Climate Change Centre AUSTRIA

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Global warming of 1.5°C: How do we get there?

A contribution to the UNFCCC Talanoa Dialogue organised by the Climate Change Centre Austria (CCCA)

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) approved the special report on global warming of 1.5°C (SR1.5). The SR1.5 conveys three key messages:

1. Climate-related risks are becoming pervasive and significant with climatic change: the report underlines that aiming at limiting global warming to 1.5°C above preindustrial levels, as stipulated in the Paris Agreement, should indeed remain the policy target so as to avoid serious and partially irreversible risks.
2. Limiting global warming to 1.5°C is feasible (as the necessary knowledge exists), but will require transformation regarding options and solutions as well as inclusive processes. Especially social and institutional enabling conditions need to receive attention.
3. The urge to tackle high-level risks and consider synergies between adaptation, mitigation and the Sustainable Development Goals necessitates large-scale and systemic change. This level of societal change depends on new forms of partnerships, collaborations and bold steps towards carbon neutrality and climate resilience in all areas of society.

On 18 October 2018, the Climate Change Centre Austria (CCCA) [see box 1] organised an Austrian SR1.5 dissemination and outreach event to present and discuss key takeaways from the SR1.5, assembling over 100 experts from the areas of research, policy-making, administration, the private sector and civil society. Building on summary presentations by IPCC SR1.5 lead authors and other researchers, the event proceeded to engage participants in a consensus building Talanoa Dialogue based on the SR1.5 key thematic messages. The discussions continued in thematic groups, based on headline statements from the Summary for Policymakers of the SR1.5. The Talanoa principle, that every voice counts and is to be heard irrespectively of hierarchy, was respected in the discussions. Subsequently, participants were encouraged to reflect on the topic of their discussion group on both individual and general scopes of application in Austria and beyond. In the following, key insights and suggestions generated in the thematic groups are outlined.

Accelerating the Transformation to a Carbon-free Industry and Energy System

The IPCC SR1.5 shows that more ambitious emissions reduction targets than currently implemented and planned are necessary, particularly in industry and energy systems, to limit warming to 1.5°C. Thus, the issues discussed on this topic ranged from sustainable production and a circular economy (long life cycle, reducing planned obsolescence) to political and economic instruments, such as environmentally-damaging subsidies (subsidies for power generation from fossil fuels distort competitiveness on the market). The variety of topics discussed in this dialogue group reflects not only the heterogeneity of the group but also the number of approaches to this comprehensive thematic field. The consensus of the group called for systemic change involving inclusive policies with enhanced citizens' participation, transgenerational participation models and building on a change of values.

The group agreed that primary fields of action are a) to generate a reward system for reducing CO_2 emissions as an alternative to the currently existing climate-damaging subsidies, and b) to promote sustainable, long-term investment decisions instead of agreements based on short-term profits.

Sustainable and Resilient Urban Systems

The IPCC SR1.5 outlines that urban heat islands often amplify the impacts of heatwaves in cities and thus impair the quality of urban life. Correspondingly, the group agreed on the importance of biotopes in cities, citing the greening of rooftops as one specific example. Architecture and infrastructure as well as urban planning in general should follow the principles of sustainability. Sustainable urban systems, furthermore, require increased implementation of solar panels. Moreover, the planned obsolescence of consumer goods should be tackled, and opportunities to repair or recycle products increased. Finally, participants suggested that city governments should consider pulling back from investments in Austrian fossil fuel exploration. In addition to these specific ideas and suggestions, the following process-based recommendations reached consensus:

An increase of inclusive, transdisciplinary workshops involving scientists, citizens, NGOS and public bodies would undoubtedly have a positive effect on jointly identifying appropriate adaptation and mitigation measures in the urban heat context. As one example for enhanced interaction, joint simulation exercises could stimulate such transdisciplinary groups to develop tailored intervention measures. Places and spaces should be created, where climate change and related actions can be discussed with a positive notion within the wider public (e.g. public spaces, parks).

Partnerships and Mechanisms for Mobilising Sustainable Investments

Mitigation and adaptation efforts consistent with limiting global warming to 1.5°C necessitate innovative and sustainable partnerships including financial instruments. Subsequently, the participants pointed to the need to change the value of human rights and a sustainable development in economic and financial systems. The group found a broad consensus regarding a combined bottom-up and top-down approach to realising climate protective actions – individuals need to create their own ideas and the respective governments are required to review and implement them. The group agreed on several suggestions on how to reach this goal. It was, for instance, proposed to further equip development banks with considerable amounts of capital to support sustainable investments. Furthermore, carbon taxes as well as accounting for the common interest ("Gemeinwohlbilanzen") were considered powerful and important tools for mobilising sustainable investments. Finally, the group identified a need for re-designing national and international (e.g. EU-level) subsidies for the agricultural sector– shifting the focus from funding mere mass production to an enhanced emphasis on land management and sustainable (organic) agriculture.

Mobility and Buildings: Sustainable Innovations in Technology and Lifestyle Choices

As stated in the IPCC SR1.5, the path towards a sustainable future in both, mobility and buildings, strongly depends on emission reductions in said fields. Thus, this group's consensus calls for incentivising the use of renewable energy supporting the development of a strong national institution for spatial planning that gives strong emphasis on sustainability. In order to achieve these goals, it is necessary to focus on renovating and upgrading existing buildings since the respective energy efficiency capabilities are already sophisticated. However, existing subsidies do not appear to prompt enough homeowners to undertake renovations. Therefore, other incentives must be found, and/or additional funds allocated.

In terms of mobility, the group agreed on the positive implications of carbon tax, as revenues could be invested to drive sustainable innovation. Furthermore, incentives for a modal shift must be created and implemented, it being one of the most important instruments of sustainable transportation planning and -policy besides traffic avoidance and an environmentally sound handling of existing mobility needs. However, the options for implementing innovations in the building and mobility sectors vary widely according to the financial situation of the different regions across the world. These constraints must be considered when further planning decarbonisation strategies.

Climate-resilient and Sustainable Development Pathways

The special report on Global Warming of 1.5°C emphasises the correlations between climate change and other Sustainable Development Goals. Trade-offs and synergies presented in the report were discussed in this group with the aim of identifying approaches that will facilitate climate-resilient and sustainable development pathways. The following four central aspects were identified as crucial points in pursuing these pathways:

- The group regarded the setting-up of **new alliances** as necessary to foster sustainable development. These alliances are needed between and among different actors and stakeholders. Each interest group should be encouraged to think outside the box and to form unconventional alliances, e.g. between stakeholders from the private and business sectors, with civil society, the banking sector, public administration as well as non-profit and non-governmental organisations.
- **Global solidarity and justice** are aspects the international community must take into account in order to successfully achieve the climate and sustainable development goals. The discussion group articulated the demand for developing and establishing a forum where questions concerning solidarity and justice can be discussed and will be taken seriously.
- **Carbon taxes and climate change subsidies** were regarded as highly relevant tools for fostering and managing climate-friendly and sustainable development pathways. The discussion group requested that such tools be developed and used by both the global community and individual nation-states.
- **Avoiding waste and saving resources** were considered as the top priorities with regard to issues concerning energy supply and demand as well as land use.

Innovative Approaches for Sustainable Economic Systems

In order to lead the way into a sustainable and climate-friendly future, the group suggested that there is a need to re-think the current economic system. With this in mind, the group agreed on the importance of creating frameworks that enable a fair market economy by pursuing the following three principles:

1. **True-cost pricing**: Currently, enterprises often externalise social and ecological costs to society. Consequently, the key element is to create a level playing field through true-cost pricing.
2. **Transparency**: The rules of origin need to be updated so that production and supply of products and services become more transparent. Therefore, misleading labelling (such as affording the label „Made in Austria“, even if only a small part of the production process chain, e.g. bottling a product, is actually carried out in Austria) or false advertising promises must be restricted.
3. **Global minimum standards**: Fair global standards (environmental regulations, adaption of minimum wages on local living expenses) are essential framework conditions for a fair global market.

Furthermore, active participation and personal initiative in the context of elections, referendums, demonstrations or involvement in social media form the basis for democratic developments not only of political

but also of economic systems. Hence, participants agreed on the importance of also getting active on a personal level, following the motto “walk the talk” (recycling, using green energy, repairing etc.).

Education and Empowerment: Supporting Individual Ownership and Sustainable Consumer Choices

This group’s discussion resulted in the consensus that education and empowerment are unequivocally important and constitute vital contributions to relieving environmental pressures, limiting the effects of climate change. However, due to humanity being confronted with serious time pressure, as discussed in the SR1.5, respective measures alone will not suffice. Further regulative and financial instruments are essential requirements for fostering transformational climate mitigation and adaptation. The group suggested communication tactics to be adjusted towards a “positive framing” in order to stimulate behavioral change. The participants found it essential to point out that tackling climate change does not necessarily limit one’s lifestyle but rather creates new opportunities. Consequently, target-group-specific dialogue formats should be implemented and promoted to encourage interdisciplinary and broad public discourse.

box 1

The CCCA as a Model for Collaboration: Connecting Science and Civil Society

The Climate Change Centre Austria (CCCA) contributes to the international Talanoa Dialogue from the perspective of the national scientific community, highlighting the role science can play in fostering mitigation and transformative adaptation on local, regional and national levels. The CCCA represents the network of Austrian research institutions whose tasks include the scientific examination of and research on climate change related topics; this common effort increases the research community’s visibility in civil society, the media and for national decision makers.

The approach of pooling scientific competences in a network may serve as an interesting example for smaller countries in particular, where the expertise in climate research is rather dispersed and a structured expert dialogue between politicians and science has not yet been institutionalised (e.g. Climate Policy Councils). The CCCA wants to motivate other science communities to engage in new formats of communication within their own communities in order to accelerate transformation processes and enable evidence-based policy making on all political levels.

Since 2011, the CCCA has been serving as a knowledge and data hub for scientific results, especially with a focus on inter- and transdisciplinary climate (impact) research. In accordance with the IPCC, the Austrian Panel on Climate Change (APCC) published its first Assessment Report[1] in 2014, addressing policymakers and advisors, experts, the private sector and civil society with a clear message concerning potential risks (of inaction), scenarios and priorities connected to different goals of decarbonisation. Since then, dissemination efforts have been made to provide decision makers in various sectors with tailored information such as the 2018 Special Report on Health, Demography and Climate Change[2]. In terms of dissemination activities, the CCCA targets the co-creation of knowledge by facilitating a dialogue between science and practitioners.

[1] Financially supported by the Austrian Climate and Energy Fund; 240 scientists from around 50 Austrian research institutes contributed; over 2900 review comments; https://www.ccca.ac.at/en/climate-knowledge/apcc/

[2] http://sr18.ccca.ac.at/