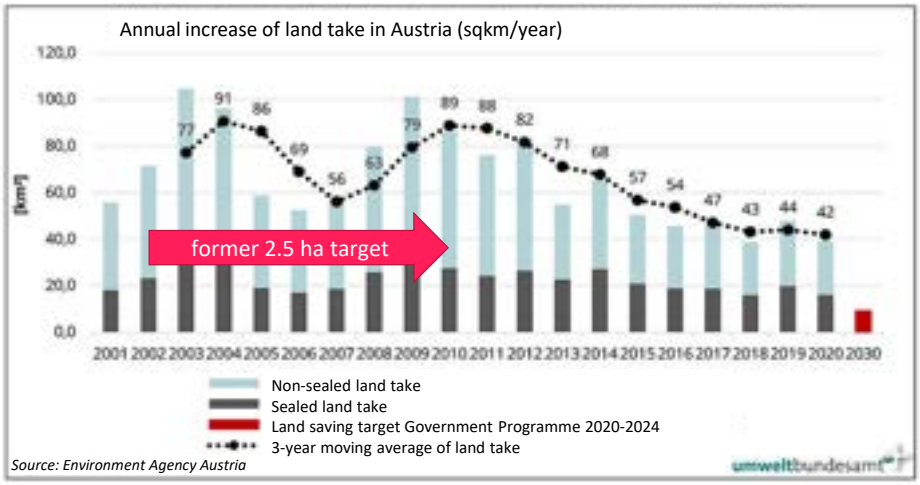
3

Austria: Land-take



10.7 ha/day (2020) > 2,5 ha (2030)

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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)

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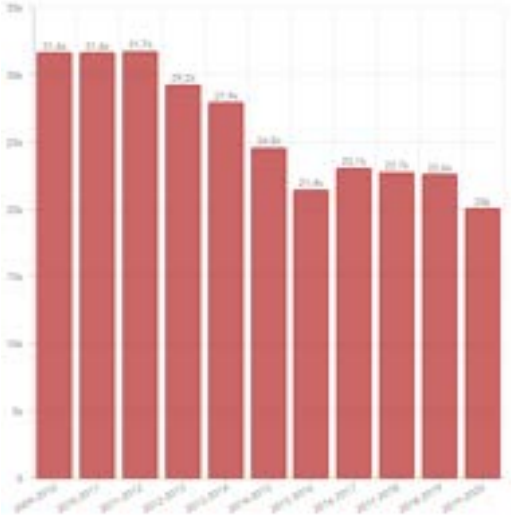
5

France: Land-take



Annual consumption of natural, agricultural and forest areas in ha

54.8 ha/day (2020)

27.5 ha/day (2030)

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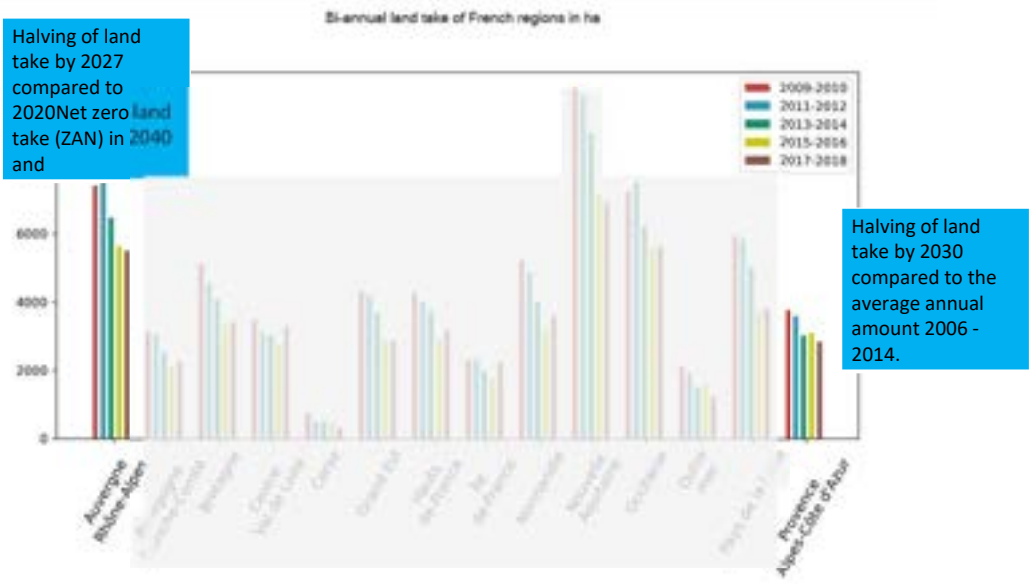
Land take and targets in French regions



Halving of land take by 2027 compared to 2020Net zero land take (ZAN) in 2040 and

Halving of land take by 2030 compared to the average annual amount 2006 - 2014.

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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

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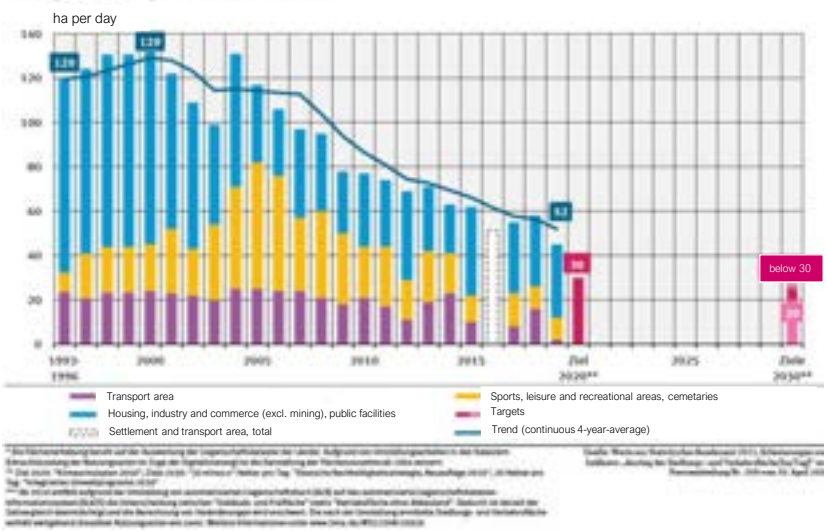
Germany: Land take

Increase in settlement and transport area (SuV)



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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

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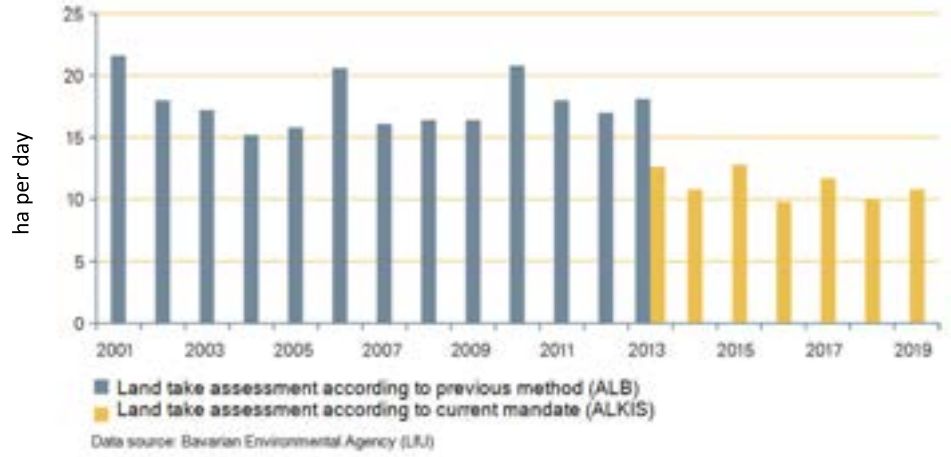
Bavaria: Land-take



11,6 ha (2020) >
5 ha (2030)

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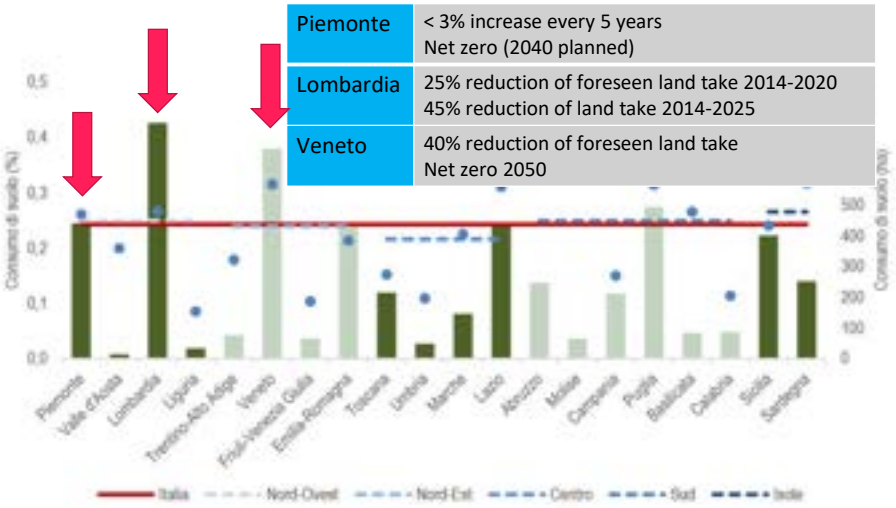
Italy: Land-take and targets for Piemonte, Lombardia and Veneto

Piemonte	< 3% increase every 5 years Net zero (2040 planned)
Lombardia	25% reduction of foreseen land take 2014-2020 45% reduction of land take 2014-2025
Veneto	40% reduction of foreseen land take Net zero 2050



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Veneto: Maximum remaining land take per municipality

Remaining land zoned for settlement
21.323 ha
(1,15% of Veneto total)

- 40%
=> - 8.530 ha

				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	Variazione per tensione abitativa	Variazione per varianti verdi	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	①②
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

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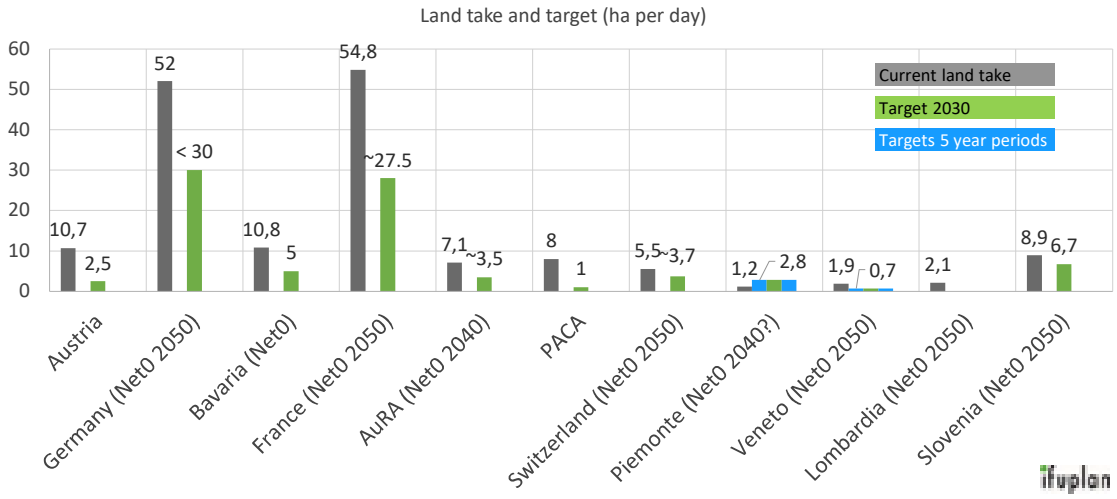
Current land take and targets



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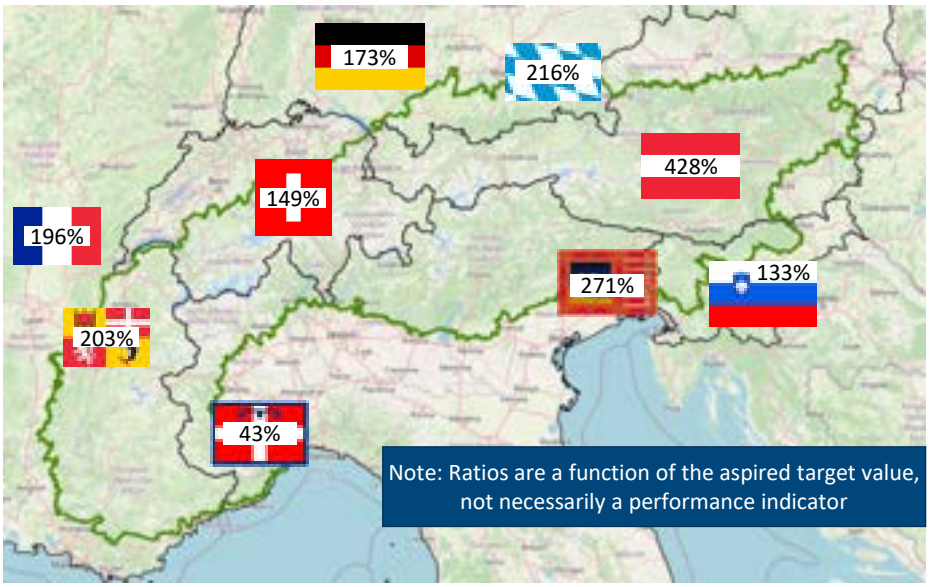
Percentage of current land take in view of 2030 targets



Map: Alpine Atlas, Openstreetmap

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Challenges for the implementation process include…

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Land saving targets in Alpine Countries

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The Alpine context

FAU Friedrich-Alexander-Universität Erlangen-Nürnberg

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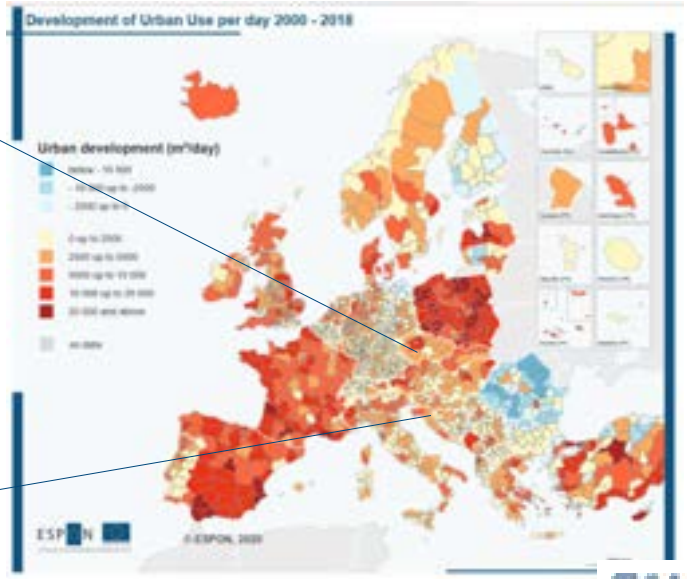
The Alpine Context



https://www.espon.eu/sites/default/files/attachments/ESPON%20SUPER%20Final%20Report%20-%20Main%20report_newtemplate.pdf

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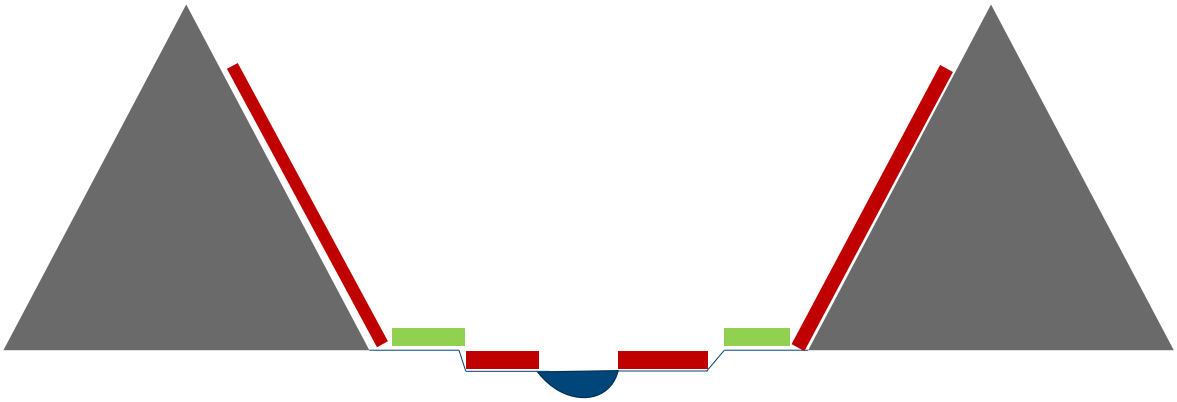
The Alpine Context



Particularity of Alpine Settlement Systems
a) **Morphology**
b) Accessiblity (Infrastructure, essential services)
c) Campatibility of land use categories

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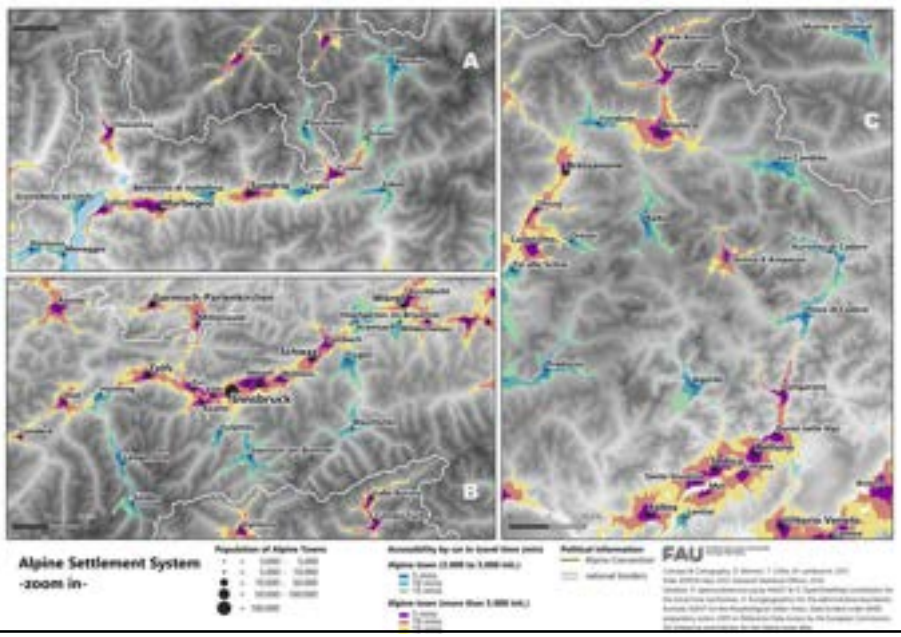
The Alpine Context



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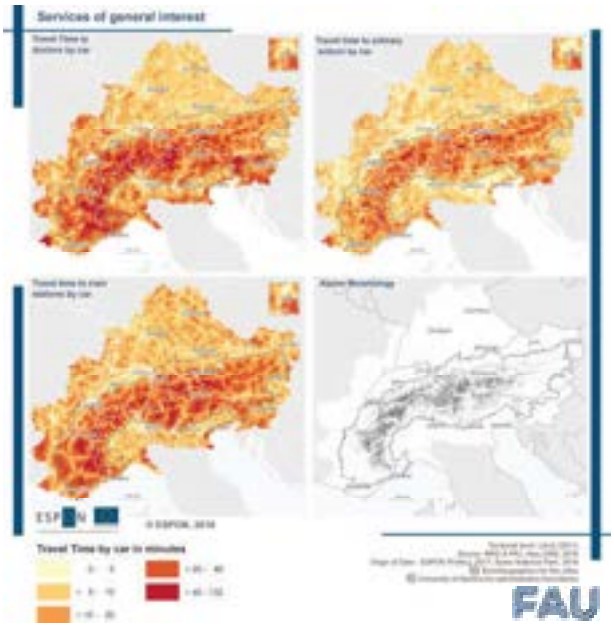
The Alpine Context

ESPON Alps 2050



Particularity of Alpine Settlement Systems
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http://inntal-gemeinschaft.de/unsere-ziele

Particularity of Alpine Settlement Systems
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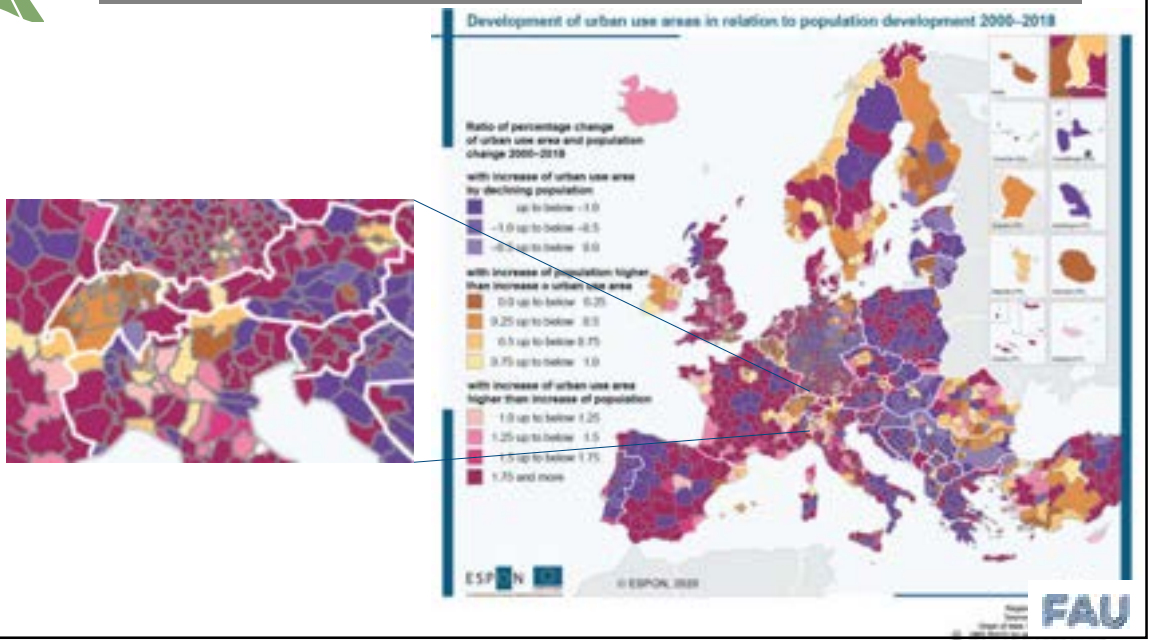
The Alpine Context



Eigener Entwurf

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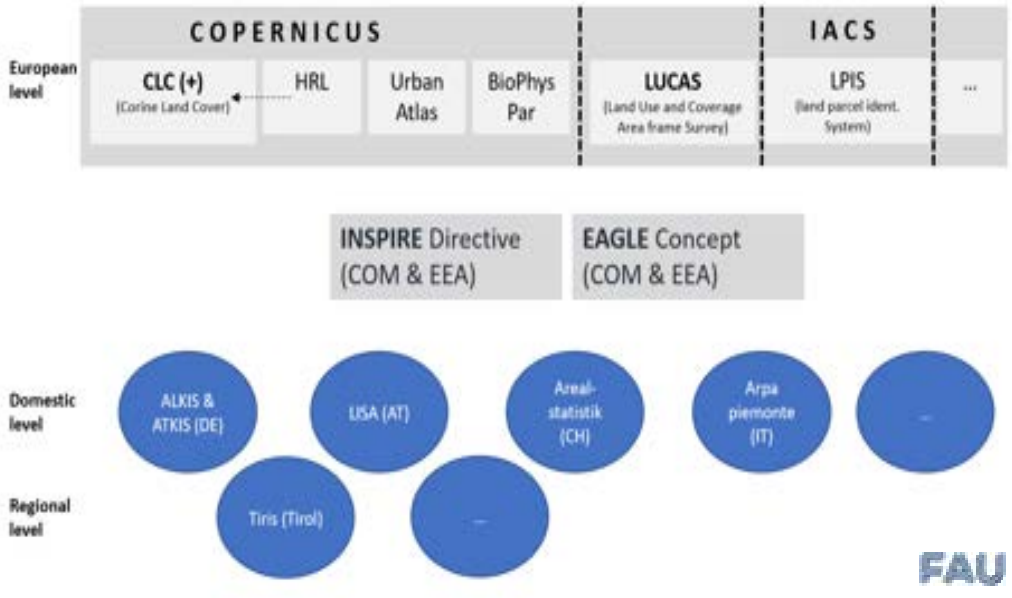
The Alpine Context



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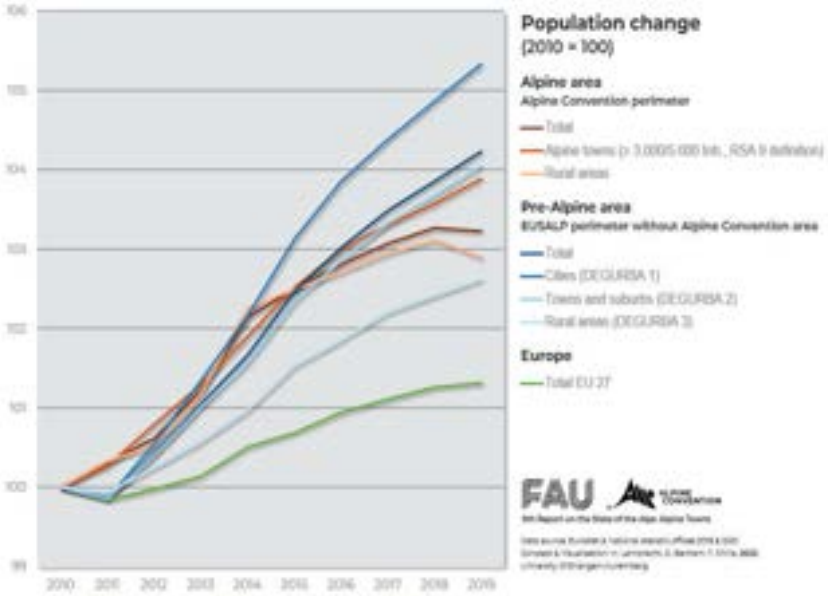
The Alpine Context



Eigener Entwurf

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FAU Friedrich-Alexander-Universität 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

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

Objectives of the presentation

Soil functions

- Day 1

Day 2

- Provide some basic information on soil functions an 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

LAND TIROL

What is a soil function – example from Austria

LAND TIROL

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

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

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	–	+	+	+ +
Pollutent accumulation	–	+	+ +	+ +
Water storage	– –	+	+ +	+ +
Water provision	–	+ +	–	+
Mechanical filtration	+	+ +	–	+
Physico-chemical filtration	– –	–	+ +	+
Drainage	+ +	– –	–	±
Erodibility	±	+	– –	–

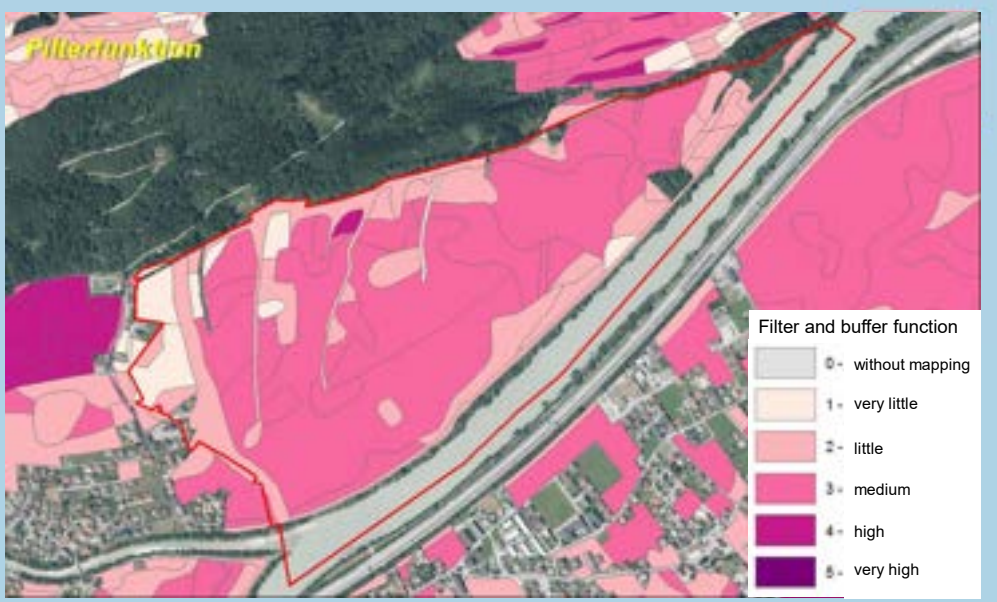
Table after https://de.wikipedia.org/wiki/Bodenart

How is soil function assessment done in Austria
Austrian standard L 1076 and scientific concept

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

Filter and buffer function



Examples of soil function usage

LAND TIROL

- 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

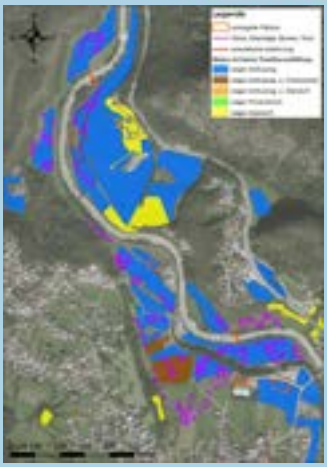


Figure by GEOWEST

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!

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

Thank you for your attention

ANNEX 4 Presentation "Agricultural Provision Areas – A Contribution of Spatial Planning to Quantitative Soil Protection"

Speaker: Christian Drechsler (Office of the Tyrolean Government)

Agricultural Provision Areas

A Contribution of Spatial Planning to Quantitative Soil Protection

Christian Drechsler

Workshop on Soil Functions and Spatial Planning in the Alps
03/29/2022, Munich

1

Questions:

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?

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)

1974

2016

2. Why agricultural provision areas?

OBJECTIVELY

- Supra communal - planning and determing 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 determinating argicultural provision areas sorted by interest pressure on the space. Reference area: Planungsverbände.

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

3.b.) How can agricultural provision areas be mapped?

Soil Valuation
(Ministry of Finance)

3.b.) How can agricultural provision areas be mapped?

Local Zonig Plan

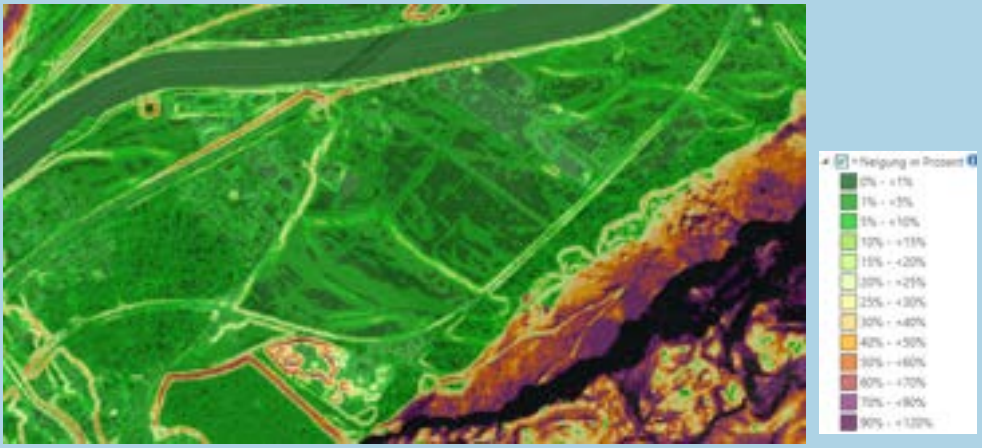
(Flächenwidmungsplan)

3.b.) How can agricultural provision areas be mapped?

Local Spatial Planning Concept

Örtliches Raumordnungskonzept

3.b.) How can agricultural provision areas be mapped?



Slope gradient

3.b.) How can agricultural provision areas be mapped?

Delimitation of agicultural provision area

Online/tiris

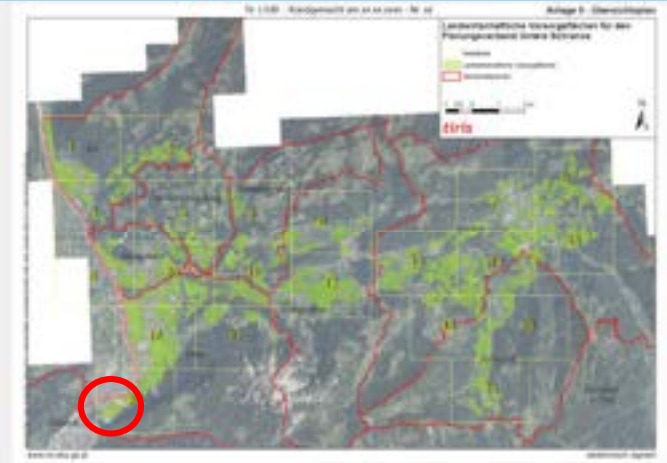
3.c.) How can agricultural provision areas be regulated by law?

- **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/

3.c.) How can agricultural provision areas be regulated by law?

3.c.) How agricultural provision areas can be regulated by law?



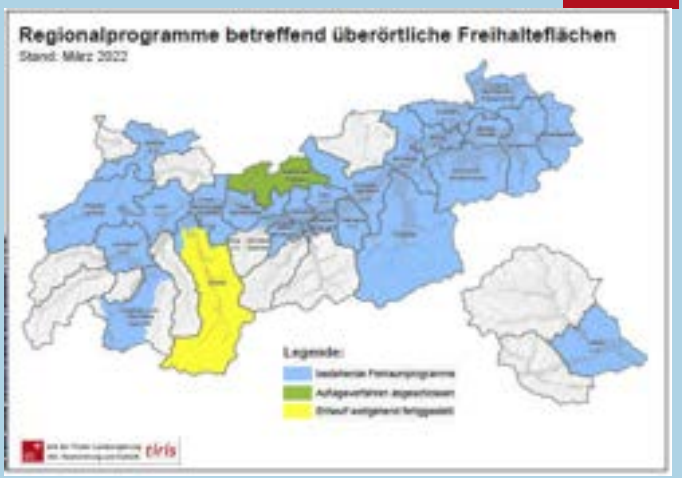
https://www.tirol.gv.at/landesentwicklung/raumordnung/ueberoertliche-raumordnung/raumordnungsprogramme-1/

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).

4. What is the “effect”?

	DSR in ha	LWVF in ha	Anteil LWVF am DSR
Wils und Kematen	916	426	46%
Zillertal	12780	2.312	19%
Wörgl und Umgebung	5693.1	3.696	64%
Oberes Lechtal	3630	1.148	38%
Hall und Umgebung	2636	1.132	42%
Reutte und Umgebung	3500	1.094	31%
Südviertl, Mittelgeb. und Innsbruck	5830	1.260	22%
Imtal - Mieminger Plateau	2.551	1.155	45%
Westliches Mittelgebirge	2167	885	41%
Lienz und Umgebung	7338	2.086	28%
Imst u. Umg., Haiming, Roppen	4.358	1.316	30%
Matrei und Umgebung	2949	742	25%
Kufstein und Umgebung	4278	1.573	37%
Telfs u. Umg. – Salzstraße	4.316	1.605	37%
Untere Schranne – Kaisergebirge	7404.7	3.477	47%
Landeck und Umgebung	3600	393	11%
Oberperfuss, Unterperfuss und Ranggen	950	362	38%
Leukental	9494	2878.5	31%
Oberes und Oberstes Gericht, Serfaus	3.115	553.3	18%
Wilder Kaiser	4.140	1.163	28%
Pillerseetal	3845	1109	29%
Brixental – Wildschönau	10896	1845	17%
Schwaz – Jenbach und Umgebung	6313	1839	29%
Strobegg und Umgebung	3.602	1174.1	33%
Gesamt	**115380.8**	**35136**	**30%**



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.

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

Thank you!

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)

REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR

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

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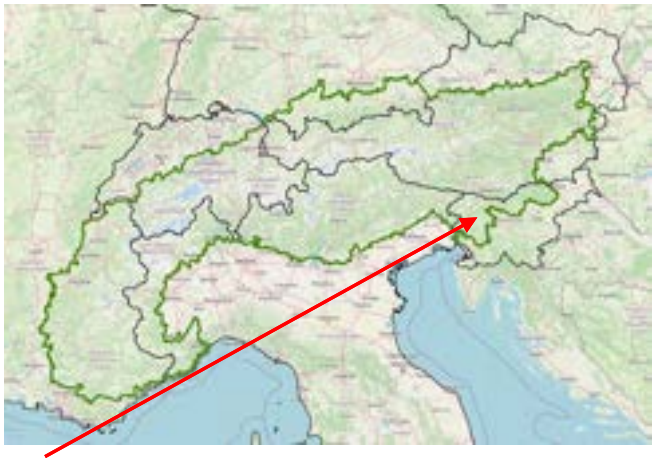
MINISTRSTVO ZA OKOLJE IN PROSTOR

The Alps in Slovenia



The Alpine Region (map of the Alpine Convention)

2

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MINISTRSTVO ZA OKOLJE IN PROSTOR

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*

3

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MINISTRSTVO ZA OKOLJE IN PROSTOR

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.

4

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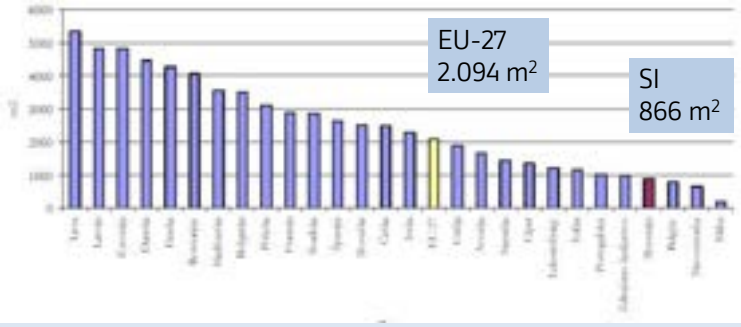
Agricultural land per capita in the EU-27



Source: Eurostat

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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, examptions permiting building in the first category agricultural areas were possible and were examined case by case

7

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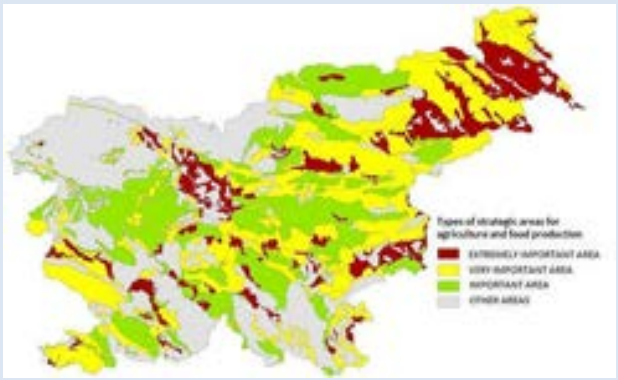
Types of strategic areas for agriculture and food production



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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

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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 hauses

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Municipal level of spatial plannig

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

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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)

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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.

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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**.

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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)**.**

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MINISTRSTVO ZA OKOLJE IN PROSTOR

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…).

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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 villagesc,
- 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.

17

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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.


18

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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

19

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MINISTRSTVO ZA OKOLJE IN PROSTOR

Thank you for your attention

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20

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

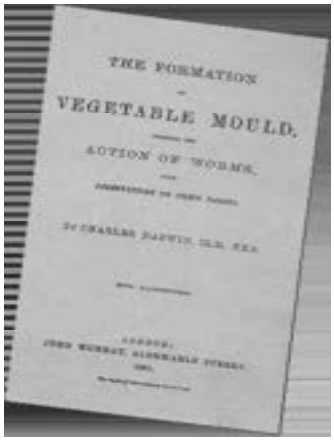
- Erosion (by wind & water)
- Loss of organic matter
- Local and diffuse contamination
- Soil sealing
- Compaction
- Loss of biodiversity
- Salinisation
- Landslides

2

Soil Fertility and Earthworms

Charles Darwin, 1881

… long before the plough existed the land was regularly ploughed by earthworms …



3

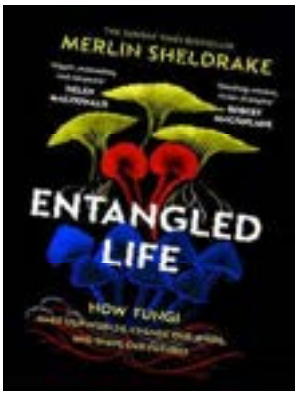
Soil, Fungi and Mycorrhiza

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

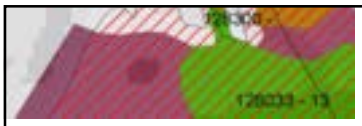
Lois Weinberger *„Holding the Earth"*

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)



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

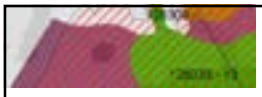
Results from the project on
"Implementing the Protocol on Soil Conservation (BodP) in Municipalities"

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

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.

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:
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- 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

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:
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- *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

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:
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Alpine Convention - Implementation of the Protocol on Soil Conservation
Different Initial Situations

- a lot of experience, active since 2009,
  all municipalities in Upper Austria get support
- medium experience, active since 2016,
  a soil function evaluation has been carried out
- no experience yet

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:
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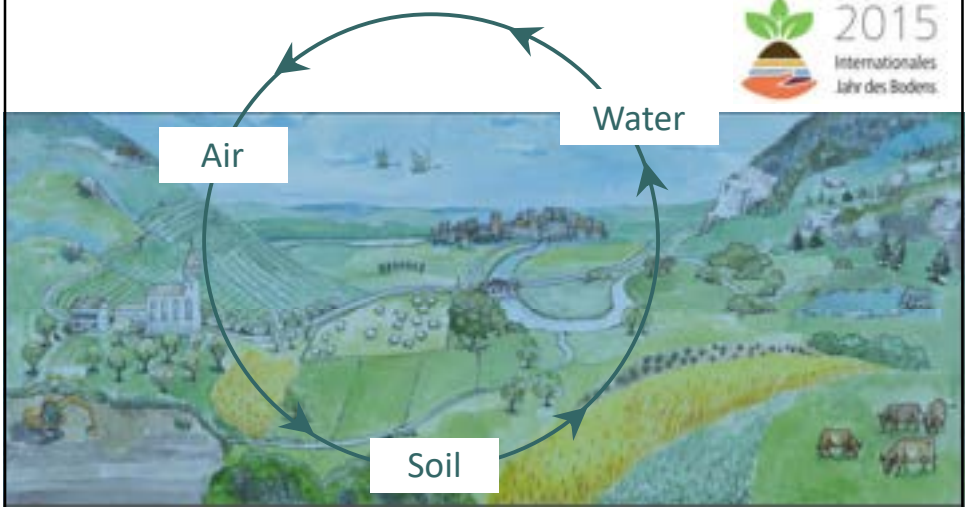
Soil - an aboitic resource



Source: Österreichische Bodenkundliche Gesellschaft (2015): Schulwandbild „Bruno Braunerde und die Bodentypen". - http://oebg.boku.ac.at/

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:
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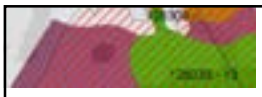
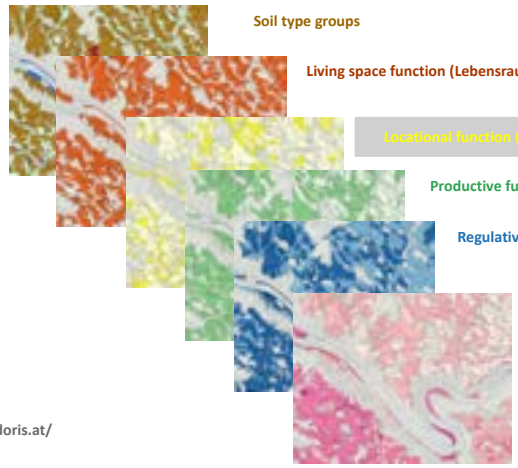


The Austrian land of Upper Austria as a pioneer

Area-wide provision of soil function evaluation



http://www.doris.at/

Snapshots: taken from the Upper Austria's WebGIS application for the area of Hofkirchen, Mühlkreis

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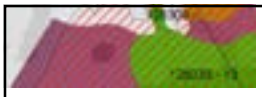

Creation of the summary value

Planning and balancing process – Illustration of soils with special importance for the ecological balance

(BmbB)* [Böden mit besonderer Bedeutung für den Naturhaushalt]

** Term used in Austria (currently in the lands of Upper Austria, Salzburg and Vienna)*

Soils whose specific soil functions justify a degree of function performance of 5 are regarded as **soils with special importance for the ecological balance** and need to be protected in a special way.

These areas can be illustrated in landscape plans, land-use plans or municipal development plans, thus contributing to the balancing of interests.

Soil functions relevant for the designation of soils with special importance for the ecological balance

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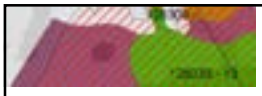

Soils with special importance for the ecological balance

- Introduction to the topic

Soils with special importance for the ecological balance (Source: Municipality of Mutters, one of Tyrol's pilot areas)

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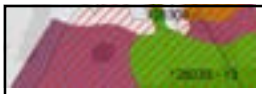

List of measures and examples

TYPE OF MEASURES	EXAMPLES
Qualitive 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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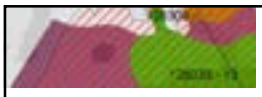

Different workshop formats

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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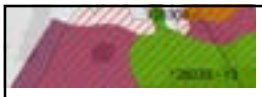
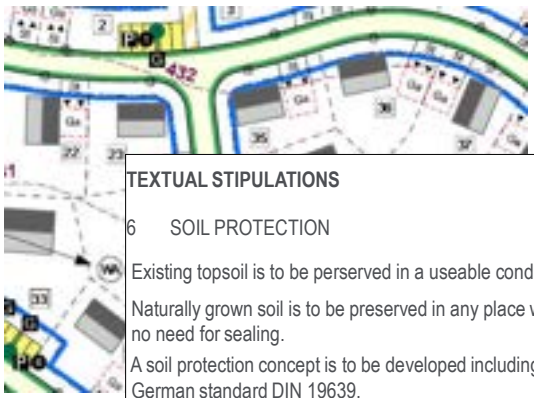


Possible stipulations in land-use plans



BEBAUUNGSPLAN

TEXTUAL STIPULATIONS

6 SOIL PROTECTION

Existing topsoil is to be perserved 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

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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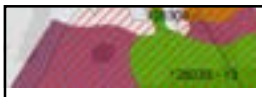

Conclusion

- 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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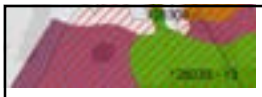

Outlook

- 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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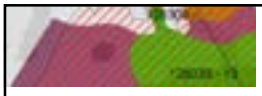

Thank you very much for your attention!

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Kriegersiedlung 5
D-85560 Ebersberg

Phone: +49/(0)8092/865011
Fax: +49/(0)8092/865012

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This is how the soil system works!

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ANNEX 8 Programme

29 March, day 1: Land take and soil protection

Time	Topic	Speaker
11:45	*Lunch*	
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 • 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 Enironment and Spatial Planning*
15:30	*Coffee break*	

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	Moderators:
	• Regulatory framework: Which options do we have?	**Arthur Schindelegger**, *Vienna University of Technology*
	• The role of municipalities and regions: Which implementation options exist?	**Tobias Chilla**, *Friedrich-Alexander University Erlangen-Nürnberg*
	• Who benefits from land saving: potential stakeholder alliances	**Maria Schachinger**, *WWF Österreich*
16:50	Briefing on and discussion of the workshop results	Plenum participants
17:20	Closing remarks	
17:30	End of session	
19:00	*Dinner*	

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**, *Office of the Provincial Government of Lower Austria, Chair of the Soil Protection Working Group*
9:40	Soil protection in local land use planning	**Gertraud Sutor**, *LAND-PLAN—Office for Landscape Ecology Assessment and Planning*
10:15	Workshop in 3 groups:	
	How can including soil functions improve spatial planning?	Moderators:
	• Data for planning: What soil data do spatial planners need at which planning level?	**Gertraud Sutor**, *LAND-PLAN—Office for Landscape Ecology Assessment and Planning*
	• Communication: How do we sensitize local and regional decision makers for the value of soil functions?	**Michael Roth**, *Austrian Federal Ministry for Agriculture, Regions and Tourism*
	• Planning processes: How do we strengthen soil functions in the weighing of interest?	**Maria Legner**, *Klimabündnis Tirol*
11:15	*Coffee break*	
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?	**Alenka Smerkolj**, *Secretary General of the Alpine Convention* **Thomas Wimmer**, *EUSALP Youth Council, Youth Parliament to the Alpine Convention (2017-2018)* **Maria Legner**, *Klimabündnis Tirol* **Michael Roth**, *Austrian Federal Ministry for Agriculture, Regions and Tourism*
12:30	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	**Christian Steiner**, *Office of the Provincial Government of Lower Austria, Chair of the Soil Protection Working Group* **Daniel Meltzian**, *German Federal Ministry for Housing, Urban Development and Building, Chair of the Spatial Planning and Sustainable Development Working Group*
12:45	*Lunch*	
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 for Housing, Urban Development and Building

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