

SPP 1689 WORKSHOP:

Terrestrial CO₂ Removal: Potentials and tradeoffs in the SDG context

22 – 23 Jan 2018, Potsdam Institute for Climate Impact Research, A56

Scientific Coordination: Dieter Gerten, Alexander Popp (PIK)

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 will look into a set of pertinent questions related to potentials of tCDR methods and their interaction with SDGs. It will bring 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.

Preliminary Agenda

Monday Jan 22, 2018

12.00 – 13.00 Registration and lunch (light buffet)

13.00 – 15.00 Plenary: Setting the scene

Dieter Gerten, Alexander Popp, Andreas Oschlies – Introduction of workshop objectives

Ottmar Edenhofer (PIK) – Title tbd

Wolfgang Lucht (PIK) – Title tbd

Elmar Kriegler (PIK) – Title tbd (1.5° scenarios and global carbon stocks)

David Keller (GEOMAR) – Climate responses on overshoot and CDR

Jo House (University of Bristol) – Title tbd

Discussion

15.30 – 16.00 Break

16.00 – 17.30 Plenary: sustainability implications

Michael Obersteiner (IIASA) – Title tbd (Status quo land use, SDGs)

Alexander Popp (PIK) – Role of tCDR in mitigation pathways and SDGs

Lena Boysen (Julia Pongratz) (MPI for Meteorology) – Afforestation potentials and climate feedbacks

Dieter Gerten (PIK) – tCDR impacts on global water use with a view on planetary boundaries

Discussion

17.30 – 18.00 Plenary discussion: Wrap-up with first collection of research needs

19.00 Dinner (downtown)

Tuesday Jan 23, 2018

9.00 – 10.30 Moderated panel discussion: Is tCDR compatible with land / human rights?

Jan Börner (University of Bonn) – Jörg Niewöhner (Humboldt University Berlin) – Dominic Lenzi (Mercator Institute) – Harald Stelzer (University of Graz) – Hermann Lotze-Campen (PIK, tbc)

10.30 – 11.00 Break

11.00 – 12.30 Plenary: Experiences from the ground

Moritz Wagner (University of Hohenheim) – Title tbd

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

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

Jens Hartmann (University of Hamburg) – Title tbd (enhanced weathering)

Discussion

12.30 – 13.30 Lunch

13.30 – 15.30 (Group) discussion of future research needs

15.30 – 16.00 Wrap-up and next steps, good-bye coffee