



1st International Conference on Negative CO₂ Emissions

Summary and Highlights

INTERNATIONAL CONFERENCE ON NEGATIVE CO₂ EMISSIONS

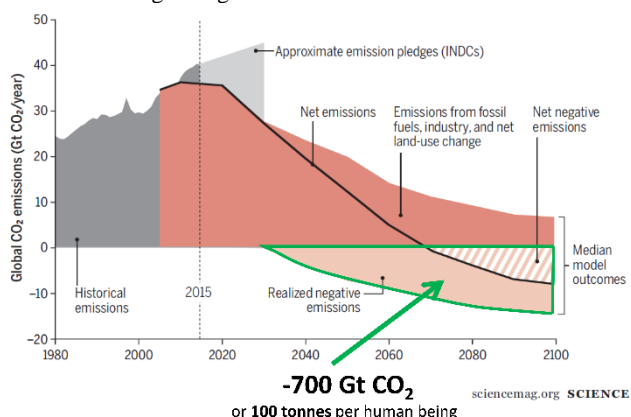
MAY 22-24, 2018

Carl Linderholm, Anders Lyngfelt, Christian Azar, Sally Benson, Göran Berndes, Thore Berntsson, Josep G. Canadell, Philippe Ciais, Annette Cowie, Sabine Fuss, James E. Hansen, Filip Johnsson, Jasmin Kemper, Klaus Lackner, Fabian Leivihn, José Roberto Moreira, Kristin Onarheim, Glen Peters, Tobias Pröll, Phil Renforth, Joeri Rogelj, Pete Smith, Thomas Sterner, Detlef van Vuuren and Jennifer Wilcox

Background

The “carbon budget”, is the amount of carbon dioxide that we can emit while still having a likely chance of limiting global temperature rise to 2 degrees Celsius. The exact size of the carbon budget cannot be specified with high confidence. This said, the remaining budgets for the 1.5°C and 2°C could be exhausted in as few as 5 and 20 years, respectively. Consequently, most of the IPCC emission scenarios able to meet the global two-degree target require overshooting the carbon budget at first and then remove the excess carbon with large negative emissions, typically on the order of 400-800 Gt CO₂ up to 2100, see Figure below.

At the same time as negative emissions appear to be indispensable to meet climate targets decided, the large future negative emissions assumed in climate models have been questioned and warnings have been raised about relying on very large and uncertain negative emissions in the future. With the future climate at stake, a deeper and fuller understanding of the various aspects of negative emissions is needed. The purpose of the conference was to bring together a wide range of scientists, experts and stakeholders, in order to engage in various aspects of research relating to negative CO₂ emissions.

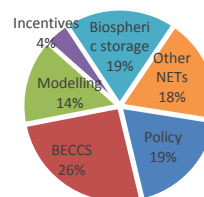


The conference in brief:

- More than 270 delegates
- 231 abstracts received from 36 countries of all continents except the Antarctica, having 655 unique authors/co-authors
- 144 oral presentations
- 30 poster presentations
- 11 plenary lectures
- 143 papers, some will be published in *Mitigation and Adaptation Strategies for Global Change*.

The main oral sessions were:

- Negative CO₂ policy,
- BECCS technologies,
- Negative CO₂ incentives,
- Negative CO₂ in climate modelling,
- Biospheric storage:
 - Afforestation and reforestation,
 - Altered agricultural practices,
 - Soil management/biochar,
- Other NETs, mainly direct air capture and enhanced weathering.



Presenter	Keynote presentations
Almut Arneth	<i>Afforestation, bioenergy and ecosystems (beyond carbon-centric views)</i>
Sally Benson	<i>Geological storage of carbon dioxide for negative emissions</i>
Sabine Fuss	<i>What we know and do not know about negative emissions</i>
Oliver Geden	<i>Integration of Carbon Dioxide Removal into the European Union's climate policy</i>
James Hansen	<i>Negative CO₂ emissions – why, when and how much?</i>
Anders Lyngfelt	<i>The Necessity and the Allure of Negative CO₂ Emissions – A Question of Balance</i>
Mike Monea	<i>CO₂ capture technologies status in the real world and the road for negative emissions</i>
Phil Renforth	<i>Enhanced weathering</i>
Pete Smith	<i>Negative emissions from soil management</i>
Detlef van Vuuren	<i>An integrated assessment modeling perspective on negative CO₂ emissions</i>
Jennifer Wilcox	<i>Direct air capture</i>

The main session of the conference was livestreamed, and links to **video recordings**, as well as **presentations** (pdf) are accessible via through the conference website:

<http://negativeco2emissions2018.com/>

The “2nd International Conference on Negative CO₂ Emissions” is expected for May 2020.



Negative CO₂
Negative CO₂ Emissions with Chemical-
Looping Combustion of Biomass



Nordic Energy
Research

