Institute for Advanced Sustainability Studies (IASS)

# EuTRACE

## European Transdisciplinary Assessment of Climate Engineering

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## Motivation

The challenge of reducing global greenhouse gas emissions have led to the discussion of techniques that either help to reduce $CO_2$ (so called **Carbon Dioxide Removal** or CDR-techniques) or to reduce the amount of incoming sunlight (so called **Radiation Management** or RM techniques).

A distinct European perspective on this highly controversial topic is still missing. EuTRACE fills this gap.

## EuTRACE goals

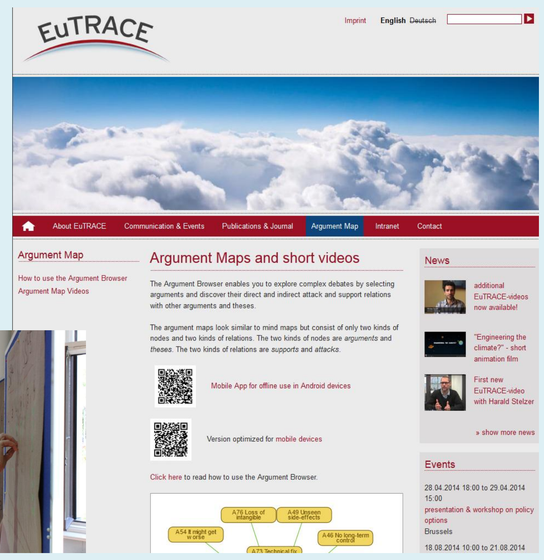
- To develop a next generation **assessment** about the potentials, uncertainties, risks and implications of climate engineering (CE) options
- To consider and develop **policy options** relevant for the European Commission
- To identify knowledge gaps and develop potential **research questions** for CDR and RM techniques
- To engage in **dialogue** with the public, policy makers and other civil society stakeholders to adequately address concerns and perspectives and to incorporate them in the assessment

## Outreach and public engagement

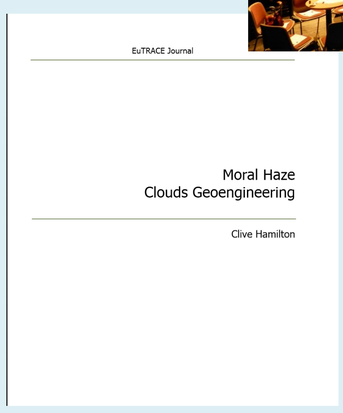
The project aims for **public engagement & outreach** as well as for **policy dialogue**

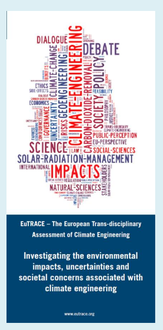
It uses the following formats:

- A lively website with short videos on prominent CE topics, EuTRACE Essays, an interactive argument map at www.eutrace.org
- Public plenary discussions & café scientifique sessions
- Side events at European Science Festival 2014 and at the UNFCCC CoP in Bonn 2014
- Policy dialogues with parliamentarians and NGOs in Berlin, London, Paris, Oslo, Warsaw and Brussels
- Information kit with a flyer and a Prezi presentation
- Scenario workshop
- Twitter campaigns







## EuTRACE at a glance:

- Budget: 1 Mio €
- June 2012 – September 2014
- 14 partners from Germany, France, England, Norway & Austria
- Experts from natural sciences, social sciences and humanities;
- Project Advisory Board with policy advisors, NGOs, humanitarian organizations

## Selected results

… read more in the final report

### Main findings

- CDR and RM are **too distinct** to discuss them together, a technique specific discussion is needed to consider risks appropriately
- None of the techniques is **sufficiently developed and safe** to enable known and effective application as part of measures to address climate change
- **Detecting** the effectiveness and unintended side effects and causally **attributing** climatic changes to RM **is difficult**
- To have a **notable impact** on reducing climate change, CDR methods would require resources and/or logistics on a **global industrial scale**
- To date estimates about **social costs** are **non-existent**
- There is **no public awareness**.
- CDR and RM raises questions about **responsibility** and procedural, distributive and corrective **justice** on the intra- and intergenerational level

### Policy options

International regimes dealing with CDR and RM are:

- *LC/LP*
- *CBD*
- *UNFCCC*

Based on current knowledge and the legally binding **principles at EU level** of:

- *The precautionary principle*
- *Transparency & participation*
- *The duty to protect the environment*
- *Minimization of harms*
- *Freedom of research*

an adaptive governance approach of the EU for the following techniques can imply:

1. With respect to **stratospheric aerosol injection**, only legitimate scientific research should be allowed
2. All member states should ratify the LC/LP to regulate **ocean iron fertilization**
3. Establishing comprehensive life cycle assessments for **BECCS**

### Research questions

We advocate a **parallel research approach** of questions of natural scientific and social scientific interest

Setting **research priorities** should be linked to the **EU principles**

Selected research questions:

*"Is it sensible for the governance of research to be distinct, or should it rather be a component of the overall governance of climate engineering implementation? "*

*"What are the impacts of different RM techniques on weather and climate extremes, e.g. drought, flooding, monsoon, rainfall extremes, hurricane frequency and intensity?"*

*"What are the impacts of stratospheric aerosol injection on stratospheric heating rates, cirrus clouds, stratospheric ozone and ultraviolet radiation at the surface?"*

*"What are the impacts of RM termination on the climate system? Are there sensible termination and exit strategies?"*

## Contact

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