



# C3-ALPS

capitalising climate change knowledge for adaptation in the alpine space



**From knowledge to action - Alpine regions adapting to climate change.**

Success stories, learning experiences, and future practice.

**Final Conference of the C3-Alps Project**

**Future Labs Summary Reports**

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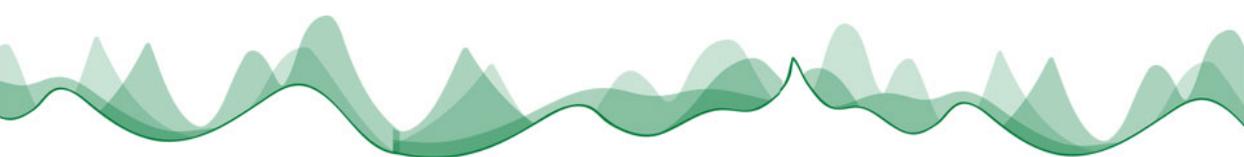
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## Table of contents

1	Summary Report: Future Lab 1 “Implementing national adaptation strategies – Horizontal integration across sectors .....	4
2	Summary Report: Future Lab 2 “Implementing national adaptation strategies – vertical coordination across levels” .....	8
3	Summary Report: Future Lab 3 “Municipalities” .....	10
4	Summary Report: Future Lab 4 “Communication” .....	13
5	Summary Report: Future Lab 5 “Private Adaptation” .....	17
6	Summary Report: Future Lab 6 “Future Topics” .....	20

# 1 Summary Report: Future Lab 1 “Implementing national adaptation strategies – Horizontal integration across sectors

<p><b>Title</b></p>	<p><b>From national adaptation strategies and action plans to action on the ground: what is needed to push implementation of adaptation across levels and sectors? - Focus: horizontal integration</b></p>
<p><b>Short description</b></p>	<p><b><i>How can we mainstream climate change adaptation more successfully into the sectors? How can we ensure that sector policies that are inclusive of adaptation are actually implemented in regional and local practice?</i></b></p> <p>How can we mainstream climate change adaptation more successfully into the sectors? How can we ensure that sector policies that are inclusive of adaptation are actually implemented in regional and local practice?</p> <p>Many Alpine countries (and 21 out of the European countries) already have a national adaptation strategy (NAS) and/or action plan (NAP) in place, others are in the policy formulation process. Adaptation policy documents on sub-national levels (Bundesländer, Cantons, Provinces, etc.) are increasingly emerging. However, the existence of adopted strategy documents does not automatically translate into implementation progress on the ground. Practical implementation, i.e. putting these policies into effect by taking coordinated actions, is mostly still at the beginning.</p> <p>It appears to be a main reason that horizontal integration, i.e. mainstreaming of adaptation into the policies and activities of the sectors, faces considerable barriers and challenges (cf. Annex I to this summary report) Corresponding with the cross-cutting nature of adaptation, most existing NAS/NAP represent broad, comprehensive, integrated and multi-sectorial strategies. Their overarching goal in policy-making is to integrate and coordinate sectorial policies in order to minimize trade-offs and optimize synergies. Adaptation is thus a typical multi-sector (and multi-level) governance task. It is often stated that the need for mainstreaming increases as implementation of NAS/NAP cascades down along vertical levels, because on regional and local levels administration and governance tend to be strongly sector-driven. The underlying assumption is that once adaptation has been integrated into sector policies, further vertical coordination would happen “automatically” within the sectors.</p> <p>However, there is no common blueprint for horizontal policy integration across sectors. Generally speaking, mainstreaming implies integrating adaptation into sectorial agendas, regulations, policies, work programmes, instruments, budgets and working routines. This requires coordination mechanisms, information flow and regular exchange, e.g. between sector departments within public administration. The expectation is that sector departments adjust their activities so as to ensure that adaptation efforts result in coherent action, avoiding mal-adaptation, trade-offs,</p>



	<p>negative external effects, and transfer of vulnerabilities and adaptation burdens to other sectors.</p>
<p><b>Main findings</b></p>	<p>In general, the participants to the Future Lab voiced scepticism towards the concept of “cascading down” national adaptation strategies to regional and local levels and towards mainstreaming in a hierarchical “command and control” mode of governance . There was strong agreement that adaptation must not be perceived as a top-down government task only, but that it is already happening within many sectors, often due to other motivations and without direct links to national adaptation policies. Thinking of adaptation mainly as a governmental and administrative task that is related to infrastructure and the built environment and requires large public investments could easily turn out as a trap of thinking. Instead, participants emphasized the role and importance of “autonomous”, private and human-based adaptation from bottom up:</p> <ul style="list-style-type: none"> <li>– Adaptation has much to do with social processes. Social and human capital are crucial to building adaptive capacities and resilient communities, and research has proven that human-based adaptation often leads to more robust outcomes than regulatory government interventions and public investments in physical structures.</li> <li>– Adaptive action and activities that contribute to adaptation goals are already taking place in a bottom-up way, both within sectors and on private or individual level. Such “grass root” adaptation may often be autonomous and reactive, but it can also be anticipatory and based on foresight planning that is conscious of climate change. It is considered important to get a more complete picture about already ongoing activities relevant to adaptation, including information about what actions the sectors are already taking and in how far these contribute to adaptation.</li> <li>– Actors within the sectors have a lot of knowledge and experience, including in coping with weather events and climate-triggered problems. It is important to build on the practical knowledge of sectorial actors rather than imposing adaptation goals into the sectors in a top-down style.</li> </ul> <p>Asked about what role governments should play in implementing adaptation, the following arguments were raised by participants to the discussion:</p> <ul style="list-style-type: none"> <li>– Governments and the public sector have to take responsibility for adaptation, because the damage potential and damage costs are in an order of magnitude that may strongly affect national economies, and because in the end public funds will have to cover most of the damage caused by climate change impacts.</li> <li>– Within the spectrum of “doing nothing” versus “preparing for the worst case”, governments have a particular role in monitoring private, autonomous adaptation, coordinating actors and their activities when it is required, and taking care that negative external effects and mal-adaptive outcomes are avoided.</li> </ul>

- Public administration has strong roles in providing the knowledge base and information about climate impacts and adaptation options, in networking actors from different sectors and regions and bridging the gaps between them, in facilitating adaptation processes, and in guiding the overall direction.
- In order to steer and govern public policies, governments have, in general a range of instruments and measures at their disposal, which one could allocate to three main strands of governance: i) hierarchical “command and control” mode; ii) economic or market-based mode, including incentives and taxing; and iii) voluntary, soft modes of governance. It should be carefully considered what instruments and governance modes are the right ones to tackle adaptation issues, and what the right mix could be. According to the participants, public interventions via binding (regulatory) instruments should be applied only where this is absolutely needed.

Summing up, the discussion reflected a considerable amount of cautiousness and aloofness towards binding policy measures for adaptation and a preference of participants for soft, voluntary governance modes, with governments taking mostly a supporting, facilitation and knowledge brokerage role. The discussion highlighted and emphasized the importance and role of “bottom-up” adaptation within the adaptation continuum from planned public interventions to private, autonomous adaptation.

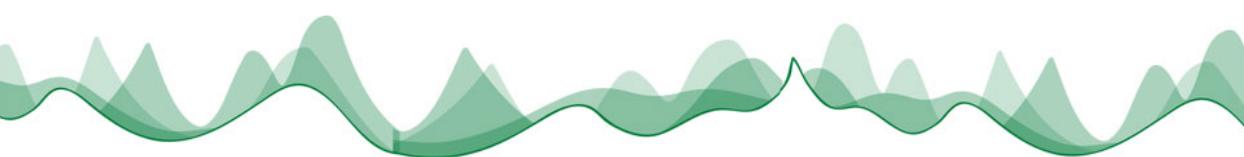
Questions about the future governance of adaptation that can be derived from the discussion may include the following:

- How can governments and the public sector further activate, support, and incentivise bottom-up action on adaptation? What kind of enabling, facilitating and empowering framework conditions should be provided, including, e.g., access to usable information, incentives, funding, and process support, to sustain bottom-up initiatives and foster adaptive capacities of sectorial and private actors?
- How much coordination, and in what forms, is needed to avoid risks of mal-adaptive pathways, incoherence with (other) public policy goals (such as reducing GHG emissions or protecting natural resources), and negative external effects on other sectors or public goods?

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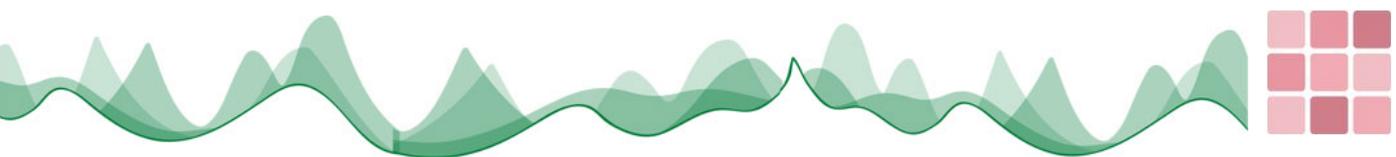


## 2 Summary Report: Future Lab 2 “Implementing national adaptation strategies – vertical coordination across levels”

<p><b>Title</b></p>	<p><b>From national adaptation strategies and action plans to action on the ground: what is needed to push implementation of adaptation across levels? (Vertical coordination)</b></p>
<p><b>Short description</b></p>	<p>Most alpine countries already have or are elaborating national adaptation strategies and action plans. Also several sub-national entities (Länder, Cantons, Provinces) adopted regional strategies, and some cities and municipalities already plan or implement adaptation measures. Although the need for vertical coordination across administrative levels is undoubted, corresponding pathways are still unclear and neither defined nor operational. This situation appears to be one main reason for the lack of practical implementation of strategies and action plans.</p> <p><b>Against this background, the following questions were discussed:</b></p> <ol style="list-style-type: none"> <li>1. How can we successfully coordinate climate change adaptation across vertical levels (EU – national – sub-national – municipalities)?</li> <li>2. How can we put strategy contents into regional and local practice?</li> </ol>
<p><b>Main findings</b></p>	<p>As a general and obvious result, participants underlined the necessity of combining vertical with horizontal coordination. In terms of wording, some regional and local level representatives preferred the term “cooperation” instead of “coordination” (which they perceived as too much top-down oriented).</p> <p>The discussion covered a broad range of issues related to vertical cooperation, which can be summarized under “successes”, “problems” and “future wishes”.</p> <p><b>Successes:</b></p> <ul style="list-style-type: none"> <li>- Formal coordination committees installed</li> <li>- National funding programmes for regional/local projects</li> <li>- Informal networks of decision-makers or experts</li> <li>- Eye-to-eye communication</li> </ul>



	<p><b>Challenges:</b></p> <ul style="list-style-type: none"> <li>- Climate change adaptation perceived as a (strict) top-down approach “imposed” by national levels</li> <li>- Lacking flexibility of national instruments</li> <li>- Lacking political commitment, especially on sub-national levels</li> <li>- Lacking resources (knowledge, funds)</li> </ul> <p><b>Wish list for future vertical cooperation:</b></p> <ul style="list-style-type: none"> <li>- Personal contacts between the levels: “high touch” instead of “high tech”</li> <li>- Define care-takers / facilitators / coaches who advise and support especially regions and municipalities</li> <li>- Tailor-made communication: avoid long scientific reports, use daily language, communicate chances of climate change</li> <li>- Install a “climate change academy”, addressing a broad, non-expert audience</li> <li>- Collect, bundle and make available good practice examples</li> <li>- Continue exchange between the Alpine countries</li> <li>- More regulations, in order to make adaptation more mandatory (discussed controversially)</li> </ul>
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### 3 Summary Report: Future Lab 3 “Municipalities”

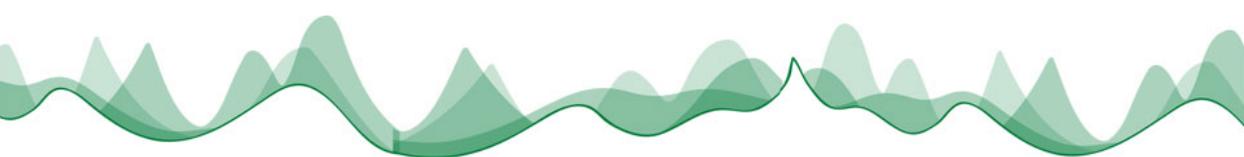
<b>Title</b>	<b>What kind of knowledge, resources and support do municipalities need to take action on adaptation to climate change?</b>
<b>Short description</b>	<p>Imagine the year 2030: All municipalities in the Alpine region are ‘perfectly’ adapted to climate change. They show a high resilience against negative impacts and a high adaptive capacity. What do you think are essential steps towards such a great future?</p>  <p><b>“Perfectly” adapted Municipalities in 2030</b></p> <ul style="list-style-type: none"> <li>→ Please describe your point of view of a “perfectly” adapted municipality in 2030.</li> </ul> <p><b>Steps to take</b></p> <ul style="list-style-type: none"> <li>→ What steps need to be taken at municipality level towards being climate resilient?</li> <li>→ What kind of support, also in terms of knowledge and information (format, depth and channels) is needed from the perspective of municipal actors to cope with climate change?</li> <li>→ Who are the key actors to advance/facilitate implementation of measures?</li> </ul> <p><b>Starting point</b></p> <ul style="list-style-type: none"> <li>→ At what level of adaptation are municipalities today?</li> <li>→ Are there already well-functioning solutions for adaptation?</li> <li>→ Are there already competent persons, institutions, networks or helpful tools supporting adaptation in municipalities?</li> <li>→ If not: What are the specific challenges and barriers to adaptation on local level today?</li> </ul>
<b>Main findings</b>	<p><b>Starting point:</b></p> <ul style="list-style-type: none"> <li>- lack of structural integration</li> <li>- too much bureaucracy</li> <li>- inappropriate allocation of funds</li> <li>- not enough motivation</li> </ul>



	<p><b>Steps to be taken:</b></p> <ul style="list-style-type: none"> <li>- advice and pressure (legal) level (including financial support, guidance and consulting)</li> <li>- identify relevant existing networks and working groups to integrate CCA</li> <li>- step-by-step guidance, support top to bottom</li> <li>- positive language,</li> <li>- awareness action, appropriate knowledge of administration</li> <li>- encourage to corporate responsibility</li> <li>- long-term policy thinking, willingness of mayors</li> <li>- mainstreaming adaptation in different sector policies</li> <li>- land use management, spatial and environmental conditions</li> <li>- making subsidies more ‘climate adaptive’</li> </ul> <p><b>Vision:</b></p> <p><b>Municipalities should...</b></p> <ul style="list-style-type: none"> <li>- have integrated the topic of CCA in all policy fields based on an action plan, connected with higher planning levels</li> <li>- have established well functioning internal structures incl. ‘care-taker’</li> <li>- have networks on horizontal and vertical levels – internally and externally</li> <li>- be liveable cities with green and blue structures</li> <li>- have engaged actors, more reliability</li> <li>- assure coherence between levels and better cooperation in local governments</li> <li>- have established land use management for rural areas</li> <li>- be supported by financial instruments which encourage adaptation</li> <li>- have economic resilience and resilience against extreme weather events.</li> </ul>
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## 4 Summary Report: Future Lab 4 “Communication”

<b>Title</b>	<b>How to successfully communicate climate change adaptation? How to reach out more effectively in particular to young people?</b>	
<b>Short description</b>	<p>The aim of the future lab was to find out the key success factors of how to communicate CCA<sup>1</sup>. In a first step, we wanted to learn from the experiences others have made, and find out which products and/or communication formats work best when generally communicating CCA. In a second step, we focused specifically on the target group of young people (14-24 years of age), because they will be the decision makers of the future and will be affected by climate change.</p>	
<b>Main findings</b>	<p><b>Success factors for communicating CCA</b></p> <p>The main question of the first part of the lab was “What works/worked best when communicating CCA?”</p> <p>All in all three main findings have been worked out by the participants:<sup>2</sup></p> <p><b>Evoke emotions</b></p> <p>People feel addressed when CC/CCA touches their area of life (professional and private). All communication efforts that are directly connected to experiences they have already made, will evoke emotions and thus be more effective. Everytime meteorological phenomena, like exceptional weather conditions (lack of snow, heat waves, heavy precipitation, etc.), occur in their living (or working) environment, communication efforts on how to solve the problem or how to be prepared for future changes have to be made. One way is to communicate solutions on how to adapt to climate change with easily understandable good practice examples.</p> <p><b>Economic incentives</b></p> <p>A second aspect of making CCA communication more successful is directly linked to the</p>	

<sup>1</sup> Climate change adaptation

<sup>2</sup> The participants of the future lab communication came from a variety of backgrounds, like scientists, employees of meteorological institutes, officers in national/regional administration, and communication specialists.

*homo oeconomicus*. Telling people investing an amount of € 10.000 for flood protection or reforestation with mixed trees, instead of a claim payment of € 100.000 due to floods or landslides, will make lots of decision makers (entrepreneurs, politicians) listen.

**Face to Face**



As already mentioned, CCA is a complex phenomenon that is difficult to put into words or to frame for decision makers. One reason is that CCA works with uncertainties and probabilities. Furthermore, the consequences of climate change can vary from region to region. To convince people, one can sensitize them with classic media work, but to convince them to take action (and how), it is decisive to speak face-to-face

with them. Moreover, an active participation of all involved people should be accomplished. This can be done with meetings and workshops in the regions concerned.

**On the spot**

Many decision makers have no ideas what adapting to climate change really means in practice and how they can start the process, or even why. It is best to take them “by the hand” and visit regions or spots where CCA measures have already been implemented. In a next step they can be shown which measures they can take in their own regions.

The most surprising finding was that none of the participants came up with traditional communication formats (media releases, media conferences, etc.) and social media strategies when talking about convincing decision makers to take action.

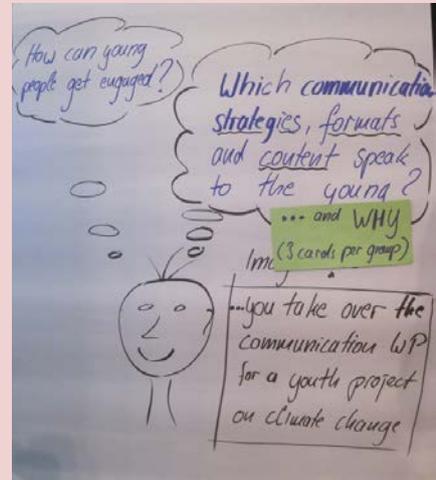
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**Main findings youth specific success factors**

**Youth specific success factors**

In the second part of the future lab, we focused on one specific target group: young people (14-24 years of age). The main question here was which communication strategies, formats and contents speak to the young? ...and WHY?

The participants were asked to imagine that they will take over the communication work package for a youth project on climate change and where asked, which formats, contents, language etc. they would choose – and why?



Some aspects of communicating climate change issues more effectively to the young became clear during the discussion. These so-called youth-relevant success factors were finally grouped in three main “headlines”:

**Motivation and Engagement**

As already mentioned in the first part of the future lab, it is highly important to connect communication to the everyday life of your target group. This success factor also applies to communicating climate change (adaptation) to the young. Furthermore, the participants mentioned some specific strategies how to motivate young people to climate aware behaviour, e.g.: • use intensities - make it competitive; • use new technologies; • create outdoor experiences.

**Empowerment**

Young people should be involved in the discourse on the (future) challenges of climate change, rather than being recipients of “top-down” information on climate change. Thus, one should avoid top-down information campaigns or classic lecture formats. The young need to develop their own ways to experience climate change impacts and develop adaptation solutions. This means, successful climate change communication needs to encourage young people to critical thinking. Young people should get involved - they should become “the climate experts” themselves.



	<p><b>Use continuous concepts / Continuity</b></p> <p>Not only, but especially for communication towards young people it is essential to use continuous communications concepts. If possible, avoid one-off events, which are quickly forgotten. Successful engagement of young people needs long-term activities that enable young people to get involved in climate change (adaptation) issues (knowledge / climate-aware lifestyle).</p>  <p>In general, the discussion showed that participants had the same ideas regarding what makes CCA communication to young people more effective and successful. Even though they came from a variety of backgrounds.</p>
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## 5 Summary Report: Future Lab 5 “Private Adaptation”

<b>Title</b>	<b>How can individuals, households and companies contribute to adaptation? What are the opportunities and threats of private adaptation?</b>
<b>Short description</b>	In many European countries a national adaptation strategy (NAS) exists, which provides a strategic, governmental framework at national level for climate change adaptation. However, the implementation of adaptation measures mostly takes place at local and often private, individual level. In this future lab we aimed to gain a better understanding of private adaptation: where does it already take place, where is willingness, ability and capacity of individuals, households and companies to adapt, how can private adaptation relief public adaptation costs, where is it necessary to call for regulations/restrictions to avoid trade-offs, where are barriers for private adaptation and how can good adaptation governance foster further private adaptation actions. <sup>3</sup>
<b>Main findings</b>	<p>First, the <b>definition</b> of private adaptation was discussed, because a clear distinction between purely private (without any public intervention) and public adaptation is not really possible. The participants agreed that there is a continuum between private and public adaptation and defined private adaptation as (mostly) privately financed or implemented by private actors like households, farmers, lift operators, hotel keepers, etc. It was also discussed, if private adaptation is per definition always autonomous and spontaneous or if there are also cases of strategic, planned private adaptation. The participants claimed that there are foresight actions of particularly well-informed private actors, too (e.g. insurances, farmers/foresters using climate model data).</p> <p>The participants agreed that <b>private adaptation exists and already takes place</b>. Some examples of private adaptation were given such as households that install PV systems in order to improve their energy autonomy, city gardening to be more self-sustained, or farmers who already react to effects of climate change. The question was raised, how such adaptation measures could be governed to be more planned and sustainable in the long run and how failures in the past (such as dispersed settlement patterns, sealing or energy-intensive buildings) hamper private adaptation.</p> <p>A <b>research project (ICARUS)</b> described by an Italian participant showed that an effective way to bridge the gap between private action and political strategies is to better integrate knowledge and needs of private actors bottom-up into policy. The Italian</p>

<sup>3</sup> The future lab was inspired by the just started Austrian KLIEN/ACRP project PATCH:ES (Private Adaptation Threats and Chances: Enhancing Synergies with the NAS implementation). More information will soon be available by the end of 2014 under [anpassung.ccca.at](http://anpassung.ccca.at) or via [martin.koenig@umweltbundesamt.at](mailto:martin.koenig@umweltbundesamt.at).

research team conducted a survey among farmers and asked them about their adaptation strategies, preferences and needs. After this first step, they introduced tools which were accepted and used because the awareness was already raised.

Recommendations out of the ICARUS project (IWRM for Climate Change Adaptation in Rural Social Ecosystems in Southern Europe): more bottom-up transfer from private actors' needs and preferences into policy would make policy more efficient and decision support tools gain in applicability, if practitioners e.g. farmers are involved in building up decision support/priorisation tools and applications. With respect to research, these experiences call for participatory or transdisciplinary research designs.

**How to reach private actors?** Target group-specific **assessment tools** like the carbon-footprint tool (which already exists for mitigation) could also be helpful for private adaptation. However, it is often a problem to bring the tools to the people. First, private actors must be aware of need for action. In some cases also pressure (governmental intervention) is necessary. Sometimes it is also civil society/NGOs starting with environmental protection actions. If you want to reach the citizens you have to consider habits, values and beliefs meaning that different strategies/concepts/solution options for different groups of people are needed.

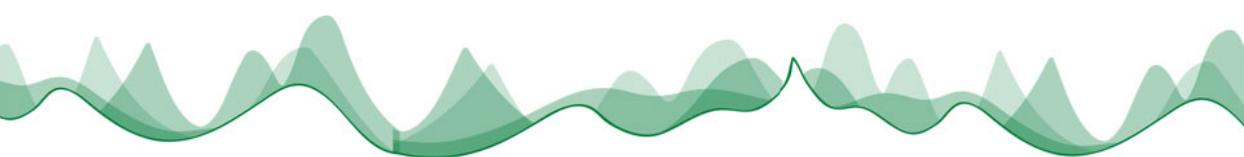
When talking about **barriers** for private adaptation, the discussion centred on the issues of governance framework as well as information, education and communication.

Good **governance** is deemed useful to foster private adaptation. E.g. funding can help to make (politically desired) investments more likely. Many technologies/machines/installations have a certain path dependency, which reduces the potential of adaptation. In this case funding lowers the barrier and can trigger changes. Regulations were discussed controversially. On the one hand, they can force people and companies to make a change; on the other hand they are often too rigid to allow innovative solutions (like new insulation materials or alternative building styles).

Bringing political strategies to the ground is often a question of **communication**. It needs **coordination** (and sometimes also translation) between administration, planners, technicians and private actors (trans-disciplinary). And it needs **networking** of different planning fields and sectors (cross-sectorial). Private actors often do not identify with political strategies due to a lack of information or a lack of awareness (→ not ready to take up and use information).

A **bottom-up approach** to implement adaptation with close stakeholder/implementer's involvement seems much more promising than trying to 'cascade down' NAS measures to the private sphere. A new key word for such sort of bottom-up adaptation could be '**grass-root adaptation**'.

	Need for CC adaption is not easy to <b>communicate</b> because it is a rather complex, unattractive concept lacking positive messages. There are no positive feelings associated with CC and adaptation. When talking to people it could help to connect CC adaptation closer to 'quality of life'. Then most people feel affected, including his/her family and the future of the children. This can open their mind for information.
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## 6 Summary Report: Future Lab 6 “Future Topics”

<p><b>Title</b></p>	<p>What could be future topics, or emerging issues, in adaptation to climate change? Which role could they play in the next Alpine Space Programme and in the Macro-regional Strategy for the Alps?</p>
<p><b>Short description</b></p>	<p><i>How do climate change effects unfold on value chains, and what does this mean e.g. for production and consumption patterns towards societal transformation and sustainable development?</i></p> <p>Given the scale and seriousness of climate change and its expected consequences and that our socio-economic development is embedded in a global system, responses to climate change need a more holistic approach towards a low-carbon, sustainable future. Apart from single (mainly sectorial) solutions, climate resilient pathways should also include fundamental changes in our way of living, urban and regional planning, mobility patterns, land and water use, production processes, consumption patterns, nature conservation, and energy demand. Thus, effective responses to climate change involve complex processes of societal transformations which encompass social, cultural, technological, political, economic and legal change.</p>
<p><b>Main findings</b></p>	<p>The future lab discussion highlighted several shortcomings and benefits for taking a more holistic approach in planning for responses to climate change:</p> <ul style="list-style-type: none"> <li>- Transformational adaptation can be seen as a more upstream process of building long-term resilience. This would include taking a holistic view on expected changes and their interlinkages, including issues of globalisation. However, the concept of “transformation” is still unclear, and many questions remain about what transformation shall entail in reality.</li> <li>- The scope of risk and/or vulnerability assessments up to date end at national borders – transboundary effects or the international dimension are hardly addressed by existing adaptation strategies. Participants also highlighted a lack of assessments on benefits of adaptation action, which would facilitate both to convince of adaptation and to learn from good practices. Monitoring and Evaluation (M&amp;E) schemes for adaptation have the potential to identify benefits and shortcomings and thus support increasing the effectiveness of responses.</li> <li>- Shifting from rather small-scale and sector-specific adaptation interventions to “changes of fundamental attributes of a system in response to climate and its effects” (IPCC, 2014) requires, inter alia, new structures or systems of governance. Enhancing links to other concerned policy areas, such as climate change mitigation, green economy, or green growth also has the potential to strengthen adaptation, especially in areas with obviously mutual concerns.</li> </ul>



	<ul style="list-style-type: none"> <li>- It can be assumed that societal transformation will have life-altering consequences, because it is systemic and results from “paradigm shifts” in our values and decision-making. Communication is key to convince of fundamental changes which affect lifestyles, including e.g. our individual consumption and mobility patterns. Therefore it will be crucial to be clear on which messages on climate risks and solutions we convey, in particular at local and regional levels. Again, highlighting benefits of taking pro-active action, collecting and sharing good practice examples and making use of local knowledge may be vital for ensuring effective adaptation at greater scale.</li> </ul>
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