



Centre for Climate
and Energy Transformation

ANNUAL REPORT 2022



*5 years of
actionable knowledge*

Actionable knowledge for transformation.

About CET

Climate change is one of the greatest societal challenges of our time. While we have acquired substantial knowledge about physical climate changes and their impacts on society, new knowledge is needed on how to achieve deep, rapid and sustainable transformation of society.

The Centre for Climate and Energy Transformation (CET) was established in 2016 by the Faculty of Social Sciences as a hub for interdisciplinary research with a basis in the social sciences in this area. CET brings together researchers from three partner institutions - the University of Bergen, NORCE Norwegian Research Centre AS and NHH Norwegian School of Economics.



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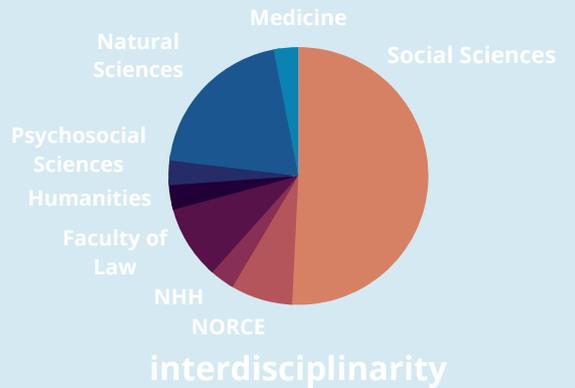
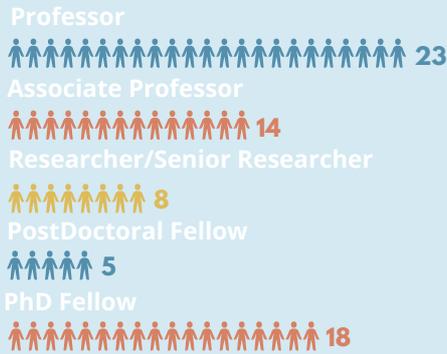
TABLE OF CONTENTS

- 3 CET 2022 Highlights**
- 4 Words from the Director**
Prof. Håvard Haarstad
- 5 People**
Senior research capacity
Recruitment positions
CETlers move on
Affiliate network
- 7 Research**
Project grants 2022
Partnerships
Running projects
- 10 CET Accelerator**
CET Accelerator grants 2022
CET Accelerator projects completed 2022
- 11 PhD Defenses**
4 CET PhD defenses in 2022
- 13 Publications**
Selected publications from 2022
- 15 5 years of actionable knowledge**
Anniversary celebrations
- 17 Events**
Summary from 2022
Forsker Grand Prix 2022
- 19 Co-production**
Collaboration workshops in 2022
- 20 Arqus Alliance**
Celebrating 3 years of European collaboration
- 21 Education**
Master's students at CET
The Collaboratory
- 23 Organisation**
Secretariat
CET Steering Committee
Strategy
Finances
- 24 Annexes**
 1. Publications
 2. Media Outreach
 3. Publications
 4. Projects
 5. Events overview

People

68

Affiliated researchers



Research

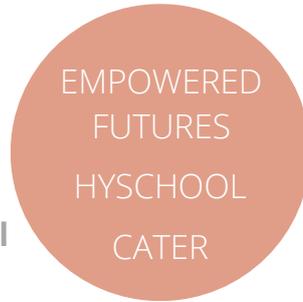
12

Running projects



3

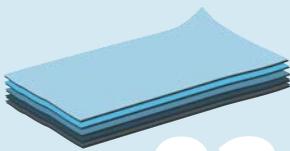
Research school partnerships



4

PhD defenses

Publications & Outreach



92

Scientific publications



33

Engagements in media



42

CET Lunch Seminars
Workshops & Events



5 years of
actionable knowledge

WORDS FROM THE DIRECTOR



What's next? CET is now in its fifth year and has shifted from being a "new" centre to a well-established centre with impact.

In 2022 we celebrated our fifth anniversary. With four PhD defenses, including the defense of the final PhD connected to the Trond Mohn Foundation project, which was crucial to our establishment.

Many of the early career researchers who were with us at the beginning have now moved on to jobs both within and outside of academia. This is a sign of a generational shift where, among other places, our "wall of fame" (the door of our refrigerator) is filling up with pictures of dear colleagues who have moved on. This is a sign that we have reached a level of maturity.

While the anniversary has allowed us to reflect on the past, it is crucial to look forward. Climate and energy transformation has been further complicated by horrendous world events. This challenges us further to think about how our research and societal engagement can play a constructive role. We have called this year's Beyond Oil conference "Refuelling transformation", recognising that the context of transforming to low-carbon societies is bound up in multiple backlashes – we are in a historical moment when our research and action can make a big difference.

Part of moving on from our identity as a new centre has been to revise our strategy. Through events involving the affiliate network, the staff and the Steering Committee, this has provided an opportunity to think about what works and what needs to be improved. We have found that our core values stand, but we will sharpen our research focus and become better at recognising diversity. We look forward to launching the strategy in the first part of 2023.

The annual report illustrates that our achievements are a collective effort. I really appreciate everyone who commented on the draft of a colleague, asked a question at a CET lunch, filled out the annual report form, baked a Friday cake, or shut the world out to finish that paper. Thanks a lot!



Håvard Haarstad
CENTRE DIRECTOR

PEOPLE

CET core team

In 2022 we counted over 20 people working in the hallways of CET. We have a mix of researchers, spanning from professors to research assistants.

The secretariat consisted of Håvard Haarstad, Nora Haukali, Judith Dalsgård and Janne Bjørgan. In May, Janne was hired for another year. In December the secretariat was joined by Christine Ann Rooks, who will fill in for Nora while she's on parental leave.



Simon Neby
Dept. of Government
Professor



Silje Kristiansen
Dept. of Information
Science and Media Studies
Associate Professor



Corbett Grainger
University of
Wisconsin-Madison
Associate Professor II
2019 - 2022



Jessica Jewell
Chalmers University
of Technology
Professor II
2020 - 2026



Kevin Anderson
University of Manchester
Professor II
2020 - 2023



Siddharth Sareen
University of Stavanger
Associate Professor II
2020 - 2023

Senior research capacity

In 2022 we were joined by Silje Kristiansen from SUNY in New York. She has a shared position as an associate professor at CET and the Department of Information Science and Media Studies.

Professor Simon Neby and professor Håvard Haarstad make up the rest of the senior researcher team working at CET, as well as the four professor II's we have connected to our centre.

Recruitment positions



New faces at CET in 2022, from left: Silje Kristiansen, Lene Drengenes, Sofie Jordheim, Daniel Puig and Solveig Kristine Bortne Høegh-Khron. Photo: Janne Bjørgan

During 2022 we recruited one postdoc, a PhD, a researcher, several research assistants and interns, and even a master's student writing his thesis about CET.

Researchers we welcomed to CET in 2022:

- Ida Sekanina started in January as PhD Candidate on the MUCS project.

- Solveig Kristine Bortne Høegh-Khron started in September as a researcher on the MUCS project.
- Daniel Puig started in November as a PostDoc. His research will focus on developing a theoretical framework for social limits to climate change adaptation.

Three research assistants were engaged in 2022:

- Ronya Solberg working on several of our research projects
- Sofie Jordheim working on the CITYFREIGHT project
- Lene Drengenes working on the VARCITIES project

In spring we were also joined by Joran Buwalda, a master's student from the University of the Delft University of Technology, Netherlands. He wrote his master's thesis on how CET does transdisciplinary research, and was employed as a research assistant to write an article based on his thesis.

Read more about his thesis in our *Education* section (page 22).

CETlers move on

An important function of our centre is to provide our researchers with the competence to work in positions inside and outside academia. In 2022 we bid farewell to many great people who started in exciting positions within or closely related to our research interests.

First out was Hanna Kvamsås who defended her PhD on *The potential for transformative adaptation*, and is now a Senior Researcher in Climate, Environment and Sustainability at NORCE.

Hanna was followed by our master's student Sina Storelv who went on to work as Senior Engineer with our good colleagues at DIGSSCORE. Sina coordinates the research and data collected for the Norwegian Citizen Panel Survey and the Citizen Lab.

Another master's student, Helene Klyve, moved on to become a consultant in the Transportation Section at the Norwegian Environment Agency in Oslo.

Affiliate research network - what's next?

In 2022 we had a successful workshop with our Affiliates, where we broadly discussed the next steps for CET. The discussion was illuminating and provided us with some valuable insights which will be incorporated in CET's new strategy for 2023-2026. Engaging with our affiliate network is vital and allows us to explore new perspectives with the context of climate and energy transformation.

With COVID restrictions gone, it is easier to keep in touch and meet each other. Our hybrid CET Lunches are the main meeting points for the CET Affiliates, and in 2023 we are planning an Affiliate Project Workshop where our network can come together to discuss new ideas for research project and share their knowledge. Our Affiliate newsletter EtCETera is also popular, keeping our network up to date on what happens at CET.

We currently have 68 researchers affiliated with CET, most of them from the University of Bergen and predominantly the Faculty of Social Sciences and the Faculty of Mathematics and Natural Sciences.



The CET wall of fame is on our communal fridge. Photo: Judith Dalsgård

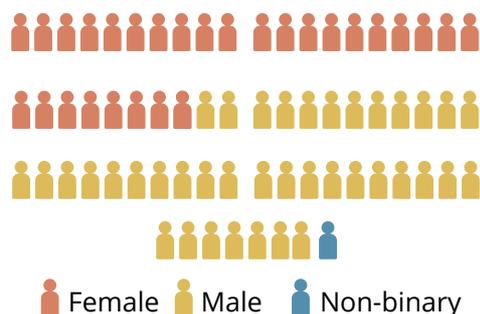
After finishing his master's thesis on CET's transdisciplinary research, Joran Buwalda went on to work at Skyss, where he is a Policy Advisor for Sustainable Mobility Development.

Thea Gregersen defended her PhD on *Climate change perceptions across Europe- From climate change beliefs to climate change mitigation behaviours*, and is now working as a Researcher at NORCE, here she continues to focus on climate change emotions, attitudes, and behavior.



Engaging discussions at the CET affiliate workshop in August 2022. Photo: Judith Dalsgård

CET Affiliate gender balance



RESEARCH

Project grants 2022

CET is a partner in several successful project proposals in 2022:

- *LOCALNET – Local Climate Change Narratives in Turkey Toward Effective Local Climate Actions* (Centre for Applied Turkey Studies), led by Mahir Yazar, CET/UiB. Mercator Foundation Germany.
- *CATER - Climate Action Transdisciplinarity in Education and Research*. Led by Erik Kolstad, NORCE. INTPART International Partnerships for Excellent Education, Research and Innovation, RCN.
- *The Times of Just Transitions: Towards a pluriversal politics of time, justice and sustainability*. Led by Prof. Keri Facer, University of Bristol. Global Convening Programmes, The British Academy.

Partnerships

CET is represented in several leadership groups and boards at UiB and other institutions:

- Noradapt – Norwegian Research Centre on Sustainable Climate Change Adaptation
- BSGS – Bergen School of Global Studies
- Arqus Alliance
- Klimanøytralt UiB
- The Norwegian Board of Technology
- Steering committee strategic priority area for climate and energy transition, UiB.

TISP - Trust In Science and Science-Related Populism. CET joined the large international project led by Harvard University with researchers from 60+ countries in late 2022.

A full list of projects at CET is available in **Annex 4** (page 32).

Running projects



Cities confronted by protests: Democratic governance for efficient and socially just climate transformation. Led by Hege Hofstad, OsloMet. RCN.

Highlights from the project:

- Completed fieldwork focusing on urban-level actors in climate governance and protests
- Now developing publications and conference panels, including for the EURA2023 conference



Digitalisation of energy infrastructure can enhance sustainable energy use. Led by Siddharth Sareen, CET/University of Stavanger. RCN.

Highlights from the project:

- The project produced a collaborative edited volume on digitisation and low-carbon energy transitions
- Over a dozen publications on socially inclusive twin transitions in mid-sized European cities



Carbon Intensive Regions in Transition - Unravelling the Challenges of Structural Change. Led by Lukas Hermwille, Wuppertal Institute. H2020.

Highlights from the project:

- Analysis of Populist Right Discursive Tactics in European decarbonization is finalized for Estonia, Germany, Poland and their carbon-intensive regions
- *Populist-right & support for mitigation policies for Poland & Silesia region* is published in Regional Sustainability.



ASSET

Accountable Solar Energy Transitions
Led by Siddharth Sareen, CET/University of Stavanger. RCN.

Highlights from the project:

- All members of the ASSET project have spent some time doing fieldwork in Portugal or/ and India
- Several publications out in 2022

Photo: Modified Copernicus Sentinel data 2020: 2020-05-20, Sentinel-2A L1C, True color



TRANSFLIGHT

Shaping the future of air travel
Led by Alfred Posch, Uni. Graz. Klima og energie fond.

Highlights from the project:

- Systematic literature review on lock-in mechanics in the aviation sector in collaboration with Austrian partners
- Preparation for the international workshop series to be carried out in March 2023

Photo: Colourbox.com



VARCITIES

Visionary nature-based actions for wellbeing & resilience in cities.
Led by Dionysia Kolokotsa, TSI. EU Horizon 2020.

Highlights from the project:

- Data collection through qualitative interviews with pilot leaders and experts in case cities
- Abstract about digitally mediated NBS approved for Livable Cities conference in NYC

Ill: White arkitektur



KLIMABUDSJETT 2.0

How can municipalities and regions make the next generation of climate plans?
Led by Hans Jakob Walnum, Vestlandsforskning. RCN.

Highlights from the project:

- Carried out analysis of local Paris-compliant targets for Norway, and a co-production workshop with Norwegian and Swedish municipalities
- Started an assessment of policies and measures to target consumption-based emissions locally

Photo: Jesse Schrage



MANIFEST

Mapping the Future for Feasible Climate Action.
Led by Jessica Jewell, Chalmers University and CET. ERC.

Highlights from the project:

- Several presentations at conferences including recent developments in CCS deployment by PhD Tsimafei Kazlou
- Jessica Jewell was invited to discuss the speed of energy transitions on the *Energy Transitions Show* podcast hosted by Chris Nedler

Photo: from manifest webpage



ECOLOGIC

The logic of measuring, managing and governing ecosystems (EcoLogic)
Led by Gisle Andersen, NORCE. RCN.

Highlights from the project:

- Will analyse consequences for political, administrative and science-based processes in environmental policy
- The project has hired a PhD candidate who will work from CET

Photo: Colourbox.com

RESEARCH



In 2022 the CityFreight project picked up speed and carried out the majority of data collection required, as well as planning remaining data collection.

During the spring, a survey was sent to over 400 urban freight stakeholders based in Norway's four largest cities, with 91 responses. This survey was followed up by a collaborative workshop in Bergen in the autumn, where 36 participants were divided into groups. Here, they shared experiences and brainstormed future solutions for freight transport in the city. With these experiences, CityFreight is carrying out follow up interviews in 2023 before presenting results to project partners.



The aim of the Empowered Futures researcher school is to significantly strengthen the societal and professional relevance of doctoral education by addressing the social and environmental controversies of low-carbon energy transitions. In this PhD school, key research environments in Norway join forces to educate scholars of the future in energy social science. The school enables a coordinated and unique platform for collaboration, knowledge sharing, joint courses and activities with governance and business partners.

The first call for applications from students was opened in 2022 and the first cohort has been selected. Congratulations to the 16 new candidates, who come from Norway, Denmark, Chile, Sweden, Ireland, UK, Spain, Ghana, Netherlands, France, Czech Republic and Switzerland. The cohort will first meet in Bergen in May 2023, and will be offered PhD courses, communication workshops and more in the years to come.



MUCS studies media use in complex societal crisis situations, comparing the pandemic and the climate crises. Researchers analyse how people in Norway encounter complex societal crisis situations, comparing the pandemic and the climate crisis in everyday life and in the media, where information is abundant across digital platforms.

During 2022 the research team conducted extensive interviews with informants on the West Coast of Norway, ranging from the rural to the urban areas surrounding Bergen and Førde. These interviews are currently being transcribed and analysed for further research.



How can climate policy diffusion have different political outcomes in achieving global climate goals? LOCALNET focused on climate policy diffusion at three jurisdiction levels (national, 16 metropolises, and 14 districts) in Turkey, a long-term EU candidate. The research finds the Turkish government uses climate policy diffusion to depoliticize climate change via creating ad hoc climate coalitions, co-opting local innovations, and pushing the local jurisdictions to seek external climate-related funds.

Meanwhile, the local governments domesticate ambitious climate goals and re-politicize climate change via local climate entrepreneurs and civic epistemologies derived from collective actions. The wider implication of LOCALNET is to advance approaches in norm domestication, and to illustrate that global policy diffusion studies must recognize the way local actors may use global norms to repoliticize climate and sustainability policies.

CET ACCELERATOR

CET Accelerator grants 2022

CET continues to support research communication and research project development through our funding program. In 2022, four applications received accelerator funding.



Corbett Grainger

Project: *Resource Rents, Lobbying, and Public Opinion Regarding Climate Change Risk*

Grant type: Seed funding



Endre Tvinnereim

Project: *What is a good climate decision? Comparison of assessments from citizens, politicians and bureaucrats*

Grant type: Seed funding



Endre Tvinnereim & Gisela Böhm

Project: *Society for Risk Analysis – Nordic Conference 2022*

Grant type: Ideas and Communication



Claudiu Eduard Nedelciu

Project: *Tackling uncertainty and polarization in climate and energy transition policies through participatory science communication strategies*

Grant type: Seed funding

CET Accelerator projects completed in 2022

Jesse Schrage

Project: *BUDGETS - Climate Budgeting for climate action: charting mitigation options in Norwegian and Swedish municipalities'*

Grant type: Ideas and Communication

The BUDGETS project aimed to detail the potential for climate action found in Norwegian and Swedish municipalities' approaches to climate planning, and work towards the development of a hybrid version. The project brought Swedish and Norwegian municipalities together through two interactive workshops, discussing opportunities and barriers of both approaches and whether further options needed to be developed.

The work resulted in a number of positive outcomes. Firstly, identifying the key strengths and areas of action that would strengthen climate planning practices in both countries. These were presented at the Carbon Budget conference in Uppsala in November 2022, where the focus was on the complementarity of the two approaches.

Secondly, the engagement of climate planners from both countries facilitated the development of a strong collaboration between Norwegian and Swedish municipalities.

This resulted in further commitment and idea exchange which led to the submission of a project to funding calls.

Finally, the BUDGETS project also helped to advance research in localising the ambition of the Paris Agreement to Norwegian municipalities. In collaboration with actors at Uppsala University, we developed a new method to translate the Paris Agreement goals to local Norwegian authorities, considering consumption-based emissions.

During spring 2023, the findings from BUDGETS will be included in a policy brief on carbon budgeting.



Jesse Schrage presenting at the Carbon Budget conference in Uppsala

PHD DEFENSES



Stina Oseland with her supervisor Håvard Haarstad. Photo: Janne Bjørgen/CET

Stina Ellevseth Oseland

Planning to transform - exploring the role of climate and energy action plans in municipal low-carbon transformation.

In her thesis, Stina takes a closer look at the role that climate plans and climate planning can play in the major change process that climate change entails. The project explores the complexity of local climate change and points out that to understand whether it is possible to plan for change, one must look more closely at several aspects of these processes.

The thesis highlights the importance of looking at how actors understand both climate change as a phenomenon and problem, and how it, in turn, is related to local history, culture and economy. Only then can we identify acceptable solutions, and thus how climate transition can be implemented.

The opponents in the public defense were Professor Vanesa Castán Broto, Urban Institute, The University of Sheffield (UK), and Professor Grete K. Hovelsrud, Faculty of Social Sciences, Nord University. The chair of the committee was Professor Grete Rusten, Department of Geography, UiB. Stina's supervisors were Håvard Haarstad, CET/UiB and Anders Tønnesen, CICERO.

Thea Gregersen

Climate change perceptions across Europe: From climate change beliefs to climate change mitigation behaviors.

Thea's thesis examines the questions: Who is worried about climate change? How does worry about climate change relate to action? And what consequences do people think climate change will have in the country they live in? The thesis is based on findings from two large cross-national surveys and shines a spotlight on how people in Europe perceive climate change.

Thea's results not only show connections between thoughts, feelings and attitudes, but also how this can be influenced by social and political factors. These factors include the country we live in, age, gender and political orientation. The committee concluded that Thea's thesis is a "strong contribution to the literature. A powerful test of ideas with innovative forms of analysis".

The opponents in the public defense were Associate Professor Alexa Spence, School of Psychology, University of Nottingham (UK), and Associate Professor Svein Åge Kjøs Johnsen, Department of Psychology, Innland Norway University of Applied Sciences. Chair of the committee was Rune Mentzoni, Department of Social Psychology, UiB. Thea's supervisors were Rouven Doren, Gisela Böhm and Endre Tvinnereim.



Thea Gregersen with Alexa Spence, Svein Åge Kjøs Johnsen and Rune Mentzoni. Photo: Judith Dalsgård (CET)

Hanna Kvamsås

The potential for transformative adaptation: Collaborative spaces and collective value development in local climate adaptation.

Hanna's thesis looks at how different actors in Bergen municipality and Tromsø municipality work with planning blue-green infrastructure as part of their local climate adaptation strategies.

The thesis explores the potential for collective value development in climate adaptation work, as well as how some types of physical urban infrastructure can create space to implement new ways of thinking and working with local adaptation. The committee concluded that Hanna's thesis is "an ambitious work of high quality with a strong empirical focus".

The opponents in the public defense were Senior lecturer Johanna Alkan Olsson, Centre for Environmental and Climate Science, Lund University and Research Professor Halvor Dannevig, Western Norway Research Institute. Chair of the committee was Professor Ragnhild Overå, Department of Geography, UiB. Her supervisors were Simon Neby and Håvard Haarstad.



*Hanna Kvamsås with her supervisors and opponents.
Photo: Judith Dalsgård (CET)*



A happy Jakob Grandin right after his defense, Photo: Judith Dalsgård (CET)

Jakob Grandin

Sustainability here and now: The governance of urban transformations in Oslo and Addis Ababa.

The thesis asks the question: How do local actors make climate change actionable here and now? It examines the relational footwork of transformation; namely how local actors work to mobilise sustainability transformations in space and time.

Jakob's thesis develops a model for analysing temporal dimensions of transformation. Using this method helps translate climate change from an abstract issue into concrete measures here and now. It also opens up a nuanced analysis of how local and often experimental sustainability measures can contribute to more long-term societal changes.

The opponents in the public defense were Professor Harriet Bulkeley, Department of Geography, Durham University and Professor Lars Coenen, Mohn Centre for Innovation and Regional Development, Western Norway University of Applied Sciences. The chair of the committee was Associate Professor Connor Cavanagh, UiB. Jakob's supervisors were Håvard Haarstad and Josefine Wangel.

Jakob's thesis is part of the TMS-funded project European Cities as Actors in Climate and Energy Transformation.

PUBLICATIONS

CET and its affiliates have published 92 scientific publications including reports and policy briefs. CET affiliates have also been involved in 33 engagements with the media. Here we highlight some that show the scope of our publication activity.



Legal means for action for sustainable logistics

This report by Siv Elén Vedvik for the Cityfreight project looks at the legal means available to the municipality regarding sustainable urban transport. The report addresses what the municipality can do based on the current regulations and what changes in the legal framework give the municipalities room to make decisions that can make city logistics more sustainable in the future.

Vedvik, S. (2022) Rettslege verkemiddel for berekraftig bylogistikk. CET-rapport 01/22. Senter for klima og energiomstilling. Universitet i Bergen.



Photo by Kenneth Coffie on Unsplash

Who benefits from sustainable mobility transitions?

In this article, the authors look at the implementation of sustainability measures in mobility in the city of Bergen. Based on in-depth interviews during 2020 – 2021 the authors analyse key examples of three approaches to sustainable mobility systems: avoid, shift and improve. They focus on how these approaches interact and impact social inclusion.

Remme, D., Sareen, S., Haarstad, H. (2022) Who benefits from sustainable mobility transitions? Social inclusion, populist resistance and elite capture in Bergen, Norway. Journal of Transport Geography.



Photo: Colourbox.com

How do cities challenge patterns of demand?

In this article, the authors examine the role played by cities in the response to climate change. They analysed 558 climate measures adopted by local governments and conducted interviews with civil servants to investigate how climate policies implemented in ten Nordic cities address people's behaviour in everyday practices including food, mobility and housing. This paper was mentioned in *Nature Climate Change* highlights in June 2022.

Schrage, J., & Kjærås, K. (2022) How do cities challenge patterns of demand? Characterising the local governance of climate change in Nordic cities. Environment and Planning C: Politics and Space.



Photo: Colourbox.com

Norm domestication challenges for local climate actions: A lesson from Arizona, USA

In this article, PostDoc Mahir Yazar analyses urban climate governance in the city of Phoenix, which runs under the "purple" (blue cities and red legislatures) state of Arizona. Through this analysis, he illustrates how a local government can take up climate actions left in the void at the state and federal levels.

Yazar, M. (2022) Norm domestication challenges for local climate actions: A lesson from Arizona, USA. Environmental Policy and Governance.



Photo: Colourbox.com

Governance challenges for urban logistics: Lessons from three Norwegian cities

In this article, the authors examine logistics as an urban governance challenge asking the question: how is urban logistics addressed by urban-level authorities? The paper studies three Norwegian cities that are currently working to integrate logistics into their governance processes. They emphasise the need for clarified responsibilities in the public sector and point to key issues to be addressed in the emerging research literature.

Rosales, R., & Haarstad, H. (2022) *Governance challenges for urban logistics: Lessons from three Norwegian cities. Environmental Policy and Governance.*



Photo by ev on Unsplash

Fueling opposition? Yellow vests, urban elites, and fuel taxation

In this article, the authors examine the cost of policies connected to emissions reduction and how they can be unequally distributed among citizens. Through survey experiments, they analyse how different policy characteristics generate 'support gaps' within society. They argue that instead of focusing on the total level of support, policymakers and academics should pay attention to the polarizing effects of certain policy attributes.

Tatham, M., & Peters, Y. (2022) *Fueling opposition? Yellow vests, urban elites, and fuel taxation. Journal of European Public Policy, 1-25*



Photo: Eivind Semset

Connecting academic (air) mobility with carbon inequality: Perspectives from a Global South scholar

In this personal essay published on *Undisciplined Environments*, CET PhD candidate Subina Shrestha reflects on being a global south scholar residing in the global north. A reflection on which narrative of climate action she should ascribe to: the one that she knows is unfair back home or the one that puts the responsibility of action on us because of where she resides now?

Shrestha, S. (2022) *Connecting academic (air) mobility with carbon inequality: Perspectives from a Global South scholar.*



Photo: Kevin Anderson

Norway - a leader or a climate laggard?

Professor II Kevin Anderson highlights in this opinion piece that Norway is missing the bravery and political will that is needed for transformation to a decarbonised society. Norway has the possibility to pave the way for a worldwide energy transition. A transition that should focus on both resource use *and* production.

Anderson, K. (2022) *Norge – en leder eller en klimasinke? VG. 21 may 2022.*

5 YEARS OF ACTIONABLE KNOWLEDGE



Breakfast meeting on collaboration with Jakob Grandin, Zarina Patel and Tarje Wanvik. Photo: Judith Dalsgård

Autumn 2022 marked 5 years since the launch of CET. To celebrate we organised a series of breakfast events and a full-day symposium on the 27th of October.

“The obstacle course” breakfast seminars

In the month leading up to our 5th anniversary, we organised three well-attended breakfast seminars at the public library under the overarching theme “The obstacle course” (Hinderløypen) where we asked the question: What are the obstacles in climate transformation?

The first breakfast meeting discussed the obstacle of climate communication. What can climate communication learn from the pandemic? To answer this question, we invited psychologist and researcher at NHH, Synnøve Nesse, Director of Bjerknes Centre for Climate research, Kikki Kleiven, and Communications director at City of Bergen, Eva Hille.

The power of local action was the theme for our second breakfast meeting in collaboration with the Bærekraftige Liv organization. Here we discussed regulations and rules and how they can be an obstacle for sustainability work at a local level.

To discuss this, we invited local politician Maria Thomassen, local driving force Agnes Tvinneim, Advisor at City of Bergen Silje Østebø and researcher Anna Milford.

In our final breakfast meeting, we discussed the obstacle of collaboration and how it can be effectively used as a tool for sustainable cities. We were lucky to have Associate Professor Zarina Patel visiting from the University of Cape Town to discuss this with the Director of the Agency for Planning and Building Services Tarje Wanvik and CET researcher Jakob Grandin.



Anna Milford, Agnes Tvinneim, Maria Thomassen and Silje Østebø. Photo: Judith Dalsgård (CET)

Actionable research in times of climate emergency - anniversary symposium.

The title of the CET launch event in 2017 was *Rapid societal change to meet the climate challenge*. Five years on, we have gone from a climate challenge to a climate emergency. In our anniversary symposium, we wanted to ask the questions: Where do we go from here and what does it mean to do actionable research in times of climate emergency?

The day was filled with conversations and presentations from CET researchers both past and present, as well as inspirational special guests. It was a day where we could reflect on what we have achieved, but more importantly, look forward to how we will conduct actionable research over the next 5, 10, and 15 years. Where should research on transformation towards sustainability go next?

And in true CET style, we concluded with cake and speeches.



All photos by Judith Dalsgård & Janne Bjørgan/CET
 From top: - Håvard Haarstad about how CET began
 - Devyn Remme about fieldwork in Zambia.
 - Kristin Kjørås, Brooke Wilkerson, Joran Buwala and Jakob Grandin discuss actionable knowledge in society.
 - Dorothy Dankel and David Jordhus-Lier on pathways out of Norway's oil dependency
 - No celebration without cake!
 - Siri Gløppen opens the show in front of a full Ulrike's Aula

EVENTS

With the pandemic slowly making it possible to return to a sense of normality, 2022 was an eventful year both on the screens and in person.

By the year's end, we held 42 events, including 23 CET Lunch Seminars, and saw continued growth in our social media channels.

In 2022 we decided to keep our CET Lunch seminars hybrid, and they have been well attended by our digital audience and those able to join us in person. Our audience is from Norway and abroad, and they work in and outside academia. The highest number of attendees was when 40 people listened to Silje Kristiansen talk about her research in *Media, Publics and the Climate Crisis - Coverage, Cognition and Risk Perception*.

CET has a tradition for participating in SDG Bergen's *Day Zero*, and in 2022 PhD's Brooke Wilkerson and Jakob Grandin held the participatory workshop *Prioritizing Research Agendas for Sustainable Transportation: Micromobility in Bergen*. PhD Shayan Shokrgozar and Professor Il Siddharth Sareen carried on the CET banner with their workshop *Implementing Convivial Energy Technologies*.

Networks awakening

During the spring of 2022, the covid restrictions were lifted one by one, and everyone was eager to meet each other face to face again. CET was too, and we have been successful in collaborating with people inside and outside of academia to communicate our research.

The *Bærekraftig frokost*-network awoke from its hibernation, and we managed to have several interesting early morning meetings – one of them in collaboration with Bergen International Film Festival (BIFF) where we watched the documentary *Going Circular* followed by a discussion.

CET also participated in the opening of the climate festival at BIFF in collaboration with the Climate Agency at the city of Bergen. CET's communications manager Judith Dalsgård moderated a panel on sustainable fashion.



From top: Thea Gregersen at Varmere, Våtere, Villere.
-The digital seminar was still present during the first part of 2022, here with Devyn Remme and mobilitetslunsjen
-Seminar with Zarina Patel
-Judith Dalsgård moderated the panel conversation at the Bergen Film Festival climate festival opening.

The timing couldn't have been better for the first edition of Bergen's new climate festival *Varmere Våtere Villere*, which took place in March. CET was represented in the program through PhD Thea Gregersen, who together with Marianne Aasen from CICERO discussed age differences in people's thoughts about climate changes and climate policies.

John-Andrew McNeish, the head of the researcher school Empowered Futures, with CET as one of the partners, also participated in a panel debate on the challenges in transforming towards a low-carbon society. The festival was a hit, and we look forward to its next edition.

CET also co-organised the annual *Bærekraftssamtalen*, arranged by Bærekraftige liv på Landås. Located at beautiful Lystgården on Landås, people engaged in making our local society more sustainable and gathered for an evening of discussions and networking.



Bærekraftssamtalen at Lystgården with Bærekraftig Liv Photo: Janne Bjørgang

Rafael impressed the judges at the *Forsker Grand Prix*

In 2022 we were proud when yet another CET PhD Candidate was selected to participate in Forsker Grand Prix!

Rafael Rosales followed in the footsteps of Thea Gregersen and Agnete Hessevik, and held an engaging and interesting presentation about his research on the *governance of sustainable urban logistics* for the Bergen audience.

Forsker Grand Prix (Researcher Grand Prix) is the Norwegian championship in research dissemination. Ten PhD candidates are chosen to participate, and each has four minutes to win over judges and the audience with their research. Three of the ten go to the finals.

- Forsker Grand Prix was a great opportunity to practice research dissemination with a general audience. It was a personal bonus that the presentation was in Norwegian, as most of my research dissemination has been in English despite my research focus on Norwegian cities, says Rafael about his FGP experience.

Rafael received an impressive score overall from the judges (see the image on the right), but unfortunately didn't make it to the finals. He did a great job of introducing the audience to a research theme that is little known to many.



Rafael Rosales is the third CET researcher to participate in Forsker Grand Prix Photo: Per Olav Sølberg



Rafael Rosales in action with the judges Photo: Øyvind Ganesh Eknes

COPRODUCTION

In 2022 CET researchers have been involved in several workshops with the co-production of knowledge at its core.

Co-production is an essential part of the actionable research conducted by CET. By creating arenas for transdisciplinary dialogue and knowledge production, we can gain a deeper understanding of the processes in society.

In February and March, PhD candidate Jesse Schrage was involved in workshops on carbon and climate budgets. Around 20 civil servants, researchers and NGO workers from both Norway and Sweden met in Bergen to explore the benefits and challenges of using carbon and climate budgets in local climate work.

On March 31st our researcher Brooke Wilkerson together with Lars-Kristian Trellevik (Dept. Geography, UiB) hosted the workshop Deep-sea mining: defining the sustainability innovation problem with systems mapping at The Change Conference, Bergen Entrepreneurship Academy's (UiB, HVL, NHH) annual conference on student entrepreneurship

CET also hosted a workshop contributing to the local Bergen Climate strategy on September 16th. An open invitation was sent to students and colleagues at UiB to discuss the different themes in the strategy.

The CityFreight project workshop on October the 18th was led by PhD candidates Rafael Rosales and Subina Shrestha and invited participants from the public and private sectors. The aim was to gather perspectives on the future of freight transport in the Bergen region. The participants from the private sector appreciated

the opportunity to gather and engage in direct dialogue with the authorities. The ROLES project invited actors in urban transport for a participatory workshop on urban transport transformations. This included discussions on car-free zones, socially inclusive digitalisation just transport transformations and vulnerability to transport energy costs.

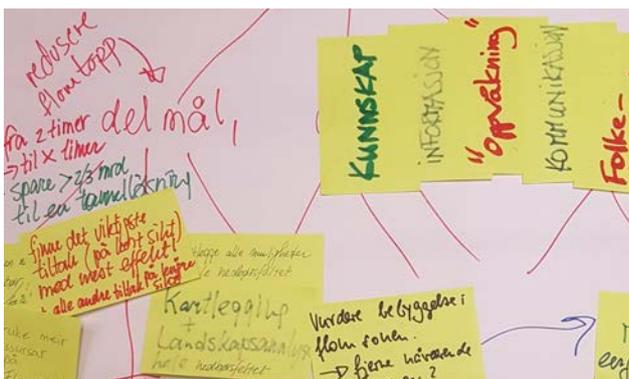
This year's Klimathon took place in Voss, only four days after Voss Herad experienced a 50-year flood. With the theme of nature-based solutions for climate change adaptation, the two-day workshop was extremely relevant. 70 participants, including seven local politicians, worked intensely to produce eight project proposals for nature-based solutions for climate change adaptation.



Invite to "gjestebud" Photo: Bergen Kommune



Carbon budget workshop with civil servants in Norway and Sweden. Photo: Jesse Schrage

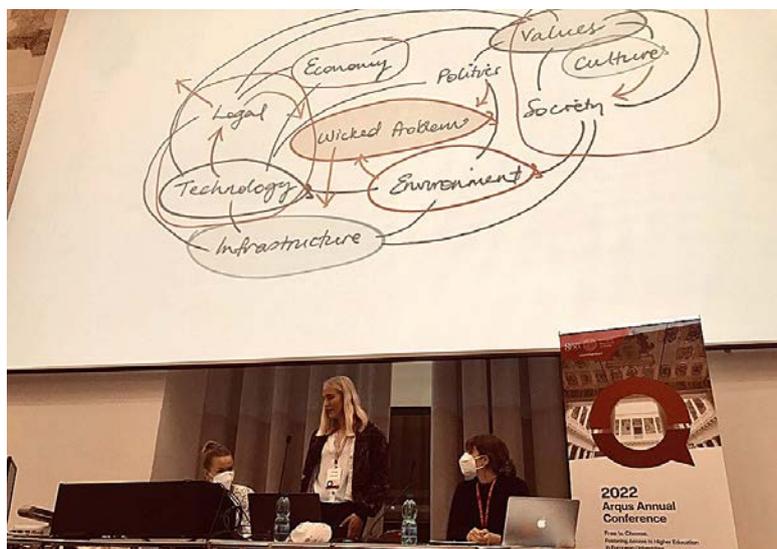


Post-its at Klimathon in Voss Photo: Brooke Wilkerson



Cityfreight workshop at the House of Literature, Bergen. Photo: Rafael Rosales

ARQUS ALLIANCE



From left: Hannan Johansson presenting The Collaboratory work at the Arqus annual conference. Arqus workshops in Bergen and Granada Photo: Jakob Grandin

Celebrating 3 years of European collaboration

2022 marked the culmination of three intense years of starting up the Arqus European University Alliance.

As coordinators, in close collaboration with Centre for the Study of the Sciences and the Humanities at UiB, of the Arqus Action Line on Engaged European Citizenship, CET contributed to the foundational pillars of the alliance with unique competence on interdisciplinarity and stakeholder engagement in research and higher education.

The Arqus Collaboratory Programme is built directly on the experiences of interdisciplinary, challenge-based and student-led education at the UiB Collaboratory. Around 25 academics and 87-140 students from across the seven Arqus universities worked together to transform academic cultures to educate critically engaged European citizens in times of global uncertainty by placing students in the driver's seat of their own education.

The programme combined theory with practical engagement and combined local courses in each of the Arqus cities with international collaboration through virtual sessions. Two winter schools were held in Bergen (2021) and Granada (2022) as well as student-led fora in Vilnius (2021) and Padova (2022). CET researchers also hosted 4 train-the-trainer workshops with academics from across the alliance.

The programme theme was climate risk in 2021 and diversity in 2022. A total of 39 interdisciplinary, student-led and challenge-based projects were conducted in close collaboration with local societal stakeholders in the respective cities.

CET researchers also led the alliance's work on stakeholder engagement in research. This resulted in the development and piloting of a Toolbox for Open Research Agenda Setting, as well as recommendations for university leadership, administration and academics on how to create a culture of stakeholder engagement in research. In 2022 CET hosted an interdisciplinary two-day workshop on climate change for alliance researchers.

The first phase of the Arqus Alliance (2019-2022) involved the universities of Bergen, Granada, Graz, Leipzig, Lyon, Padova and Vilnius and was funded through the EU Erasmus+ and Horizon2020 programmes. UiB has now joined the CHARM-EU Alliance.



EDUCATION

Master's students at CET

The annual master's seminar was organised in March 2022. Students have the opportunity to present their work to CET researchers and receive valuable feedback from our interdisciplinary research group. A selection of the completed master's theses is shown on the right.

In September 2022 six new students were welcomed to the centre:

- Emilie Flønes, *Department of Health Promotion and Development.*
- Ingrid Cardoso Cuoto de Azevedo, *Department of Global Public Health and Primary Care.*
- Thea Vestad, *Faculty of Law.*
- Susanne Christensen, *Department of Social Anthropology.*
- Lars Dalene Fiskaa, *Department of Government.*
- Juni Jørgenvåg Lund, *Department of Comparative Politics.*

The new 2022/2023 group of students presented the early stages of their theses at a special master's student works-in-progress seminar in autumn 2022 at CET.

Master's theses completed in 2022

Veera Ylipiety, Department of Geography
Sustainability reporting as a matter of social contract: management and geographical perspective

Sina Storelv, Department of Psychosocial Science
Why Do People (Not) Worry About Climate Change? Insights From Answers to an Open-Ended Survey Question in Norway

Helene Othilie Drevland, Department of Geography
Perceptions of individual lifestyle changes in Norway's sustainability transition

Ronya Reitan Solberg, Department of Geography
Bærekraftig fiskeri, governance og tid - lokalsamfunnsperspektiver på hva en fremtidig fiskeriregulering kan innebære



Master students 2022/23. From left back: Emilie Flønes, Ingrid Cardoso Cuoto de Azevedo, Thea Vestad, Susanne Christensen. In front: Lars Dalene Fiskaa, Juni Jørgenvåg Lund. Photo: Janne Bjørgan

Most innovative master's thesis in human geography

Devyn Remme won the award for "most innovative master thesis in Human Geography, 2021" at the 2022 winter seminar for human geography (UiO) for her thesis *Mind the Gap: Dynamic Social Inclusion and Sustainable Mobility in Bergen.*

The committee commended Devyn on her convincing critique of traditional theories of distributive justice. She argues that although such theories are useful for identifying the cracks people might fall into and designing mechanisms to prevent people from falling too deep. They are, however, insufficient to account for inclusion within the complex, dynamic, and emergent processes of large-scale social transformation required for decarbonization.

Devyn Remme continues researching some of these important themes as a PhD candidate at CET.



From left: Per Gunnar Røe from the master prize committee and Devyn Remme. Photo: Peter Andersen

CET – The academic changemaker

Joran Buwalda from Delft University of Technology studied CET's ways of doing transdisciplinary research for his master's thesis.

In the spring semester of 2022, Joran arrived from the Netherlands to research CET and live in Bergen for half a year. With a working space at CET and supervisors both at CET and Delft University, Joran quickly engaged in his research and the centre's day-to-day activities. As a master's student in science communication, he was especially interested in how we disseminated our research and decided early on to look at how our researchers engage in transdisciplinary research.

His research culminated in the master's thesis *The academic changemaker: Helping climate and energy researchers reflect on their role in action-oriented transdisciplinary collaborations*. As part of the thesis, he created a role-playing game to help researchers consider their roles and impact when doing research with actors outside academia.



Joran Buwalda conducting a workshop on interdisciplinary collaborations at BISC 2022. Photo: Judith Dalsgård

The Collaboratory

CET continues to support the UiB Collaboratory, a student-driven initiative for partnership between researchers and students to mobilize innovation in research and higher education. 2022 saw the fourth installment of the Bergen International Student Conference (BISC) and the third round of CET201: Sustainable Innovation course.

The theme for the 2022 BISC couldn't have been more poignant. *From conflict to collaboration* took place on the 22nd and 23rd of March just a few short weeks after the invasion of Ukraine. These events gave the conference discussions on sustainability and collaboration added meaning. The two days were filled with workshops, presentations and stimulating discussions.

Around 30 students joined the fourth round of the CET201 Sustainable Innovation course. The 6 interdisciplinary groups worked on real sustainability cases from companies and organisations including Naturvernforbundet, Bergen Kommune, Grønn festival, sammen, SMB Norge, and Vekstlandet. The students came up with great solutions for the cases including sustainable produce labeling, waste management and how to create engagement around sustainability issues.



Engaging workshop with Joran Buwalda at BISC 2022. Photo: Judith Dalsgård



CET201 co-ordinators Ingeborg Rønning og Hannah Emili Rørslett Johansson. Photo: Jakob Grandin

ORGANISATION

Secretariat

In 2022 the secretariat at CET has consisted of:

- Håvard Haarstad, Director
- Nora Haukali, Research Coordinator
- Judith L. Reczek Dalsgård, Communications
- Janne Biedilæ Bjørgan, Communications

Christine Rooks joined CET in December 2022 as research coordinator while Nora Haukali is on parental leave.



Christine Rooks.
Photo: Eivind Senneset



From left: Janne Bjørgan, Judith Dalsgård, Nora Haukali and Håvard Haarstad

CET Steering Committee

The CET steering committee consists of representatives from the partner organizations UiB, NORCE, NHH.



Photo: Eivind Senneset

Chair: **Siri Gloppen**,
Vice-dean for research,
Faculty of Social
Sciences, UiB.



Photo: Torhild Dahl

Peter Andersen,
Head of Department
Dept. of Geography, UiB



Photo: NHH

Malin Arve,
Vice-Rektor,
NHH



Photo: Ellen Viste

Kikki Kleiven,
Director, Bjerknes
Centre for Climate
Research



Photo: Eivind Senneset

Ståle Knudsen,
Professor, Dept. of
Social Anthropology,
UiB



Photo: Rune Rolvsjord/NORCE

Ingrid Helgøy,
Deputy EVP Health &
Social Sciences,
NORCE

Strategy

2022 marks the final year of the *CET strategy 2020-2022: Actionable knowledge for sustainable transformation of society to prevent climate change*.

Work on the 2023 - 2025 strategy has been moving forward during autumn 2022. Several meetings and workshops have been held with CET affiliates in the process. The strategy and action plan will be finalised in March 2023.

Finances

CET receives an annual allocation through the Norwegian Ministry of Education and Research. In addition, CET receives annual running costs and office facilities, from the UiB Faculty of Social Sciences.

CET also receives funding from external projects as listed in **annex 4** (page 32).

ANNEX 1: CET PUBLICATIONS

CET publications

The following publications are authored or co-authored by CET affiliates, and CET is acknowledged since the project was partly owned or co-funded by CET.

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Grandin, J. (2022). Sustainability here and now: The governance of urban transformation in Oslo and Addis Ababa. *Doctoral thesis*.

Gregersen, T (2022). Climate change perceptions across Europe: From climate change beliefs to climate change mitigation behaviors. *Doctoral thesis*.

Kvamsås, H (2022). The potential for transformative adaptation: Collaborative spaces and collective value development in local climate adaptation. *Doctoral thesis*.

Oseland, S (2022). Planning to transform: Exploring the role of climate and energy action plans in municipal low-carbon transformation. *Doctoral thesis*.

ANNEX 2: MEDIA OUTREACH

CET media outreach

The following is an overview of media and public outreach by CET affiliates.

Aall, Carlo. Kvitsand, Hanne Margrethe Lund. Rød, Jan Ketil. Tønnesen, Anders. Neby, Simon. Pontoppidan, Marie. Klimakrisen, naturkrisen og energikrisen er en og samme sak. Forskersonen.no. 25.08.2023.

Anderson, Kevin. Norge – en leder eller en klimasinke. VG. 21.05.23

Fløttum, Kjersti. 2022. Bergens klimaambisjoner er mer gulrot enn pisk. Bergens Tidende, Debattsider 17.07.2022

Fløttum, Kjersti. 2022. De unge viser vei, men ikke alt er lett å endre. Bergens Tidende 09.03.2022

Fløttum, Kjersti; Perron, Emil Julien Stautland. 2022.

Eldre og unge er enige om å leve klimavennlig, men ikke om hvem som er best. Forskersonen.no 2022

<https://forskersonen.no/klima-klimatiltak-meninger/eldre-og-unge-er-enige-om-a-leve-klimavennlig-men-ikke-om-hvem-som-er-best/2111443>

Gregersen, Thea. Svært få har klimaangst (forskning.no): <https://forskning.no/klima-psykologi/svaert-fa-har-klimaangst/2075754>

Gregersen, Thea. – Vi må snakke mindre om klimaangst. Psykologisk.no [Internett] 2022-04-01

Gregersen, Thea. Bekymring for klimaendringer (oppdatert). Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea. Olje- og gassutvinning i Lofoten og Vesterålen (Oppdatert 2022).. Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea Johansen. Folket vil ha havvind – delt på midten om vindkraft på land (Oppdatert 2022). Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea. Klimaskepsis (Oppdatert 2022). Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea. Klimatiltak: Strøm og energi. Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea. Nordmenn og klimaskepsis. Dagsnytt 18 (TV/Radio) [TV] 2022-07-15

Gregersen, Thea. Bilparken – bare nullutslippsbiler fra 2025? (Oppdatert 2022). Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea. Boomers, Gen X, Millenials & Gen Y (Panelsamtale). Varmere, Våtere, Villere; 2022-03-09 - 2022-03-09

Gregersen, Thea. Har du sluttet å oppdatere deg på krigen i Ukraina? Dette kan være grunnen.. Bergens Tidende [Avis] 2022-05-21

Gregersen, Thea. Hvorfor gjør vi ikke mer når vi vet så mye?. <2°C nr. 1/2022 Vi kan fortsatt løse klimakrisen [Tidsskrift] 2022-08-26

Gregersen, Thea. Håp, frykt, tristhet, sinne eller skyld?. Dagsavisen [Avis] 2022-08-05

Gregersen, Thea. #JP053: Boomers, millennials og andre generasjoners oppfatninger av klimaproblemet med Thea Gregersen. Bærekraftseventyr med Jørgensen & Pedersen (Podcast) [Radio] 2022-04-25

Gregersen, Thea. Klimaangst? Klimasorg? Eller middels bekymret? (Podcast). Energi og Klima [Radio] 2022-06-08

Gregersen, Thea. Klimaendringene og følelser. Energi og Klima : Norsk klimastiftelses nettmagasin 2022

Gregersen, Thea. Klimaendringer, bekymring og mental helse. Hva gjør klima- og miljøendringene med den psykiske helsa, og hvordan formidler vi alvoret? (Åpent fagmøte FHI); 2022-03-31

Gregersen, Thea. Yngre bekymrer seg mer. Bergensavisen [Avis] 2022-03-15

Haarstad, Håvard. Ekspertintervjuet: Vi må snakke mer om energieffektivisering. 2 grader C. Energi og klima. <https://energiogklima.no/to-grader/ekspertintervju/ekspertintervjuet-vi-ma-snakkemer-om-energieffektivisering/>

Haarstad, Håvard. Klimaprofessor: — «Harry» med langreiste kurs. Khrono, 23.8.2022, <https://khrono.no/klimaprofessor-harry-med-langreiste-kurs/708660>

Haarstad, Håvard. Utdatert veipolitikk fra Vegvesenet. Bergens tidende. 11.03.2023

Herrera Anchustegui, Ignacio. (2022). Hvordan fungerer de europeiske kraftkablene?

Ho-Yen, Victoria; Fløttum, Kjersti; Bjørn H., Samset. 2022. Vil teknologi løse klimaproblemet?. Tendens [Tidsskrift] 2022-10-28.

Jewell, Jessica. [Episode #169] – *Is the Energy Transition Feasible?* Energy Transitions Show with Chris Nedler (Podcast) [Radio] 2022-03-30

Kvamsås, Hanna. Meir natur i verdas byar kan bidra til å løyse dagens klima- og naturkrise <https://forskersonen.no/debattinnlegg-energi-klima/meir-natur-i-verdas-byar-kan-bidra-til-a-loyse-dagens-klima-og-naturkrise/2077442>

Neby, Simon. Vi må lære av Voss! Bergens tidende, 21.11.2023

Remme, Devyn. Akademika har et spesielt ansvar. Studvest. 18.05.2023

Shrestha, Subina. Connecting academic (air) mobility with carbon inequality: Perspectives from a Global South scholar on <https://undisciplinedenvironments.org/2022/10/04/connecting-academic-air-mobility-with-carbon-inequality-personal-perspectives-of-an-academic-from-the-global-south/>

ANNEX 3: PUBLICATIONS

Other publications

The following publications are authored or co-authored by CET affiliates and are of relevance to CET, but where CET did not directly fund or contribute to the project/publications.

Journal articles

Al Arif, Abdullah; Herrera Anchustegui, Ignacio. (2022). Regulatory and Policy Frameworks for Offshore Wind Projects: Spatial and Temporal Considerations in Light of Fisheries Sustainability amid Climate Change. *Oil, Gas and Energy Law (OGEL)*. 1-28.

Beitnes, S. S., Kopainsky, B., & Potthoff, K. (2022). Climate change adaptation processes seen through a resilience lens: Norwegian farmers' handling of the dry summer of 2018. *Environmental Science & Policy*, 133, 146–154. <https://doi.org/10.1016/j.envsci.2022.03.019>

Benabderrazik, K., Jeangros, L., Kopainsky, B., Dawoe, E., Joerin, J., & Six, J. (2022). Addressing the resilience of tomato farmers in Ghana facing a double exposure from climate and market. *Ecology and Society*, 27(3). <https://doi.org/10.5751/ES-13310-270326>

Benabderrazik, K., Kopainsky, B., Monastyrnaya, E., Thompson, W., Tazi, L., Joerin, J., & Six, J. (2022). Climate resilience and the human-water dynamics. The case of tomato production in Morocco. *Science of The Total Environment*, 849, 157597. <https://doi.org/10.1016/j.scitotenv.2022.157597>

Bhatti, S. J., Billinson, P. P., Cornell, L. A., Das, A., Gammon, C., Kelly, L. O., Yang, J., & Kristiansen, S. (2022). A Country Comparative Analysis of International Print Media's Framing of the COVID-19 Pandemic. *International Journal of Communication*; Vol 16 (2022). <https://ijoc.org/index.php/ijoc/article/view/17990/3701>

Bhopal, A., & Bærøe, K. (2022). Dual duties to patient and planet: Time to revisit the ethical foundations of healthcare? *Journal of Medical Ethics*, jme-2022-108847. <https://doi.org/10.1136/jme-2022-108847>

Bhopal, A., Bærøe, K., & Norheim, O. F. (2022). How do we decarbonise fairly? Emissions, inequities and the implications for net zero healthcare. *Journal of the Royal Society of Medicine*, 115(9), 337–340. <https://doi.org/10.1177/01410768221113069>

Doran, R., Bø, S., & Hanss, D. (2022a). Comparing the motivational underpinnings of sustainable consumption across contexts using a scenario-based approach. *Frontiers in Psychology*, 13. <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.854093>

Doran, R., Bø, S., & Hanss, D. (2022b). Efficacy beliefs regarding purchases of environmentally friendly products on holiday. *Tourism Recreation Research*. <https://doi.org/10.1080/02508281.2022.2067952>

Doran, R., & Hanss, D. (2022). Expectation of others' cooperation, efficacy beliefs, and willingness to sacrifice personal interests for the environment. *Scandinavian Journal of Psychology*, 63(4), 357–364.

Doran, R., Böhm, G., Pfister, H.-R., & Hanss, D. (2022). Mapping perceptions of energy transition pathways: Ascribed motives and effectiveness. *Current Psychology*. <https://doi.org/10.1007/s12144-022-02804-w>

Doran, R., Pallesen, S., Böhm, G., & Ogunbode, C. (2021). When and why do people experience flight shame? *Annals of Tourism Research*, 92. <https://doi.org/10.1016/j.annals.2021.103254>

Fairbrother, J., Turner, A., & Wallace, S. W. (2022). Problem-driven scenario generation: An analytical approach for stochastic programs with tail risk measure. *Mathematical Programming*, 191(1), 141–182. <https://doi.org/10.1007/s10107-019-01451-7>

Felipe-Rodriguez, M., Böhm, G., & Doran, R. (2022). What does the public think about microplastics? Insights from an empirical analysis of mental models elicited through free associations. *Frontiers in Psychology*, 13. <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.920454>

Fløttum, K., Dankel, D. J., & Skiple, J. K. (2022). The Sustainable Development Goals—Sensible Initiative or Just Nonsense? An Investigation of Norwegian Citizens' Knowledge and Attitudes. *Sustainability*, 14(7). <https://doi.org/10.3390/su14074305>

Fuller, J. L., Strehlow, H. V., Schmidt, J. O., Bodin, Ö., & Dankel, D. J. (2023). Tracking integrated ecosystem assessments in the ICES network: A social network analysis of the ICES expert groups. *ICES Journal of Marine Science*, fsac242. <https://doi.org/10.1093/icesjms/fsac242>

Glapiak, Aleksander; Herrera Anchustegui, Ignacio (2022). The General Court on Network Codes: A Blow to the Commission and ACER in MEKH and FGSZ v ACER? *Oil, Gas and Energy Law (OGEL)*. 1-12.

Gjerstad, Ø., & Fløttum, K. (2022). From Descriptive to Normative Climate Change Narratives: Theoretical and Methodological Challenges. <https://doi.org/10.1093/acrefore/9780190228620.013.857>

Gjesdal, A. M., & Andersen, G. (2022). Changing concepts of greenhouse gas expressions: Discursive specialization in parliamentary discourses on climate change. *Discourse & Society*, 09579265221145394. <https://doi.org/10.1177/09579265221145394>

Herrera Anchustegui, Ignacio; Radovich, Violeta. (2022). Wind Energy on the High Seas: Regulatory Challenges for a Science Fiction Future. *Energies*. 20 pages.

Herrera Anchustegui, I., & Coleman, J. (2023). Editorial OGEL Special Issue on "Offshore Energy Investments and Activities." 2022.

Herrera, H., & Kopainsky, B. (2022). Using microworlds for policymaking in the context of resilient farming systems. *Journal of Simulation*, 1–25. <https://doi.org/10.1080/17477778.2022.2083990>

Herrera Anchustegui, Ignacio; Hancher, Leigh. (2022). Competition on the merits in liberalised electricity markets: a regulatory reading of AG Rantos' Opinion in Servizio Elettrico Nazionale. *Utilities Law Review*. 1-7.

Herrera, H., Schütz, L., Paas, W., Reidsma, P., & Kopainsky, B. (2022). Understanding resilience of farming systems: Insights from system dynamics modelling for an arable farming system in the Netherlands. *Ecological Modelling*, 464, 109848. <https://doi.org/10.1016/j.ecolmodel.2021.109848>

Merk, C., Nordø, Å. D., Andersen, G., Lægneid, O. M., & Tvinnereim, E. (2022). Don't send us your waste gases: Public attitudes toward international carbon dioxide transportation and storage in Europe. *Energy Research & Social Science*, 87, 102450. <https://doi.org/10.1016/j.erss.2021.102450>

Nicolaidis Lindqvist, A., Fornell, R., Prade, T., Khalil, S., Tufvesson, L., & Kopainsky, B. (2022). Impacts of future climate on local water supply and demand – A socio-hydrological case study in the Nordic region. *Journal of Hydrology: Regional Studies*, 41, 101066. <https://doi.org/10.1016/j.ejrh.2022.101066>

Ogunbode, C. A., Doran, R., Hanss, D., Ojala, M., Salmela-Aro, K., van den Broek, K. L., Bhullar, N., Aquino, S. D., Marot, T., Schermer, J. A., Wlodarczyk, A., Lu, S., Jiang, F., Maran, D. A., Yadav, R., Ardi, R., Chegeni, R., Ghanbarian, E., Zand, S., ... Karasu, M. (2022). Climate anxiety, wellbeing and pro-environmental action: Correlates of negative emotional responses to climate change in 32 countries. *Journal of Environmental Psychology*, 84, 101887. <https://doi.org/10.1016/j.jenvp.2022.101887>

Park, J., van den Broek, K. L., Bhullar, N., Ogunbode, C. A., Schermer, J. A., Doran, R., Ardi, R., Hanss, D., Maran, D. A., Albzour, M., Aquino, S. D., Ayanian, A. H., Chegeni, R., Chukwuorji, J. C., Enea, V., Ghanbarian, E., Ghorayeb, J., Jiang, F., Kehinde, O. A., ... Yadav, R. (2022). Comparison of the inter-item correlations of the Big Five Inventory-10 (BFI-10) between Western and non-Western contexts. *Personality and Individual Differences*, 196, 111751. <https://doi.org/10.1016/j.paid.2022.111751>

van Kempen, A., Kristiansen, S., & Feldpausch-Parker, A. M. (2022). Communicating Science, Technology, and Environmental Issues: A Case Study of an Intercultural Learning Experience. *Frontiers in Communication*, 7. <https://www.frontiersin.org/articles/10.3389/fcomm.2022.805397>

Books and Book chapters

Gjerstad, Øyvind; Fløttum, Kjersti. 2022. *From Descriptive to Normative Climate Change Narratives: Theoretical and Methodological Challenges*. I: Oxford Research Encyclopedia of Climate Science. Oxford University Press 2022 ISBN 9780190228620.

<https://oxfordre.com/climatescience/view/10.1093/acrefore/9780190228620.001.0001/acrefore-9780190228620-e-857>

Andersen, Ida Vikøren; Fløttum, Kjersti. 2022. "Adults who fail the next generations and children who refuse to give up": The story about climate change as a battle between the generations. I: *Fridays for Future: Sprachliche Perspektiven auf eine globale Bewegung*. Narr Francke Attempto Verlag 2022 ISBN 978-3-8233-8511-0. s. 17-35.

Liu, X., Lindhjem, H., Grimsrud, K., Leknes, E., & Tvinnereim, E. (2022). Generational Divide in Preferences for Forest Carbon Sequestration vs Preservation of Agricultural Landscapes. <https://doi.org/10.21203/rs.3.rs-1712431/v1>

Meuwissen, M., Feindt, P., Spiegel, A., Paas, W., Soriano, B., Mathijs, E., Balmann, A., Urquhart, J., Kopainsky, B., Garrido, A., & Reidsma, P. (2022). SURE-Farm Approach to Assess the Resilience of European Farming Systems (pp. 1–17). <https://doi.org/10.1017/9781009093569.002>

Wieders-Lohéac, A., & Höllein, D. (2022). *Fridays for Future: Sprachliche Perspektiven auf eine globale Bewegung*. Narr Francke Attempto Verlag GmbH + Co. KG. <https://doi.org/10.24053/9783823395119>

Policy briefs and reports

Kazlou T, REN21, 2022, 2022 UNECE Renewable Energy Status Report (Paris: REN21 Secretariat).

Fløttum, Kjersti; Schäfer, Mike S. 2022. The language of debate and communication about climate change in Flanders. Report of the Thinkers Cycle of the Royal Flemish Academy of Belgium for Science and Arts. In collaboration with Kristin Davidse, Anne-Marie Vandenbergen & Wout Van Praet. Brussels: KVAB, THE ROYAL FLEMISH ACADEMY OF BELGIUM FOR SCIENCE AND THE ARTS 2022 66 s

Fløttum, Kjersti; Perron, Emil. 2022. RAPPORT - CLIMLIFE-UNDERSØKELSE OM ELDRES (65+) PERSPEKTIV PÅ KLIMA OG LEVEMÅTE. Bergen: Institutt for fremmedspråk, Universitetet i Bergen 2022 18 s. https://www.uib.no/sites/w3.uib.no/files/attachments/rapport_climlife_eldreundersokelse_survey_results_seniors_opinions.pdf

ANNEX 4: PROJECTS

CET Projects

The following projects are fully or partly owned by CET.

Funder /Project title	Project owner	CET partner(s)	Project period	Total budget (NOK)	Portion of budget allocated to CET
Akademiaavtalen, Equinor/UIB				1 050 000	1 050 000
Prof. II - Applied Economics in Climate Change and Energy Transformation	UIB - CET	Corbett Grainger	2019-2022	1 050 000	1 050 000
Global Societal Challenges, UIB				2 680 000	2 680 000
PhD Position: The global implications of Norway's electric car revolution	UIB - CET	Håvard Haarstad Kjetil Rommetveit Siddharth Sareen	2021-2025	2 680 000	2 680 000
					8 523 817
EU - H2020				131 148 740	
CINTRAN - Carbon Intensive Regions in Transitions - Unravelling the Challenges of Structural Change	Wuppertal Institut für Klima, Umwelt, Energie gGmbH	Mahir Yazar, Håvard Haarstad, Jessica Jewell, Endre Tvinneireim	2020-2024	29 994 050	1 477 900
VARCITIES - Visionary nature-based actions for health, wellbeing & resilience in cities	Telecommunication System Institute	Håvard Haarstad	2020-2025	101 154 690	7 045 917
EU - ERC				15 000 000	712 500
MANIFEST - MechANisms and actors of Feasible Energy Transformation	Chalmers University of Technology	Jessica Jewell	2021-2026	15 000 000	712 500
EU - JPI Climate				10 000 000	1 814 000
ROLES - Responsive Organising for Low Emission Societies	UIS, UIB - CET	Siddharth Sareen	2020-2023	10 000 000	181 400
RCN - Research Council of Norway				72 328 000	16 634 768
CITYFREIGHT - Freight Logistics in Smart Cities	NHH	Stein Wallace, Håvard Haarstad, Endre Tvinneireim, Sigrid Eskeland Schütz, Rafael Rosales, Subina Shrestha	2020-2024	18 558 000	6 329 818
DEMOCLIM - Cities confronted by protests: Democratic governance for efficient and socially just climate transformation	OSLOMET - NIBR	Håvard Haarstad	2020 - 2023	13 219 000	1 635 950
MUCS - Media use in crisis situations: Resolving information Paradoxes, Comparing Climate Change and the COVID-19 Pandemic	UIB - Department of InfoMedia	Håvard Haarstad, Ida Sekanina	2021 - 2025	12 420 000	3 892 000
ASSET - Accountable Solar Energy TransitionS	UIS	Siddharth Sareen, Shayan Shokrgozar	2021 - 2024	11 343 000	3 235 000
EMPOWERED FUTURES - A global research school	NMBU	Håvard Haarstad	2022-2030	16 688 000	1 442 000
BalanseHUB CET	UIB - CET	Judith Dalsgård	2021-2022	100 000	100 000
UIB - Climate and Energy				3 000 000	300 000
HySociety - Hydrogen som energibærer i samfunnet: risikobilde, risikoforståelse og offentlig aksept	UIB	Håvard Haarstad	2021 - 2024	3 000 000	300 000
Regionalt forskningsfond				3 000 000	900 000
Klimabudsjett 2.0	Vestlandsforskning	Jesse Schrage	2021 - 2024	3 000 000	900 000
Centre for Applied Turkey Studies (CATS) Network				374 842	189 069
LOCALNET - Local Climate Change Narratives in Turkey Toward Effective Local Climate Actions	UIB - CET	Mahir Yazar	2022	374 842	189 069
Klima- und Energifonds				2 958 976	482 059
TRANSFLIGHT - Shaping the future of air travel	University of Graz	Jakob Grandin, Jesse Schrage	2022-2024	2 958 976	482 059
Grand total				241 540 558	32 986 213
Funder /Project title	Project owner	CET partner(s)	Project period	Total budget (NOK)	
CET Accelerator, UIB				470 000	
BUDGETS - Climate Budgeting for climate action: charting mitigation options in Norwegian and Swedish municipalities	UIB Department of Geography	Jesse Schrage	2021-2022	80 000	
BLF - Bussbrukernes Landsforening: Art-Science-Activism for mobility justice	UIB Department of Geography	Devyn Remme	2021-2023	100 000	
Climate Lobbying - Resource Rents, Lobbying, and Public Opinion Regarding Climate Change Risk	UIB Department of Geography	Corbett Grainger	2022-2023	100 000	
What is a good climate decision? - Comparison of assessments from citizens, politicians and bureaucrats	UIB Department of Government	Endre Tvinneireim	2022-2024	140 000	
SRA Nordic conference - Annual Meeting of the Society for Risk Analysis-Nordic Chapter	UIB Department of Government & Dept. of Psycho-social Science	Endre Tvinneireim Gisela Böhm	2022	50 000	
Total				470 000	

ANNEX 5: EVENTS

CET events

Date	Type	Title	Name	Organizer
26.01.22	CET Lunch	Carbon intensive regions of Europe, right-wing party populism, and support for decarbonization	Mahir Yazar (CET/UiB)	CET
09.02.22	Conference	Day Zero: -Prioritizing Research Agendas for Sustainable Transportation: Micromobility -Implementing Convivial Energy Technologies.	From CET: Shayan Shokrgozar, Brooke Wilkerson, Siddharth Sareen, Jakob Grandin	Division of Research and Innovation/UiB
16.02.22	CET Lunch	Utilization of roofs in Sumida Ward, Tokyo: Analysis of the potential CO2 emission reductions and other co-benefits	Jelena Aleksejeva (University of Tokyo)	CET
17.02.22	Seminar	The European Green Deal: Relevance for Norwegian research, innovation and higher education	From CET: Jakob Grandin	NORCORE
23.02.22	CET Lunch	Paris, Glasgow and AR6: Implications for Oil producing nations	Kevin Anderson (CET/UiB & University of Manchester)	CET
02.03.22	CET Lunch	Catching the future: How imagination shapes policies on climate action	Hedda Susanne Molland (CLIMLIFE/UiB)	CET
09.03.22	Festival	Varmere Våtere Villere	From CET: Thea Gregersen, Håvard Haarstad, Empowered Futures	Varmere Våtere Villere
16.03.22	CET Lunch	Operationalizing energy justice	Bhavin Pradhan (University of Minnesota)	CET
22.-23.03.22	Conference	Bergen international student conference	From CET: Jakob Grandin, Joran Buwalda	The Collaboratory/UiB
30.03.22	CET Lunch	Climate policy in Russia	Evgeniya Elkina (Lake Baikal Foundation)	CET
06.04.22	CET Lunch	Justice in transport planning: How to bridge theory and practice	Ryan Hamilton (Norconsult)	CET
20.04.22	CET Lunch	Pathways to blue and green hydrogen export in a climate-neutral Europe scenario: is time running out for Norway to transition?	Claudia Cheng (University of Tromsø)	CET
26.-28.04.22	Conference	Klimaomstilling 2022		Vestlandsforskning (Co-organizer: CET/UiB, HVL, NVE, Statsforvaltaren i Vestland, Vestland fylkeskommune, NORADAPT, Innovasjon Noreg, Klimapartnere)
27.04.22	CET Lunch	Is the Global South heading for Dystopia?	Max Anton Wosnitza (University of Oslo)	CET
18.05.22	CET Lunch	Conducting ethnographic fieldwork on a LNG shuttle tanker	Marianna Betti (SOSANT/UiB)	CET
25.05.22	CET Lunch	Climate and history. Current perspectives and the longue durée	Eivind Heldaas Seland (AHKR/UiB)	CET
01.06.22	CET Lunch	Energising a renewable future	Lisa Sanderink (University of Twente)	CET
8.-9.06.22	Workshop	Assessing risks and pathways for desirable and equitable societal transformation	Jakob Grandin (CET/UiB)	Arqus Alliance (Co-organizer: CET)
24.08.22	CET Lunch	Media, Publics and the Climate Crisis - Coverage, Cognition and Risk Perception	Silje Kristiansen (CET/INFOMEVI/UiB)	CET

Date	Type	Title	Name	Organizer
24.-26.08.22	Conference	Petrocultures	From CET: Shayan Shokrgozar, Håvard Haarstad, Siddharth Sareen	The Petrocultures Research Group
25.08.22	Workshop	Bærekraftssamtalen		Bærekraftige liv (Co-organizer: CET, PAN)
31.08.22	Workshop	CET Affiliate: What's next in climate and energy research		CET
07.09.22	CET Lunch	Faster, cheaper, and more frequent – sustainable goods transport?	Rafael Rosales (CET/UiB)	CET
21.09.22	CET Lunch	Double energy vulnerability in an under-privileged neighbourhood	Morten Rye Loe (UiS)	CET
21.09.22	Bærekraftig frokost	Transformasjon til nye boliger i Bergen		Bergen kommune (Co-organizer: Vestland fylkeskommune, Statsforvaltaren i Vestland, CET/UiB, BAS, HVL)
22.09.22	Bærekraftig frokost	Bildeling - et nyttig verktøy for en mer bærekraftig by?		Bergen kommune (Co-organizer: Vestland fylkeskommune, Statsforvaltaren i Vestland, CET/UiB, BAS, HVL)
22.09.22	CET 5 years	CET 5: Breakfast meeting - What can climate communication learn from the pandemic?	Synnøve Nesse (NHH), Eva Hille (Bergen kommune), Kikki Kleiven (Bjerknessenteret), Judith Dalsgård (CET/UiB)	CET (Co-organizer: INFOMEVI/UiB)
28.09.22	CET Lunch	The textile tangle: Overconsumption and lack of circularity – The municipal role(s) in untying the knot	Kjersti Hegsbro Sollund (Bergen kommune)	CET
05.10.22	CET Lunch	Navigating transformative change in tipping point times	Pedro Macedo (University of Lisbon)	CET
06.10.22	CET 5 years	CET 5: Breakfast meeting - the power of local action	Agnes Tvinneheim (VILL), Silje Østerbø (Bergen kommune), Maria Thomassen (MDG Øygarden), Anna Milford (NIBIO)	CET (Co-organizer: Bergen kommune)
17.10.22	CET 5 years	CET 5: Breakfast meeting - Collaboration - what is it good for?	Zarina Patel (University of Cape Town), Tarje I. Wanvik (Bergen kommune), Jakob Grandin (CET/UiB)	CET (Co-organizer: GRIP/UiB)
18.10.22	Workshop	CITYFREIGHT		CET
24.10.22	Bærekraftig frokost	BIFF: Going Circular		Bergen kommune (Co-organizer: Vestland fylkeskommune, Statsforvaltaren i Vestland, CET/UiB, BAS, HVL)
27.10.22	CET 5 years	CET Symposium: Actionable research in times of climate emergency		CET
28.10.22	Workshop	ROLES		CET (Co-organizer: UiS)
02.11.22	CET Lunch	EU goals and Norwegian cities: A case of sustainable urban logistics	Subina Shresta (CET/UiB)	CET
09.11.22	CET Lunch	Electricity, synthetic fuels or hydrogen for trucks in Germany? How manufacturers strategically choose between alternative decarbonization technologies	Aline Scherrer (University of Sussex)	CET
16.11.22	CET Lunch	Earth Observation supports sustainable development Agenda and International Conventions: Examples From Different Geographic Locations	Olena Dubovyk (GEOG/UiB)	CET

Date	Type	Title	Name	Organizer
16.-17. 11.22	Klimathon	Klimathon 2022		NORCE, Vestland fylkeskommune, Bjerknessenteret, CET/UiB, Vestlandsforskning, Konsulent Stiller-Reeve, Norsk klimaservicesenter, Voss herad
17.11.22	Seminar	Apple of knowledge: The future of sustainable transport of people and goods in cities	Subina Shresta (CET/UiB)	UiB Library
23.11.22	Bærekraftig frokost (tentativ)	Sirkulære bygg for fremtiden		Bergen kommune (Co-organizer: Vestland fylkeskommune, Statsforvaltaren i Vestland, CET/UiB, BAS, HVL)
30.11.22	CET Lunch	More than money: local impact is why individuals participate in citizen-financed solar projects	Fabienne Sierro (ETH Zurich)	CET

What's next?

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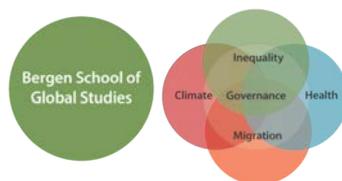


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