SPP 1689 WORKSHOP:

Terrestrial CO₂ Removal: Potentials and tradeoffs in the SDG context


Where: Potsdam Institute for Climate Impact Research, Telegrafenberg, Building A56 – Conference Room in basement), 14473 Potsdam.

See here for travel information: https://www.pik-potsdam.de/contact/where.

Scientific Coordination: Dieter Gerten, Alexander Popp

Motivation

Ambitious climate stabilization targets will – according to the large majority of currently quantified mitigation scenarios – require substantial deployment of Carbon Dioxide Removal (CDR) technologies. Also the Paris Agreement explicitly includes the possibility of such technologies to reach the agreed goals by calling to achieve a “balance between emissions sources and sinks in the second half of the century”. While various CDR technologies are discussed, terrestrial CDR (tCDR) via afforestation and/or bioenergy plantations promise highest potentials. However, large-scale tCDR implementation may violate planetary environmental boundaries and may have severe implications for reaching Sustainable Development Goals (SDGs) other than Climate Action, constraining its effectiveness and necessitating multi-perspective negotiations. Those feedbacks and tradeoffs have to be taken into account for a comprehensive evaluation of potential tCDR techniques.

Objective

This workshop looks into a set of pertinent questions related to potentials of tCDR methods and their interaction with SDGs. It brings together ~40 SPP researchers and external experts to increase our holistic understanding of global and regional potentials and side-effects of tCDR as well as to identify future research priorities.
AGENDA

22 JANUARY, MONDAY

12.00–13.00  Registration and welcome lunch (light buffet)

13.00–15.00  Plenary I: Setting the Scene  Moderator: J. Strefler

13.00–13.15  Welcome address
   Ottmar Edenhofer (Potsdam Institute for Climate Impact Research / Mercator Research Institute on Global Commons and Climate Change)

13.15–13.25  Introduction to workshop objectives
   Andreas Oschlies, Dieter Gerten, Alexander Popp

13.25–13.40  Bioenergy, tCDR and the integrity of the biosphere: time to think again
   Wolfgang Lucht (Potsdam Institute for Climate Impact Research)

13.40–13.55  (t)CDR use in 1.5°C and 2°C mitigation pathways
   Elmar Kriegler (Potsdam Institute for Climate Impact Research)

13.55–14.10  Climate responses on overshoot and CDR
   David Keller (GEOMAR Helmholtz Centre for Ocean Research Kiel)

14.10–14.25  Robust climate risk management necessitates early carbon sink enhancement
   Michael Obersteiner (International Institute for Applied Systems Analysis)

14.25–14.40  Land-based CDR under the Paris Agreement: country pledges, transparency and credibility
   Joanna House (University of Bristol)

14.40–15.10  Discussion

15.10–15.45  Break

15.45–17.15  Plenary II: Sustainability Implications  Moderator: A. Oschlies

15.45–16.00  Role of tCDR in mitigation pathways and SDGs
   Alexander Popp (Potsdam Institute for Climate Impact Research)

16.00–16.15  Reforestation: tCDR potentials and climate effects
   Lena Boysen (Max Planck Institute for Meteorology)

16.15–16.30  tCDR in the context of global water use with a view on planetary boundaries
   Dieter Gerten (Potsdam Institute for Climate Impact Research)

16.30–16.45  Geoengineering and the SDGs – the case for exploration and learning between multilateral agencies and academia
   Matthias Honegger (Perspectives Climate Research)

16.45–17.15  Discussion

17.15–17.30  Wrap-up

19.00–22.00  Dinner at „Fliegender Holländer“, Benkertstr. 5, Potsdam
23 JANUARY, TUESDAY

9.00–10.30 Panel discussion: How to implement tCDR in the SDG context  
Moderator: C. Kammann  
Jan Börner (University of Bonn)  
Dominic Lenzi (Mercator Research Institute on Global Commons and Climate Change)  
Hermann Lotze-Campen (Potsdam Institute for Climate Impact Research)  
Jörg Niewöhner (Humboldt University Berlin)  
Harald Stelzer (University of Graz)

10.30–11.00 Break

11.00–12.30 Plenary III: Experiences from the Ground Moderator: D. Keller

11.00–11.15 Miscanthus as a promising biomass crop for tCDR  
Moritz Wagner (University of Hohenheim)

11.15–11.30 Recycling use of atmospheric CO₂ via biochar  
Claudia Kammann (Geisenheim University)

11.30–11.45 Producing food, biomass, and ecosystem services in optimized carbon farming systems with biochar  
Hans-Peter Schmidt (Ithaka Institute for Carbon Strategies)

11.45–12.00 Enhanced weathering and geogenic nutrient supply for CDR by afforestation and bioenergy production: potentials and limitations  
Jens Hartmann (University of Hamburg)

12.00–12.30 Discussion

12.30–13.30 Lunch

13.30–15.00 Discussion of future research needs and possible proposals  
Moderators: A. Oschlies, D. Gerten, A. Popp

15.00–15.30 Wrap-up, next steps | good-bye coffee
Travel information

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How to get from the B&B hotel to the workshop venue?

Please see the following instructions for public transport or take a walk – it takes you about half an hour.

How to get from the restaurant to the B&B hotel:

Please use the tram 92 or 96, see the instructions [here](#).