



Climate Change Centre
AUSTRIA



ANNUAL REPORT 2019

Numbers Dates Facts

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Foreword

Dear CCCA members and interested parties,

For the Climate Change Centre Austria (CCCA), 2019 was characterised by increased co-operation between Austrian climate research and society, in order to grow interest for the joint appeal for effective climate policies. Numerous campaigns and press conferences in collaboration with Fridays for Future, Scientists for Future, WWF, Global 2000, etc. as well as the publication of the Reference Plan for the National Energy and Climate Plan (Ref-NECP) expand both media interest and the visibility of Austrian climate research and its demands. The Ref-NECP constitutes a guideline issued by approx. 70 researchers, which outlines the necessary steps for Austria to transform into a zero-emission society.

Despite financial challenges, the highly productive CCCA bodies and committed CCCA research community were able to meet the increased social interest in climate issues. The association's numerous project co-operations, external queries, events, and formats of knowledge transfer testify to its relevance and the immediacy of its activities.

On behalf of the CCCA board

Gerhard Wotawa (ZAMG)

(Chairperson)



Gerhard Wotawa

MEMBERS 2019



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REVIEW 2019 | HIGHLIGHTS

National and International Visibility



- CCCA members maintained a **strong public presence** via numerous statements, joint press conferences and high-profile initiatives with Scientists for Future, Fridays for Future, WWF, Global 2000, and much more.
- The competence map at www.kompetenzlandkarte.at provides visibility for approx. **400 experts** from three networks: CCCA, Network Biodiversity Austria, and DCNA.
- Its leading function in drawing up the JPI Climate Call SOLSTICE increased Austria's **international visibility**.
- Participation in the JPI Climate Call SOLSTICE and JPI Climate White Paper »Enabling Societal Transformation« contributed to **enhancing the international visibility** of the human and social sciences as well as the humanities within climate change research.
- About **500 participants** from research and practice got together at the 2019 K3 – Congress on Climate Change, Communication, and Society in Karlsruhe.
- Above-average **success rate** for Austrian researchers at the JPI Climate Call AXIS.
- Ensuing from the SBE 19 conference at the TU Graz and currently counting more than **500 supporters**, the **»Graz Declaration for Climate Protection in the Built Environment«** afforded the CCCA community international visibility.
- CCCA researchers gained visibility in the economic sector via **5 joint event series** with EIT Climate-KIC (Climathon, Ecosystem Meeting, Science to Innovation Workshop, Deep Demo Workshop), and the European Forum Alpbach (make_shift).

Innovation, Research Data, and Data Infrastructures

- As one of 8 European institutions, the CCCA Data Centre was evaluated by the Research Data Alliance (RDA) regarding an in-house developed tool for citing dynamic data, receiving a [12-month grant](#) for the tool's advancement.
- The Research Data Alliance – RDA issued [Adoption/Success Story](#) on the CCCA Data Centre, raising public visibility.
- The CCCA Data Centre provided hardware infrastructures and expert advice for setting up and launching the [1. Biodiversity Atlas Austria](#).
- As part of the EIT Climate-KIC Format Climathon at the TU Graz, c. [40 young researchers](#) and students collaborated with business representatives on [future climate solutions](#).
- The ESA Business Incubation Centre Austria and CCCA Data Centre provided professional support for organising the [Copernicus Hackathon 2020 in Graz](#).
- [20 researchers](#) networked at the EIT Climate-KIC's [Science to Innovation Workshop](#) at the TU Graz.

Knowledge Transfer:



- The CCCA processed **1,800 comments** as part of the **APCC Special Report Tourism's** review management.
- The **2. Climate Status Report Austria** reviews the 2018 weather vagaries.
- Providing information and establishing contact with experts, the CCCA's operational bodies answered c. **100 queries from the administration, education, and business sectors, the media, and society.**
- The CCCA's operational bodies supported members and partners in issuing **3 fact sheets, 4 working documents on climate change for young people, 1 policy brief, and 2 back-ground papers** on drought and co-benefits.
- Journalists advised 15 young researchers as part of the **CCCA Writing Workshop** at the University of Salzburg.

Dialogue and Networking:

- The [Austrian Climate Day](#) celebrated its [20th anniversary](#) at Vienna's BOKU and TU with 250 participants, 5 plenary sessions, 4 keynote speakers, 13 lectures, 47 posters, and the support of 13 co-organisers and sponsors.
- [35 participants](#) from the fields of research and administration used the [2. ACRP Dialogue](#) for knowledge exchange and discussing climatechange-related necessities relating to politics, social issues, and urban areas.
- The [8. and 9. Styrian Climate Forums](#) in Graz and in the KLAR! region of Stiefingtal saw a visitors record of [160 participants](#).
- Around [30 participants](#) from science, business and administration networked at EIT-Climate KIC's 1. Graz Ecosystem meeting.
- The [7 CCCA working groups](#) are still active and exchanged information and ideas at numerous meetings and events.

»Innovation needs cooperation. From the TU Graz's point of view, networks such as the CCCA are ideal platforms for fuelling innovation.«

Horst Bischof, Vice Rector for Research, Graz University of Technology



The CCCA in 2019

The Climate Change Centre Austria (CCCA) is a network supported by Austria's most important research institutions. It promotes and fosters networking in climate- and climate impact research. Moreover, the CCCA provides both society and policymakers with scientifically sound information and advice on climate-related topics. The CCCA does not actively conduct research but sees itself as an institution which coordinates Austrian climate research. Founded in 2011 as a non-profit association, the CCCA currently consists of 20 ordinary and four supporting members (as of December 2019).

The CCCA's managing bodies and their services were established with funds awarded by the Hochschulraumstrukturmittel (HRSM – Higher Education Area Structural Funds). The respective HRSM project was completed as scheduled on December 31, 2018. As of early 2019, the CCCA member institutions – especially the universities involved and the host organisations of the managing bodies (Office, Service Centre, Data Centre) – take a larger share in financing the CCCA facilities. Moreover, the co-operation with the Climate and Energy Fund was intensified in 2019.

Against the background of increased public discourse on climate change, the members tasked the CCCA board with initiating a process to advance CCCA efficacy. In the course of several moderated discussions and a closed board meeting, the board agreed, i. a., on its reorganisation in terms of a Holacracy system and on co-opting Helga Kromp-Kolb as board member.

National and International Visibility of Climate Research

Besides maintaining established CCCA structures, the association's managing bodies focused their 2019 endeavours on fostering networking activities with civil society and the private sector so as to join forces in taking effective steps towards social change. In addition, further contacts to complementary networks and organisations were established.

Visibility of Climate Research in the Media and Public

Intensified networking with civil society and increased public interest in climate change-related issues were also reflected in the number of external queries. As compared to approx. 60 to 70 annual queries in previous years, the CCCA managing bodies referred various organisations as well as the media to more than 100 expert members of the CCCA community in 2019 – mainly for interviews and lectures.

Media ORF | ORF Ö1 | Die Presse | Der Standard | Falter | Kurier Profil | PULS4 Cafe | heute.at | ECHO Zeitschriften | Das Waldmagazin | OktoTV | Oberösterreichische Nachrichten | Moment, Medium der Vielen | Tiroler Tageszeitung | Vorarlberger Nachrichten | Web TV | WEKA Industrie Medien GmbH | Pfarrblatt Löwenpresse, Pfarrblatt Linz- St. Markus | **Business/Interest Groups** Landwirtschaftskammer Steiermark | Bank für Kärnten und Steiermark | **Education/Research** Europäisches Forum Alpbach | FFG | BRG Keplerstraße, Graz | Brucknergymnasium Wels GIBS GRAZ | Auhofgymnasium Linz | Montessori International School am Sonnberg | Helmut Geroldinger | Institut für Elementar- und Primärpädagogik | Katholisches Bildungswerk Salzburg | Klimabildung Stainz | **Society** Fridays for Future (Wien, Linz, Villach, Graz, Wiener Neustadt, Oberösterreich) | Aktion kritischer SchülerInnen



Administration/Politics Dänische Botschaft in Österreich | Amt der Vorarlberger Landesregierung | Amt der Oberösterreichischen Landesregierung | Amt der Steirischen Landesregierung | Gemeinde Gallneukirchen | Stadt Graz | Grüne Jugend Niederösterreich | Klimafonds | **NGOs/Society** Verein für Gemeinwohlökonomie | Bischofskonferenz | Streikendes Klassenzimmer | Klimavolksbegehren Länderkoordinator Steiermark Parents For Future | Naturpark Karwendel | WWF | SoLV Roter Börsenkrach | **Arts** Kunsthaus Wien | Universalmuseum Joanneum | Stadttheater Klagenfurt OG | PUPARIUM | **International** Ministerium für Innovation und Technologie, Ungarn | Passauer Politiktage 2019 | EIT Climate KIC

In February, the CCCA, Schulterblick, the EVAL movement, and ENERGYPE-ACE jointly published a letter to Federal President Alexander Van der Bellen with the appeal to »invite the leaders of all parliamentary parties to a dialogue on establishing a cross-party consensus on the subject of implementing the Paris Agreement in Austria«.

On the occasion of the March 15 global climate strikes, the CCCA, Scientists for Future (S4F), and Fridays for Future (FFF) joined forces in Austria. At a press conference they called attention to the Sc4F movement's statement on the urgency of climate protection, signed by more than 26,000 scientists worldwide.

In July 2019, a first draft of the Ref-NECP (Reference Plan for a Scientifically Sound National Energy and Climate Plan for Austria*), drawn up as part of UniNETZ's activities, was referred to the National Climate Protection Committee.

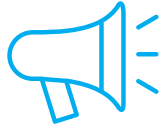
* full title: Reference Plan Constituting the Basis for a Scientifically Sound National Energy and Climate Plan for Austria (Ref-NEKP)



Press conference on the publication of Ref-NEKP, Vienna, 09.09.2019
 From left to right: Kirchengast, Kromp-Kolb, Kirchner, Stagl, Steininger (Photo: CCCA)

The consolidated version of the Ref-NECP for Austria was presented in September (for details on the Ref-NECP see page 19), generating widespread media coverage. A key question in this context was: How can Austria achieve a transition to an almost GHG emissions-free and climate-robust economy and society by 2050 in line with the Paris climate goals?

In November, the CCCA Board published an open letter – addressed to the political parties then engaged in coalition talks – on an unsatisfactory draft of the National Climate and Energy Plan submitted for assessment. On this occasion, the CCCA also supported a press conference at which Gottfried Kirchengast (University of Graz), in collaboration with the WWF, the then current petition for a climate referendum, FFF, and Global 2000, pointed out the need for a more rigorous NECP.



In order to reach and inform the climate research community and the interested public directly, the CCCA distributes regular member information and newsletters (7 issues in 2019) and updates interested parties on current topics via supplementary announcements (special newsletters), 33 of which were issued in 2019. These information channels enable the CCCA to react promptly to new developments and always keep its members as well as interested parties up to date.

Via roughly 100 news slider items on the website's landing page, the CCCA passed on up-to-the-minute information to its community and the general public throughout the year. The CCCA, moreover, informs interested parties about project results and current events on twitter, while the CCCA calendar provides information on current calls and an overview of events.

Visibility of Climate Research in Society and Education



Work on the Alliance Sustainable Universities in Austria's UniNETZ – Universities and Sustainable Development Goals (www.uninetz.at) – project started at the beginning of 2019. Based on intensive co-operation and professional analysis of UN Sustainable Development Goals (SDGs), the project will draw up an options paper by 2021 to support the Austrian federal government in implementing the SDGs. UniNETZ currently comprises a total of 18 research institutions (including 15 universities). Within the network, CCCA provides patronage for SDG13 – Climate Action, engaging the following CCCA members as actively involved partners: University of Graz, Danube University Krems, Montanuniversität Leoben, Graz University of Technology, University of Natural Resources and Life Sciences Vienna and Central Institute for Meteorology and Geodynamics.

In 2019, the UniNEtZ project focussed on developing its scientific and methodological approach and on drawing up a Reference Plan as a basis for a scientifically sound National Energy and Climate Plan for Austria (Ref-NEKP) in line with the Paris climate goals. As regards good scientific practice throughout the science-policy dialogue, the plan does not stipulate which political actions are to be taken. Rather, the plan suggests options and provides scenarios for how Austria can make a fair and appropriate contribution to the Paris climate goals.

In September 2019, the Ref-NECP was presented to the public at a press conference. In early 2020, the ÖAW publishing house will publish the Ref-NECP. The Uni-NEtZ Perspectives Report to be completed in early 2020 describes the scientific, methodological approach to processing and evaluating the interactions between the SDGs and potential options developed across a wide range of specialist areas.

By co-ordinating the activities related to the Scientists for Future (S4F) movement, which is also active on social media under # Scientists4Future, the CCCA serves as a point of contact and knowledge hub for S4F in Austria.

Moreover, the CCCA supports the »Climate Education for Schools« project both in organisational matters and with specialist knowledge. In co-operation with the University of Graz, S4F, and the Students Association for Sustainability (SAS) the project was initiated in autumn 2019 in Graz.





Since the winter semester 2019, S4F have also been offering »Lectures for Future« mosaic courses. Their aim is to introduce students across different universities to important future issues related to the UN's Sustainable Development Goals (SDGs) and to potential solutions from a wide range of both scientific disciplines and perspectives.

The CCCA Young Scientists Working Group is also encouraging and supporting young researchers who wish to take an active part in raising awareness for climate change. In addition, scientists from all over Austria have given public lectures at most Friday school strikes since spring 2019.



CCCA researchers partaking in Fridays for Future's Classroom on strike, Vienna, 20.03.2019 (Photo: Fridays For Future)



Press conference on the presentation of the S4F commentary, Vienna, 12.03.2019
From left to right: Schinko, Kromp-Kolb, Tockner, Staudinger (Photo: CCCA)

Visibility of Austrian Climate Research in International Networks

The »Networking Platform for European and international Climate Research« can look back on a successful year. The flow of information from and to Austria was significantly increased and the Austrian research community was strategically positioned. Key activities in 2019 included:

Leading function in drawing up the JPI Climate Call SOLSTICE (Enabling Societal Transformation the Face of Climate Change)

This interdisciplinary call is geared towards aspects of climate change research related to the humanities and social sciences, as it aims to better understand and direct social transformation associated with these disciplines. The Austrian CCCA community was very interested in the call, as it fills a large gap in the funding landscape.

JPI Climate White Paper

Austria assumed the co-lead in drawing up the JPI Climate White Paper on »Operationalising knowledge on and for societal transformations in the face of climate change«. This strategy paper forms the basis for JPI Climate's medium-term agenda as regards the humanities and social sciences within the context of climate change research.



Five thematic areas and two transversal aspects with a high demand for research have been identified and ought to be directional for calls in the coming years. The aim is to address the widest possible range of researchers from the humanities and social sciences. The White Paper, moreover, constitutes a guide to transdisciplinary research approaches; it encourages critical and reflective processes in knowledge production.

Calls for participation in international working groups and exchange programmes, nominations to international expert committees, such as:

- Call for participation in submitting a COST Action in the area of climate change & the humanities and social sciences
- Call for participation in submitting an H2020 Coordination and Support Action in the area of climate change and health
- Call for participation in the ERA4CS exchange programme »Joint Capacity Building for Climate Services Policy Alignment«
- Identification of suitable nominees for the European Commission's Mission Board Experts
- Advice on establishing boards and advisory committees

The active involvement of Austrian researchers in various international activities significantly increases the visibility of Austrian competencies; at the same time, the experts have the opportunity to actively embed their research interests in an international field and extend their own networks.

Successful communication at and submissions to international calls: JPI Climate Call AXIS (Assessment of cross-sectoral climate impacts and pathways for sustainable transformation)

In June, the international experts committee selected ten out of 40 full proposals submitted for funding. Austria was extremely successful in this call and is involved in five of the ten funded projects. The aim of this joint transnational call (with participation of ten European countries) was to expand the knowledge base that helps societies in their transition to sustainability, in particular through an integrated understanding of the social, political, and economic impacts and risks related to climate change. With comprehensive information provided by the CCCA, the Austrian research community was well prepared for this call and is internationally perceived as very active and competent.

In 2019, the CCCA also intensified its exchanges with the partners of the international ALPACA network. It is a platform for regional, national, and transnational networks, umbrella organisations, and other co-operation structures in the field of climate protection and energy efficiency aiming to join forces in supporting municipalities and local governments throughout the Alpine region in reducing GHG emissions. The CCCA supported the network in planning the »Listening, storytelling and matchmaking: let's accelerate the transition towards climate neutral and resilient Alps« conference which is to take place in Bolzano on March 11 and 12, 2020



Once more, the CCCA acted as co-organiser of the »K3 - Congress on Climate Change, Communication and Society« which took place on September 24 and 25 at the KIT in Karlsruhe, bringing together c. 500 participants from Germany, Austria, and Switzerland. Current Austrian research- and practice-related projects dedicated to communication on climate change were presented to a wide specialist audience. Three keynotes and debates and a total of 19 workshops examined current research results and conveyed methods for climate communication, e.g., in everyday political life or in processing and presenting climate scenarios. In the so-called »Playground«, for instance, participants were able to put their skills and limitations in climate negotiations to the test.

The »Graz Declaration for Climate Protection in the Built Environment« – resulting from the SBE 19 conference at Graz University of Technology in September 2019 – attracted international attention. The number of supporters has already surpassed 500. The conference took place under the patronage of Graz University of Technology in collaboration with the University of Natural Resources and Life Sciences Vienna, the Karlsruhe Institute of Technology, and the ETH Zurich. It attracted c. 300 international participants from the D A C H region and beyond. Both the conference and its high-profile output illustrate the importance of bringing together various scientific communities and networks such as the CCCA, the UniNETZ project, and the Alliance of Sustainable Universities to facilitate mutual learning and breaking new common ground.

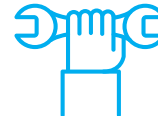
Innovation, Research Data, and Data Infrastructures

As a central service for the research community, the CCCA Data Centre facilitates climate data archiving, editing, visualisation, publishing, quoting, viewing, and much more. It serves as a central point for sharing climate-related knowledge and resources and thus facilitates co-operation between various disciplines and scientific communities as well as between science and practice (companies, media, planning, etc.).



DATA HUB - New Data Centre Services and roducts

As HRSM funding expired at the end of 2018, the major challenge for 2019 was to synergistically (re-)design existing personnel or hardware structures and services at the Central Institute for Meteorology and Geodynamics (ZAMG) as carrier organisation. This had already been considered a high priority and necessity in the run-up to tackling increasing challenges – such as the vulnerability of IT infrastructures due to cybercrime – and to share responsibility. Despite losing the development team and their experience, the integration of the Data Centre into the ZAMG-IT was successful. Thus, the focus in 2019 was on system stability. Still, an enormous increase in registered users and queries for use of data was recorded.



In 2019, the CCCA Data Centre and ZAMG lent support in establishing the Biodiversity Atlas Austria, a project headed by the Danube University Krems within the framework of the Biodiversity Network.

In addition to technical and conceptual consulting and system administrators providing support, virtual machines and memory were made available for the test phase of implementing this application.

<https://www.biodiversityaustria.at/atlas/>



The Research Data Alliance–Europe selected 8 projects/initiatives whose services and technical developments in data management have helped to meet the challenges posed by the data life cycle and will continue their work for the next 12 months. Among them was the CCCA Data Centre. It is intended to extend the service in collaboration with the Department for Remote Sensing of the TU Vienna to satellite data, especially to the software framework for Open Data Cubes. A publication on this topic (Schubert et.al, <https://doi.org/10.3390/data4030115>) was published in the MDPI special issue »Earth Observation Data Cubes« in August.

The CCCA Data Centre was one of the first institutions to implement RDA Recommendations on Dynamic Data Citation in 2017 and deploy the implementation operationally. RDA issued an adoption/success story on the CCCA Data Centre [www.rd-alliance.org/dynamic-data-citation-frequently-modifying-high-resolution-climate-data] which raised public visibility. Against this backdrop, the RAD requested information not only on the technical architecture, but also on practical experience, personnel expenses, and additional costs. The campaign aims to present this implementation as a potential model and/or point of contact for other data infrastructure operators. The Vienna-based Earth Observation Data Centre (EODC), for example, has already taken up our Open Source Code.

Moreover, the CCCA Data Centre carried out commissioned projects, such as the Austrian INSPIRE registry – a server for controlled vocabulary as a semantic layer – for the Federal Ministry for Sustainability and Tourism; or CLIMAPROOF, a UNEP-funded project at the University of Natural Resources and Life Sciences. In addition, the Data Centre evaluated the »Risk Data Hub« data server for the European Commission’s Disaster Risk Management Knowledge Centre. A contribution to the DCNA Research Days in Graz in October 2019 was also related to the context of both the Risk Data Hub and INSPIRE.

Participating in a seminar on software and system architecture at the University of Applied Arts Vienna was an exciting experience in demonstrating automated data access and their understanding of climate data. For a local art festival, a tree was furnished with lighting technology, representing climate change signals within a temporal sequence via colour changes.

Capacity Building in the Areas of »Science to Public« and »Science to Innovation«

2019 saw the successful third edition of the »Writing Workshop« format. 15 young researchers from the University of Salzburg took the opportunity to obtain tips and tricks from journalists on how to convey their research results to a broader public in an attractive and engaging manner. Over three years, a total of around 50 climate researchers took part in three workshops in Graz, Vienna, and Salzburg, aiming to make their texts more easily understandable and thus increase the impact of their research within society.

“From Science to Innovation” Workshop by EIT Climate-KIC/CCCA, TU Graz, 20.11.2019 (Photo: CCCA)



In November 2019, a test run of the EIT Climate-KIC’s interactive »From Science to Innovation« workshop was held at the Technical University Graz. EIT Climate-KIC’s goal is to combat climate change through innovation and cross-system projects. EIT Climate-KIC Austria offers this workshop for the CCCA community to support climate researchers in implementing climate innovations based on their research results. 20 junior and senior scientists from various departments at the University of Graz, Montanuniversität Leoben, and Technical University Graz took the opportunity to gain new perspectives on their research and to jointly generate new ideas for climate innovations. Further workshops for interested CCCA members are planned for 2020.

Climathon Ideas Competition

The Climathon is a worldwide 24-hour hackathon for climate innovations in urban areas, organised by the EIT Climate-KIC innovation network. In 2019, young entrepreneurs, students, schoolchildren, programmers, and political decision-makers, got together in more than 120 cities to jointly work on innovative and creative solutions to local climate change-related problems.

In October 2019, the CCCA organised the second Graz Climathon in collaboration with the Graz University of Technology, Science Park Graz, Green Tech Cluster, and Joanneum Research LIFE. The financial and active support of the challenge sponsors – among them Energie Graz, Montanuniversität Leoben, Climate and Energy Fund, and the Styrian Chamber of Agriculture – helped to make this ideas competition highly successful



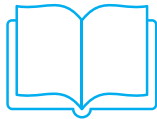
Participants of the 2019 Climathon in Graz, TU Graz, 25.10.2019 (Photo: CCCA)

Around 40 young researchers and students formed seven teams, most of whom actually worked for 24 hours to solve the problems they had chosen. Coaches and special workshops were available to support the teams. The three winning teams are currently in contact with the companies involved to work on the further implementation of their ideas.

Knowledge Transfer – The CCCA as Knowledge Hub

The CCCA's self-understanding is as a knowledge hub providing climate knowledge in various forms. On the one hand, it serves as a point of (first) contact both for and to the scientific community; on the other hand, it pools research results to convey them to an interested public.

Climate Education



Environmental education is becoming increasingly important in times of global weather vagaries and young people taking to the streets to demonstrate for courageous climate policies in line with the 1.5 °C target. As part of a co-operation between the CCCA and Klimbündnis Österreich in the summer of 2019, CCCA researchers examined teaching materials on the topics of »Climate and Energy« and »Climate Facts – Climate Change«. The materials are now available in print and online.

Styria vitalis acts as coordinator for the www.feel-ok.at website, an internet-based intervention programme for young people. In this context, the CCCA as a specialist organisation addressed the topics of climate change – impacts – adaptation via questions and answers for young people and through worksheets (knowledge quizzes, reflective questions, group work and/or role play, exercises) for teachers and multipliers.

Climate Status Report

On behalf of the Austrian federal states and the Climate and Energy Fund, the second Climate Status Report Austria was issued in 2018 by the CCCA in collaboration with the Central Institute for Meteorology and Geodynamics (ZAMG), the University of Natural Resources and Life Sciences (BOKU), and the Austrian Research Center for Forests (BFW). The annual climate status report places the past year's weather situation within the context of climate change. One of the focal points is the impact the past year's (extreme) weather situations had on the environment and society. The Climate Status Report aims to describe already experienced climate change, put said change into context with possible future developments, and present potential strategies for action and adaptation. The focus of the 2018 report was on heat and drought. The report was presented to a wide audience on the Austrian Climate Day 2019.

Fact Sheets

In addition to advising policy- and other decision-makers, the CCCA's objectives include supporting knowledge transfer from research to application. The CCCA, therefore, provides fact sheets, i.e. easy-to-understand short summaries of both basic and current climate-relevant research. This compact information is meant to convey knowledge to interested laypersons and experts in an understandable and applicable manner. In 2019, researchers from the CCCA community published three fact sheets:



All 27 fact sheets are available at <https://ccca.ac.at/wissenstransfer/fact-sheets/>.



Technologische Optionen und Risiken einer wasserstoffbasierten Eisen- und Stahlproduktion

Autoren: Anne Meier, Peter Dierkes, Johannes Wimmer
 Herausgeber: CCA, Fraunhofer IPT, Fraunhofer IPA, Fraunhofer IFF, Fraunhofer IWS, Fraunhofer IZM, Fraunhofer IZRW, Fraunhofer IZS, Fraunhofer IZT, Fraunhofer IZL, Fraunhofer IZM, Fraunhofer IZRW, Fraunhofer IZS, Fraunhofer IZT, Fraunhofer IZL

Zielsetzung: Die Studie soll die technologischen Optionen und Risiken für die Herstellung von Eisen und Stahl auf Basis von Wasserstoff untersuchen. Es werden die derzeitigen technologischen Möglichkeiten analysiert und bewertet.

Wichtige Erkenntnisse:

- Die Erzeugung von Wasserstoff aus erneuerbaren Energien ist die einzige Option, die langfristig emissionsfrei ist.
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Die Haltung landwirtschaftlicher Nutztiere in Ställen

Autoren: Anne Meier, Peter Dierkes, Johannes Wimmer
 Herausgeber: CCA, Fraunhofer IPT, Fraunhofer IPA, Fraunhofer IFF, Fraunhofer IWS, Fraunhofer IZM, Fraunhofer IZRW, Fraunhofer IZS, Fraunhofer IZT, Fraunhofer IZL

Zielsetzung: Die Studie soll die Auswirkungen des Klimawandels auf die Haltung landwirtschaftlicher Nutztiere in Ställen untersuchen. Es werden die derzeitigen technologischen Möglichkeiten analysiert und bewertet.

Wichtige Erkenntnisse:

- Die Haltung landwirtschaftlicher Nutztiere in Ställen ist eine wichtige Option, um die Auswirkungen des Klimawandels zu mindern.
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Die Einbindung von Bürgergruppen im Hochwasser-Risikomanagement: Neue Rollen und Aufgaben in der Anpassung an den Klimawandel

Autoren: Anne Meier, Peter Dierkes, Johannes Wimmer
 Herausgeber: CCA, Fraunhofer IPT, Fraunhofer IPA, Fraunhofer IFF, Fraunhofer IWS, Fraunhofer IZM, Fraunhofer IZRW, Fraunhofer IZS, Fraunhofer IZT, Fraunhofer IZL

Zielsetzung: Die Studie soll die Rolle von Bürgergruppen im Hochwasser-Risikomanagement untersuchen. Es werden die derzeitigen technologischen Möglichkeiten analysiert und bewertet.

Wichtige Erkenntnisse:

- Die Einbindung von Bürgergruppen im Hochwasser-Risikomanagement ist eine wichtige Option, um die Auswirkungen des Klimawandels zu mindern.
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Die Einbindung von Bürgergruppen im Hochwasser-Risikomanagement: Neue Rollen und Aufgaben in der Anpassung an den Klimawandel

Autoren: Anne Meier, Peter Dierkes, Johannes Wimmer
 Herausgeber: CCA, Fraunhofer IPT, Fraunhofer IPA, Fraunhofer IFF, Fraunhofer IWS, Fraunhofer IZM, Fraunhofer IZRW, Fraunhofer IZS, Fraunhofer IZT, Fraunhofer IZL

Zielsetzung: Die Studie soll die Rolle von Bürgergruppen im Hochwasser-Risikomanagement untersuchen. Es werden die derzeitigen technologischen Möglichkeiten analysiert und bewertet.

Wichtige Erkenntnisse:

- Die Einbindung von Bürgergruppen im Hochwasser-Risikomanagement ist eine wichtige Option, um die Auswirkungen des Klimawandels zu mindern.
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- **Fact Sheet #25** »Technological Options and Risks of Hydrogen-based Iron and Steel Production«: To achieve long-term climate targets (»significantly below 2 °C«), net-zero GHG emissions are required by 2050. Thus, a corresponding contribution from the iron and steel industry is also permitted. The new fact sheet on »Technological Options and Risks of Hydrogen-based Iron and Steel Production« presents and evaluates current possible actions.
- **Fact Sheet #26** »Housing Livestock«: The fact sheet describes the effects of global warming on housing pigs and chickens and explores which adaptation measures are suitable to reduce the heat stress of housed livestock.
- **Fact Sheet #27** »Involving Citizens Groups in Flood Risk Management: New Roles and Tasks in Climate Change Adaptation«: International case studies show that citizens groups can perform numerous tasks in flood risk management. The fact sheet illustrates the advantages of a structured and organised involvement of citizens groups in flood risk management.

Topics and Dissemination Services for ACRP Projects

On behalf of the Climate and Energy Fund, the CCCA prepared an overview of topics regarding »Increasing Heat and Droughts in Austria« and »Co-benefits – Positive Side Effects of Climate Protection and Adaptation«. These well-structured background papers are targeted towards the CCCA community concerned with the respective topics as well as the interested public. They provide useful background information for researchers and practitioners in the field of climate communication. In order to make the topics transparent for the general public, two flyers based on this comprehensive information are planned for 2020.



Besides the well-established fact sheets, the CCCA now offers another dissemination format for research projects: The first policy brief on »Landslides, Climate Change, and Land Use – Key Statements for Practice from the ILLAS Project« was published in 2019 in collaboration with the Austrian Institute of Technology's ILLAS project team, the University of Natural Resources and Life Sciences Joanneum Research, and the University of Jena. The policy brief takes a more practice-oriented perspective than the fact sheets and provides an opportunity for practitioners to summarise a project's key statements as well as stakeholder views.

»After having worked for the IPCC, the APCC is another experience I would not want to miss: The context-specific assessment of climate impacts, adaptation, and climate protection measures yields completely new and important insights a global assessment cannot grasp, but which have immense importance for the implementation of national climate policy.«
*Sabine Fuss, Mercator Research Institute on Global Commons and Climate Change (MCC),
Member of the APCC Panel*

APCC Activities

The »Austrian Panel on Climate Change« (APCC) was established in line with the »International Panel on Climate Change (IPCC)« in 2014. It is a permanent institution for experts of the Austrian Climate Research Association to regularly present the current state of research on how climate change has impacted and will further impact Austria.

The Austrian Panel on Climate Change APCC is a permanent institution that currently consists of Helmut Haberl (University of Life Sciences and Natural Resources Vienna), Martina Schuster (Federal Ministry for Sustainability and Tourism), and Sabine Fuss (MCC-Mercator Research Institute on Global Commons and Climate Change Berlin). The panel can call in additional experts. This is regularly the case with special reports so as to cover all areas of professional expertise.

A CCCA working group (WG) establishes potential topics for special reports which are submitted to the Climate and Energy Fund and serve as suggestions for the Austrian Climate Research Programme's annual calls. In 2019 two working group meetings were held, one in spring and one in autumn.

APCC Special Reports



In 2019, the project team of SR Tourism organised a conference in Innsbruck on the topic of »Tourism and Climate Change«. The participants were introduced to and discussed current developments, problems, and strategies relating to tourism and climate change in the Alpine region. The dialogue was based on a mixture of short lectures, discussion groups, and active participation.

Since 2018, the CCCA has been responsible for the SR Tourism's review management. The aim is to meet the highest quality standards by means of a professional review process based on IPCC guidelines and in compliance with APCC standards. This is achieved via an independent, open, and transparent multi-stage review process. The reviewers are either university and non-university researchers or administrators.

Moreover, the First and Second Order Drafts were successfully completed in 2019. In the two review loops a total of approx. 1,800 comments were submitted.



The APCC Special Report on Land Use, Land Management, and Climate Change was launched in autumn 2019. The report will focus on scientific findings that were obtained in Austrian research projects, relate to Austria, and – if necessary – also refer to international sources. The aim is to pursue a two-year open process which will to the largest possible extent involve the scientific community in the field of land system research. Once again, the CCCA is responsible for review management and has already completed the informal review. The CCCA will, moreover, play a leading role in stakeholder engagement in the coming year.

Dialogue and Networking

The CCCA promotes strategic and operative co-operation between decision-makers from administration, politics, society, business, and academia, using different dialogue formats in accordance with the respective target groups' needs.

ACRP Dialogue for Networking between Science and Administration

Following the previous year's successful pilot project, the CCCA – in collaboration with the Climate and Energy Fund and Federal Ministry for Sustainability and Tourism – organised another informal workshop on networking between science and administration in October 2019. The meeting was aimed to develop new forms of co-operation and foster the targeted exchange of information. After two brief kick-off lectures, the approx.



2. ACRP Dialogue on Networking between Science and Administration, Climate and Energy Funds, Vienna, 29 October 2019 (Photo: CCCA)

30 participants from research and administration were able to exchange ideas on social aspects of climate change, climate policy, and heat islands on the premises of the Climate and Energy Fund. The ACRP dialogue is to take place again next year to promote direct communication between public administration and science.



20. Climate Day for Networking between the CCCA Community and Practitioners

For 20 years, the Climate Day has been a fixture in the Austrian research community's calendar as an interdisciplinary, scientific conference and a means of establishing an interface between all parties interested in climate change. The Climate Day aims to provide an overview of the Austrian research activities in the fields of climate change, impacts, adaptation, and avoidance and to enable networking both among researchers and with decision-makers from areas of practical application.

At the University of Natural Resources and Applied Life Sciences in Vienna and the Technical University of Vienna, more than 250 researchers, multipliers, and administrators got together under the motto »Facets of Austrian Climate Research« to celebrate the Climate Day's 20th anniversary. Besides having been a special occasion, the 20. Climate Day had a scientific agenda of presenting the research results of 2018. Participants, moreover, had the opportunity to engage in discussions with artists and exchange ideas.



Happy Birthday Climate Day! Anniversary celebration, Vienna, 25.04.2019
Left to right.: Jandl, Kromp-Kolb
(Foto: CCCA)

The 20. Austrian Climate Day was made possible by the financial support of the following institutions: Climate and Energy Fund, Wien Energie, and Die Österreichische Hagelversicherung. The hosts and co-organisers (BFW, BMBWF, BOKU, University of Applied Arts, Climate Protection Program of the City of Vienna, MUL, TU Graz, TU Vienna, UniNEtZ, and ZAMG) were able to provide a varied and attractive programme.

Thematic Co-operation in the context of CCCA Working Groups

Within the CCCA, strategic and thematic working groups function as a wider format for discussing and working on specific projects, activities, or topics. The CCCA supports its members in establishing working groups, monitors their activities, and ensures that the WGs' results are properly communicated within the network.

The interdisciplinary co-operation of the CCCA member organisations on current issues relevant to the climate community was continued in 2019. In addition to numerous meetings and the mutual exchange between working group members, various issues were also emphasised in communication to the public:

- At the beginning of 2019, the Social and Ecological Transformation WG published a »Memorandum on the Necessity of Social and Ecological Transformation Research in Austria«. At the Austrian Climate Day, WG members prepared and chaired a session on transformation, during which the Memorandum on Transformation Research was presented and discussed.

The 20. Austrian Climate Day in Numbers:

5 plenary sessions
4 workshops
4 keynote speakers
7 flashlights
13 lectures
47 posters
3 awards and honours
13 co-organisers and sponsors
1 power plant tour
1 birthday party with cake

On October 23, the WG organised a discussion with Karl-Werner Brand on »The Social und Ecological Transformation of the World – Historical Dynamics, Current Perspectives« at the University of Vienna

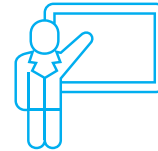
- As part of a Climate Day workshop on »Career Development Within and Outside Academia«, the Junior Researchers WG invited young researchers to partake in a dialogue on career opportunities.
- A radio report on »Environment True Costs – Greenhouse Gas Emissions Caused by Consumerism« by the Consumption-based GHG Accounting WG was re-broadcast in the Ö1 »Dimensions« series in spring 2019.
- On May 29, the ClimateProtectionLaw WG organised an international conference on »CO2 and Environmental Taxing: Pathways Towards an Environmentally, Socially, and Economically Fair Tax Reform« in Graz. Experts from different continents addressed legal, economic, and philosophical questions regarding CO2 and environmental taxing.
- Members of the Climate Communication WG attended the K3 Congress on Climate Change, Communication and Society and were able make active contributions and network in the context of two workshops: »I'm Actually Environmentally Friendly, I Just Don't Get Around to it Often« and »Politically Correct Climate Communication?«.

All CCCA members as well as external experts are welcome to actively participate the WGs and will be supported by the CCCA's operational bodies. Contact details for the heads of the WGs are available on the CCCA website.

Climate Forum Styria: 8. and 9. Science and Public Networking Events

The Styrian Climate and Energy Forum was continued in 2019 on behalf of the Federal State of Styria's Climate Protection Coordination. In the KLAR! region of Stiefingtal, speakers Franz Prettenthaler (Joanneum Research LIFE), Martin Schönhart (University of Natural Resources and Life Sciences, Vienna), Martin Röck (Graz University of Technology), and Isabella Kolb-Stögerer (KLAR!-Region Stiefingtal) discussed »Climate Change in Styria – Between Heat and Frost« with more than 70 participants.

The two 2019 IPCC special reports on Land Use (SRCCL) and Cryosphere (SROCC) were the subjects of 9. Styrian Climate and Energy Forum »Eternal Ice and Green Mark« in Graz. Kristin Richter (University of Innsbruck) and Karlheinz Erb (University of Natural Resources and Life Sciences, Vienna) explained the implications of global trends for Austria and Styria to the approx. 90 participants. Gudrun Lettmayer (Joanneum Research) then made the connection to personal lifestyle and illustrated a potential pathway towards an emissions-free society.



Networking between Climate Research and Domestic Economy and Practice

In August 2019, the European Forum Alpbach initiated »make_shift«, a programme intended to show business executives ways towards sustainable social transformation. The programme was supported by EIT Climate-KIC, the University of Innsbruck, the Vienna University of Economics and Business, the Climate and Energy Fund, Raiffeisen Capital Management, Mondi, and the CCCA who acted as programme partner. Around 30 so-called »Change Makers« accepted the invitation. Following an intensive three-days programme in Alpbach, another four meetings are planned up until



1. make_shift Workshop, European Forum Alpbach, 24.08.2019 (Photo: European Forum Alpbach)

August 2020 to support the group in implementing their ideas and initiatives. Further networking between the participants and CCCA members is also planned in order to intensify the dialogue between science and business. At the first meeting in October 2019, the group discussed global and personal perspectives on climate change with Sigrid Stagl (Vienna University of Economics and Business).

EIT Climate KIC Ecosystem meeting

The CCCA and EIT Climate-KIC organised the first »Ecosystem Meeting« in Graz with the aim of researchers from different disciplines networking with each other and with practitioners. Around 25 representatives from the Montanuniversität Leoben, the University of Graz, and the Technical University of Graz discussed their research and possibilities to collaborate on implementing innovative ideas and projects.



1. Ecosystem meeting in Graz
EIT Climate-KIC/CCCA, TU Graz,
20.11.2019 (Photo: CCCA)

PERSONALIA

Board function	Person	Institution
Chairperson	Gerhard Wotawa	ZAMG
Chairperson (co-opted from June 2019)	Helga Kromp-Kolb	BOKU
Vice-Chairperson	Hans Stötter	UIBK
Vice-Chairperson	Isabella Uhl-Hädicke	Uni Salzburg
Vice-Chairperson	Herbert Formayer	BOKU
Secretary	Robert Jandl	BFW
Vice-Secretary	Ina Meyer	WIFO
Treasurer	Reinhard Mechler	IIASA
Vice-Treasurer	Lukas Meyer	Uni Graz

The board devises the CCCA's strategic orientation in consultation with the board members. The strategy is implemented by way of the various activities outlined in the current annual report. Information on the team members at the CCCA Coordination Office, the Service Centre, and the Data Centre is available on the CCCA website at www.ccca.ac.at.

