



**Report on EuTRACE Events:  
Policymakers' and Public Perspectives on Climate Engineering**

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## 1. Short summary of the results (half page):

The aim of Work Package 6 (WP6) was to carry out dialogue on the topic of climate engineering with **policy actors** and with the **broader public**. The activities in the WP sought to disseminate the broader project results on scientific, technical, economic, ethical, governance and regulatory aspects of climate engineering, and discuss them with a broad range of stakeholders from the policy community, academia, civil society and public. As a result of the engagement, questions and concerns by the different stakeholders were identified.

Engagement with the policy-making community was achieved through a series of policy and science briefing and dialogue events with policy actors and other relevant stakeholders in Brussels, Oslo, Paris, Berlin, the European Science Open Forum in Copenhagen, and Washington, D.C. The latter dialogue event was carried out in order to strengthen the transatlantic dialogue and foster international cooperation, following one of the main results of the EuTRACE Assessment Report. Finally, this was supported by the dissemination of main findings at the Conference of the Parties in Bonn in June 2014.

The public engagement component was comprised of two distinct but interconnected strands; (1) use of an engaging and interactive website, [www.eustrace.org](http://www.eustrace.org), complete with a suite of videos to stimulate the climate engineering debate and the use of the social media platform Twitter and; (2) engaging directly with a range of audiences through school talks, institutional talks across Europe, open public discussion events (café scientifique/café conversations) and participation at the EuroScience Open Forum (ESOF) in Copenhagen in June 2014.

This report presents a brief profile of each activity carried out by Work Package 6, the objectives behind and results achieved. Most importantly, it collects the main concerns, questions and key messages by policy actors and other stakeholders in each event.

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# 1. Introduction

## 1.1 Background

The European Trans-disciplinary Assessment of Climate Engineering (EuTRACE) project, implemented by a consortium of 14 partners from Germany, the UK, Austria, France and Norway, aimed to provide a distinct European perspective on climate engineering. Funded by the European Commission's 7th Framework Research Programme, the project took a trans-disciplinary approach to assess the potentials, uncertainties, risks and implications of climate engineering, also by engaging in a continuous dialogue with the public, policy, and civil society communities to understand relevant concerns from the different perspectives and to communicate project findings.

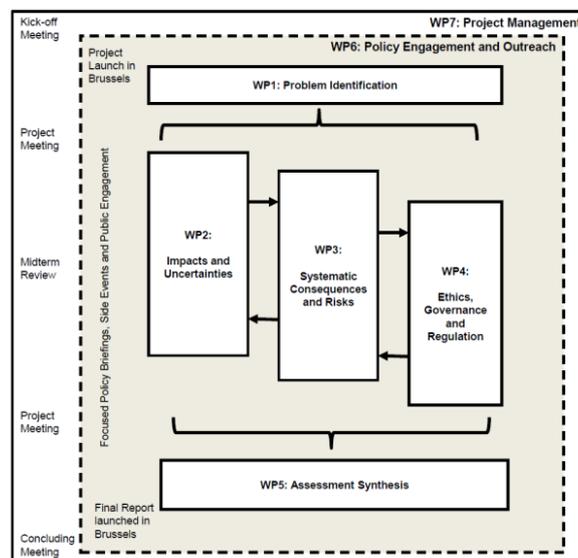
## 1.2 Objectives and design of Work Package 6

The objectives of Work Package 6 were threefold:

- (1) identify key questions and concerns of policymakers and the public about the main climate engineering ideas;
- (2) initiate a broad dialogue with policy makers and the public about climate engineering; and
- (3) disseminate the key findings of the project to a wide audience.

Work package 6, "Policy Engagement and Outreach", was designed to organize dialogue meetings in order to engage policy and public stakeholders with the findings of the EuTRACE project as they emerged. This approach contributed to transparency, participation of a broad range of stakeholders and supported the analytical revision of the project's results.

For this purpose, Work Package 6 was built into the structure of the project in a cross-cutting way, feeding the results of the project from different project partners to policy actors and the public and benefitting from the wide consortium experience in different targeted briefings on the science and policy of climate engineering (see chart below).



## 2. Policy engagement and discourse

### 2.1 Opening Debate in Brussels

**Brussels, 6 November 2012**

**Place:** University Foundation, [www.universityfoundation.be](http://www.universityfoundation.be)

**Partners:** UEA and adelphi

The Opening event brought together a group of research, policy, and civil society representatives (Appendices, Table 1), all of whom had previous knowledge around climate engineering (CE). Following a series of presentations the participants formed two working groups and were facilitated to discuss questions, concerns, and opportunities regarding CE.



The debate strongly leaned towards open questions and concerns, highlighting the focus of current debate taking place in the media and in the academic community on answering questions and establishing research and policy boundaries.

Discussions addressed not only the relevance of CE but also the potential research frameworks (e.g. Oxford Principles) and implementation, and brought several ethical implications to the fore.

Reflecting the wider, existing debate, participants brought up questions around the usefulness and legitimacy of potential climate engineering experiments – and related governance aspects. There was a clear call for governance structures of climate engineering, encompassing both research and deployment. On the one hand concerns were expressed that too-strict regulation may hamper future innovation and applied research; on the other hand a clear agreement was reached that explicit and intentional solar radiation management (SRM) experiments are premature, at least for now.

The lack of sufficient information – still perceived for climate change and thus also for CE research – brought up questions around ways to effectively frame debates and to meaningfully engage the public.



Comprehensive stakeholder and citizen engagement, as well as the need to provide transparency on CE research and science were repeatedly underlined as crucial. CE also presents the opportunity of advancing the state of knowledge about the climate.

For a more detailed account of the event and the discussions, see appended Opening Debate Final Report.

### 3. Policy Briefings and Dialogues

In total, the partners of Work Package 6 carried out engagement activities with policy actors, civil society and academia in senior-level policy briefings in five capitals: **Oslo, Paris, Berlin, London and Washington, D.C.**

The events were designed to entail three main parts: (1) brief presentations on the science and policy of climate engineering relying on consortium partners and their expertise as resource persons; (2) panel inputs by other relevant stakeholders (in selected locations) and (3) open discussion and Q&A session by all participants.

The policy dialogues were tailored to fit the current level of policy engagement with climate engineering in each country and as such differed somewhat in format.

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#### Norway

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##### Oslo, 4 March 2014

**Place:** Parliament's Energy and Environmental Committee, Stortinget (Norwegian Parliament)

**Partners:** adelphi and CICERO

The state of the discussion on climate engineering in Norway is not as vibrant as in other European capitals. Therefore, the main objective of the policy briefing in Oslo **was to inform Norwegian decision-makers on the state of the climate engineering debate and results.** The dialogue had 12 participants representing 6 of 8 political parties in the Committee (listed in the Annex) and took place in the Norwegian Parliament. It was organized by CICERO and adelphi, in partnership with IASS.

##### Key messages

- Strong concern was voiced. From a political point of view, the full attention will have to be on emission reductions.
- Global warming is a global problem and will have to be solved under a global, coordinated initiative, so climate engineering cannot be considered “a way to solve the problem”.
- It is not worth to put a lot of efforts in climate engineering from the point of view of climate policy making today, but there is a need to gain more knowledge about it, and that it potentially may become important
- At the moment, one should keep the strict scientific approach climate engineering, but also that the attention in research will have to continue

##### Key questions raised by the participants

- What kinds of techniques have been proposed?
- How certain are we about magnitudes and what are the costs of these techniques?
- What is the status of knowledge on climate engineering – how will this be treated in the coming IPCC reports?

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## France

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**Paris, 19 March 2014**

**Place:** Institut du développement durable et des relations internationales (Institute for Sustainable Development and International Relations, IDDRI), <http://www.iddri.org/iddri/>

**Partners:** IASS

The status of discussions and engagement around climate engineering in France is more advanced. The dialogue had 10 participants from different French government agencies and institutes. It was organised by IASS and the Institute for Sustainable Development and International Relations (IDDRI).

### Key Messages

**Existing governance of climate engineering (CE) techniques:** The governance of CE techniques is not operating in a legal void. Norms already exist. In Europe, high environmental protection standards have been established in several legal instruments. In addition, a set of existing principles, several of which are binding (either as part of customary law or in European law), can guide governance and policy development. Governance mechanisms exist at lower levels (e.g. rules set out by university ethics councils, and funding agencies have a large extent of control in research procedures). These existing norms can be coordinated in order to build a multi-level governance regime.

**Climate change context and negotiations:** The first and foremost way to approach climate change is mitigation, but the difficult process of reaching commitments to mitigation and the deteriorating chances of keeping global mean temperature increase from exceeding two degrees Celsius might call the attention of the public and media to what alternatives exist.

The subsidiary technical body at the UNFCCC is the forum meant for dialogue between convention and scientific discussions. That said, the role of the UNFCCC is not to regulate / govern climate science. Thus, the role of the UNFCCC governing research would be difficult.

**CE techniques:** Lumping the techniques into the term of CE is often problematic. Policy makers will often need to disaggregate the umbrella term and talk about particular techniques.

**Bioenergy with Carbon Capture and Storage and other land-based CDR techniques:** The uncertainty regarding storage capacity is a big issue. Some think that there is enough, others disagree. In reality we simply do not know. BECCS is in the spotlight because the only way the IPCC's scenario RCP 2.6 (to keep temperature increase below 2°C) is achievable is through high levels of deployment of BECCS.

### Key questions raised

- What is the German government doing?
- Are any of the techniques ready to be taken to the next level of implementation?
- What is the merit order for research into each technique?

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## Germany

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**Berlin, 25 March 2014**

**Place:** Stiftung Wissenschaft und Politik (German Institute for International and Security Affairs, SWP), <http://www.swp-berlin.org/>

**Partners:** adelphi and IASS

The dialogue had 23 participants from German government agencies, think tanks, academia and civil society. It was organised by adelphi and the SWP.

### Key Messages

**The international negotiations:** The EU and all other actors should avoid impulses to focus on topics other than **mitigation and adaptation**. We need this in order to pull all possible forces in the 2015 negotiations. The dilemma here is that while discussion of CE techniques may send a wrong signal to politics and society, in case the 2 degree target is threatened due to a lack of international efforts, climate engineering could be brought up. A key question is how to position the topic at the EU level to activate a process to begin **shaping the EU viewpoint regarding each technique, without putting the negotiations at risk?** Interestingly a similar argument was presented early in COPs in relation with adaptation, arguing that discussing adaptation as a central topic could potentially distract efforts away.

**Existing stepping stones for international governance:** Institutions, mechanisms and principles are **already in place** and are stepping stones for a 'regime complex' to govern CE. Further steps should build upon them. The option of **no further action** at this point is an absolutely legitimate option that the political level can consider and take. In the end, it will be the political circles – not the scientific ones, those who make decisions.

**International cooperation:** It can be very difficult to undertake collaborative research at the EU level in topics in which national interest often has precedence. Broad inter- and **transdisciplinary cooperation** is recommended, especially at this stage, in research regarding different aspects of each technique.

**Climate engineering techniques:** The **differentiated treatment** of the various techniques in decision making is key. The two categories of proposed techniques (Carbon Dioxide Removal and Solar Radiation Management) under the CE umbrella are enormously different. Each technique differs hugely from the next.

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## United States

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**Washington, D.C., 18 September 2014**

**Place:** New York University Campus in Washington, D.C., <http://www.nyu.edu/global/global-academic-centers/washington-dc.html>

**Partners:** adelphi, IASS and Washington Climate Geoengineering Consortium, <http://dcgeoconsortium.org/>

## Key Messages

**State of the conversation in the United States:** U.S. scientists have been at the forefront of climate geoengineering research and advocacy for a broader research agenda. A fairly large range of scientists, philosophers and academics have focused on CE in the country since the 1965 Report of the Environmental Pollution panel of the President's Science Advisory Committee. The latest effort is to be published at the end of 2014 by the National Academy of Science.

**Building blocks of CE governance are also in place in the US:** A number of federal laws are already in place that would be pertinent to geoengineering deployment, including the Safe Drinking Water Act, Clean Air Act, Marine Protection, Research, and Sanctuaries Act and the National Environmental Policy Act.

**A broad-scale CE program is not likely to proceed in the US under current circumstances:** On the one hand, the US has been condemned by the world community for cutting targets and timetables in UNFCCC negotiations, not joining the Kyoto Protocol, and now fracking. On the other hand CE would be construed as seeking a quick technological fix and flouting its obligation to the world community to take the lead in mitigating emissions. Crucially, there is a strong ideological aversion to CE from all political directions.

**CE needs to be discussed at all levels and by all actors in an integrated form with the broader discussion on climate change.** The discussion is disconnected. It is not a matter of "climate engineering or no climate engineering", it is a matter of "climate change with CE and without".

**Highly theoretical and academic approaches to discuss CE run the risk to be dismissive of the work and opinion of people on the ground.** There is a need to conjoin the policy, the theory and the science with the grassroots level.

**Discussion around CE needs to be as specific as possible,** with specific emission scenarios at hand, the worst-case and best-case scenarios, and to explore what would happen in terms of CE. This is the most realistic way to proceed.

**Policy approaches in the US and the EU seem to vary.** While in the US there seems to be an approach on a practical body of laws, policy in the EU around CE seems to revolve around principles. There is also a different agenda and different risk perception in the two regions.

**The conditions in which decisions on CE are taken (and the actors that will take it) will change in the future.** Because of the ongoing and possible future decline in power of the United States, powerful emerging countries will play important roles in the future.

**Mitigation is the only response.**

## Key questions raised

- Where should things be going for transatlantic discussions in this context?
- Are there any specific CE techniques that present more risks in terms of weaponization?

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## United Kingdom

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**Partners:** UEA

The UK's Department of Energy and Climate Change commented on the EuTRACE draft report, with special emphasis on the policy and ethics Chapters. A direct briefing to DECC ultimately proved impossible to arrange, due to a busy diary year of IPCC Plenaries and Reports, UNFCCC, Maternity Leave, etc. DECC also wanted a briefing on the full project report and outcomes to ensure that they had the full and potentially new information, rather than a draft version that repeated information already available and known in the UK. Given this background, it was felt that the most efficient use of DECC's time was direct comments on the draft and we are grateful for their time and input as the policy specialists in Europe most familiar with climate engineering research and debates. Comments were received from Cathy Johnson, DECC's lead on geoengineering, and Chris Mack, Climate Science Advisor. Jolene Cook, DECC's previous lead on geoengineering is currently at work with DG Climate Action and took part in the Brussels debate. David Warrilow, DECC Head of Climate Science and International Evidence, attended the Bonn UNFCCC side-event.

EuTRACE is part of a wider suite of projects active in the UK research community, with geoengineering well-known in UK climate science and policy circles. The UK Government's view on geoengineering research was published in a Policy Paper on 27 February 2013, after the inception of EuTRACE in 2012:

*"Based on the evidence currently available, it is premature to consider geoengineering as a viable option for addressing climate change. The priority is, and must be, to tackle the root cause by reducing emissions of greenhouse gases from human activities and adapting to those impacts that are unavoidable. Mitigation of climate change, by reducing emissions and protecting natural carbon sinks, remains the surest way of increasing our chances of avoiding dangerous climate change in the future."*  
<https://www.gov.uk/government/publications/geo-engineering-research-the-government-s-view>

The original plan within EuTRACE for a UK briefing was for DECC to Chair a cross-departmental briefing that summarised the latest results of the four main research projects, all of which are closing in 2014 – EuTRACE; SPICE (Stratospheric Particle Injection for Climate Engineering, PI Matt Watson, University of Bristol); IAGP (Integrated Assessment of Climate Geoengineering Proposals, P.I. Piers Forster, University of Leeds); CGG (Climate Geoengineering Governance), PI Steve Rayner, University of Oxford). DECC and the four projects remain keen on a briefing and there is still talk of a later event. It will be too late for the funded lifetime of EuTRACE but could nevertheless constitute a valuable deliverable and outcome, in particular because it integrates these other UK projects and teams, as well as gives a European, in addition to UK, perspective.

## 4. Roundtable policy dialogue in Brussels

**Brussels, 28 April 2014**

**Place:** Representation of the Land Brandenburg to the EU

**Partners:** adelphi and IASS

The objective of the Brussels dialogue event was to inform European decision-makers and experts (list of participants in the annex) on the state of the climate engineering debate and to present policy options for the EU developed by the consortium. It gathered participants from different divisions at the European Commission, international civil society and institutes.

## Key Messages

**EU perspective on CE techniques:** Mitigation and the transformation to a low carbon economy are preferable to the prospect of pursuing CE techniques and are currently the clear priority. It was recognised that CE is not widely nor actively discussed within the EU. However, there is also the recognition that the issue will not simply go away. There are commercial interests to develop some of the techniques and media attention to the topic could grow, as the current trend has shown. In case ambitious and legally binding emission reduction targets are not attained in Paris, this could certainly reinforce public and media attention on CE.

CE options are “on the table” and are being discussed in the USA, Russia and China and other countries. A different attitude towards CE techniques has been perceived in the U.S. and Russia, where some actors are asking why should field research and deployment not be attempted immediately, before governance mechanisms are in place.

**CE techniques:** “Unlumping” or disaggregating the term climate engineering into different techniques that vary widely by the EuTRACE consortium is very useful, as it is recognising that they have different risks and development stages. It was agreed by consensus that the term “climate engineering” (or geoengineering) regroups a wide variety of possible technical options/innovations which cannot be addressed by the same regulatory framework. The term should therefore be only used when appropriate and when possible abandoned in favour of more precise descriptions when it comes to discussing governance and policy options.

**Governance and policy options:** There is already a lot of EU *acquis* for governing CE, i.e. there are already stepping stones on the legal environmental framework or some techniques and already governing mechanisms for all. For all techniques, the precautionary principle is a key starting point for the EU. For others, for example Bioenergy with Carbon Capture and Storage (BECCS), the legal framework devoted specifically to regulating the technique at the EU level can be adapted from the legal framework on CCS, which is quite advanced.

International cooperation is key in defining a “code of conduct” for CE research. The Belmont forum and the Future Earth initiative were identified as adequate places to develop such a framework and address CE research as a global challenge. Inaction (no further action) on CE by the EU and other actors can be considered among the range of appropriate policy options for the time being. One option for the EU is certainly to advocate within the international policy community for ratification of LP Protocol and LC/LP frameworks.

**Governance of research:** There are two essential requirements for CE research: **(1)** Trans-disciplinarity, in particular involving policy users and reaching out to the public, and **(2)** An international perspective should also be a golden rule for the governance. Joint research agendas with international partners, not only to become aware of what their activities are but also to be able to spread key global principles.

While some participants emphasized that distinguishing between research and governance options is helpful, there are no clear lines between the two: research can easily “spill” into deployment. While lab and modelling research has proven to be very helpful, field testing may involve serious risks and needs to be regulated. Thus, governance needs to consider both as unseparated from one another.

Research needs to be the subject of regulation. An option would be to allow for research, subject to detailed criteria, but prohibit deployment. The main criteria could include: elements of consultation; non-commercial, future regulation of options should already be built in the governance mechanisms.

**Public involvement and interdisciplinarity:** It was strongly advised not to underestimate or ignore public concern when developing governance options. Referring to the energy transition in Germany, it was argued that public involvement was far too late, a mistake that should not be repeated with CE.

### **The potential role of the EU**

- Given the EU’s Treaty-based commitment to the precautionary principle, the role of the EU can be reactive rather than a proactive one.
- As regards deployment, the EU is normally only a leader of technologies if these are sufficiently proven and known (if risks could be clearly stated the EU were likely to move ahead more quickly).
- Nonetheless, the EU should proactively start to frame joint agendas with other nations (e.g. with NOA, Chinese Ministries of Science and Technology), not least because if private players are becoming involved, public framing is influential.

### **Key questions raised by the participants**

- Regarding research, two fundamental questions emerge for becoming active in the international research field:
  1. Framing: How to frame the research of CE? Focusing more on the risks or on the solutions?
  2. Timing: When to bring it up? What is the optimal timing?

## **5. Side event at the UNFCCC Bonn Climate Change Conference**

**Bonn, 11 June 2014**

**Place:** UN Climate Change Conference in Bonn

**Partners:** UEA/ Tyndall and adelphi

UEA and adelphi co-hosted a side event on 12 June at the Climate Change Conference in Bonn convened by the UNFCCC. As with the DECC and ESOF (see below) briefings, a June event was a little early to reveal any detailed findings and recommendations of EuTRACE. However, the aim of the event was to highlight the latest science and policy and governance options surrounding the geoengineering debate to Bonn delegates, more relevant to UNFCCC now that IPCC for the first time included geoengineering within its Chapters. While no explicit reference is made to CE or geoengineering in the UNFCCC, it has been



argued that the different techniques could fall into the UNFCCC governing framework. The speakers from EuTRACE were Hauke Schmidt of the Max Planck for Meteorology and Denis Tänzler of adelphi, Alex Hanafi of the US Environmental Defence Fund's SRM Initiative, and Arunabha Ghosh of the Council for Energy, Environment and Water in India. The Chair and moderator was Asher Minns of the Tyndall Centre for Climate Change Research. The audience was 40, drawn from Parties and Observers to the UNFCCC, significantly more than present at other side events on the same day.

### Key Messages

**Moratorium:** UNFCCC and other international bodies should not consider climate engineering as a viable or sensible proposition and should not be funding research into climate engineering. A moratorium has general support but not universal support. There is little but not zero support for a ban on research.

**Known unknowns:** The scientific community knows that it needs a far better understanding of the science, for example the behaviour of aerosols, to better understand climate processes and change. Research should be into aerosols, not climate engineering. Thresholds should be agreed for research activities.

**Anarchy or value-added research:** No single regime can legally govern geoengineering research; there is no obvious institutional arrangement for governance, but a vast range of opinions for making decisions, monitoring actions and resolving disputes. Governance will combine a range of national and international interest-based and ethical concerns.

**Engagement too far upstream:** In addition to EuTRACE activities, there have been other policy dialogues including in the UK, Singapore, China, Pakistan, India, Senegal, Ethiopia, and S. Africa. Why all the dialogues when they only highlight the 'known unknowns' which cannot be addressed without improvements in Earth System Science and Modelling?

**International Cooperation:** Any research (and governance arrangements) cannot be undertaken unilaterally. There are examples of internationally coordinated research including the European Organisation for Nuclear Research since 1954, the World Climate Research Programme since 1980, and the Human Genome Project since the last 1988.

## 6. European Science Open Forum and Science in the City

### Copenhagen, 26 June 2014

**Place:** Science in the City, Copenhagen

**Partners:** UEA/ Tyndall

Is climate engineering completely crazy?

The consortium took the opportunity offered by the Science in the City public engagement event - running parallel to the regular annual European Science Open Forum event being hosted in Copenhagen – to host a further Café conversation event, based on the successful Norwich format. The event, titled *Is climate engineering completely crazy?*, was advertised in advance



through a number of channels as a chance for members of the public to reflect with EUTRACE scientists on 'the consequences of climate change and the good, the bad and the completely wacky ideas for solutions'. It was held for three days running, fitting in with the Science in the City schedule. The discussants were Tim Rayner, Tyndall Centre and the University of East Anglia; Hauke Schmidt of the Max Planck for Meteorology, Eleanor O'Rourke, Swedish Meteorological and Hydrological Institute, and Asher Minns of the Tyndall Centre as the host. The first Café Conversation was preceded by a talk at ESOF by Hauke Schmidt. Science in the City is the public science festival that is independent to but associated with ESOF.

### Key questions raised by the participants

Concerns and questions raised by public attendees included: the wisdom of relying on unproven supposed techno-fixes, including those based on carbon capture and storage; to what extent and in what sense climate engineering was 'already happening', and how it differed from weather modification; the extent to which CE could be aggressively promoted by profit-driven corporations; and the need for positive examples of socially progressive mitigation policies to be supported more strongly. One participant, a member of the Danish NGO NOAH, was complementary regarding the EUTRACE 'argument map' which he had found on-line.

## 3. Public engagement and outreach

### 3.1 Introduction

A genuine dialogue with the public gives balance to staged conversations with invited technocrats and specialists. EuTRACE partners have engaged with a suite of activities and events to a range of publics across the partner countries and beyond. These publics have ranged from school children through to interested members of the public.

### 3.2 Highlights

- Clare College, Cambridge, 8th Workshop on Long-Term Changes and Trends in the Atmosphere (July 2014)
- A series of café conversations at the European Open Science Foundation (ESOF) in Copenhagen (June 2014)
- Interview with Le Monde (Summer 2014)
- Climate Change Questions phone-in, BBC Radio (March 2014)
- Geoengineering discussion with undergraduates at the University of East Anglia (December 2013)
- Invited talk and public debate at Universitat Autònoma de Barcelona (November 2013)
- 'Communicating Climate Geoengineering to the Public' Huffington Post blog (October 2013)
- Communication Masterclass, European Climate Communication Officers (May 2013)
- Public Café Conversation in Norwich, UK (March, 2013)
- Several other public events where climate engineering becomes a topic of discussion, e.g. Climate Week shopping centre event (March 2013)

### 3.3 Website, Videos and Twitter

**Website:** <https://eutrace.org>

The use of web-based platforms has enabled EuTRACE to engage with a broader public for the duration of the project and (hopefully) beyond. The website has been updated regularly with EuTRACE news, outputs and activities and provides both a site for dissemination and engagement. The website has been supported by the use of a Twitter account for the project which amassed over a hundred followers and was used extensively during key EuTRACE events.



A key output has been the production of eight high quality videos with EuTRACE partners describing key facets of the climate engineering debate in language free from disciplinary terminology. These brief, accessible and engaging videos capture the main areas of discussions surrounding the possible use of climate engineering. The full repository can be viewed here: <http://www.eutrace.org/communication-events/videos>

### 3.4. Case Study: Norwich Café Scientifique

The website, twitter and videos have been aimed at accessing a broad public. This has been supplemented by more focused and higher quality direct interactions undertaken by EuTRACE partners. This is an example event where we attempted to engage with the public on the debate surrounding climate engineering.

Three EuTRACE partners from the University of East Anglia, Dr Tim Rayner, Dr Jason Chilvers and Dr Naomi Vaughan took part in a public event in March 2013.

We used the café scientifique method combined with a multi-expert world café, advertised as a 'Café Conversation'. Twelve members of the public from Norwich registered and took part on a Friday evening in the city centre. After a brief introduction participants formed three groups and the EuTRACE partners moved round each group spending 20 minutes discussing three aspects of climate engineering: the physical science, politics and public perceptions. These discussions were then summarized and a whole group discussion wrapped up the evening.

Participants were interested to learn about the EuTRACE project and the way in which their participation in the evening's discussions would feedback into this project. Participants had questions and concerns about technical aspects, costs, concerns about commercial interests, geopolitics, when climate engineering may be implemented and the role of public participation in decision making. Overall participants in the Café Conversation appeared to report a general tolerance of climate engineering research, in light of current inaction on mitigation. Yet importantly, researching some technologies was seen as much more acceptable than others. Participants appeared to be united in the conclusion that geoengineering, in all forms, is no substitute for, and is inferior to, mitigation.



### 3.5 Public Information Kit

In order to support the dissemination of information at all the events that make up Work Package 6, IASS and adelphi produced a public information kit with information on the project and on the concepts behind climate engineering. The kit contains an easy to use and easy to understand presentation (pictures below) and a brochure available in English, French and German (see below).

Figure 1: Public Kit - Presentation

**2. Why pay attention to climate engineering?**

- Difficulties of reducing global GHG emissions have led to serious discussion of different techniques
- Viability, reliability, safety and public acceptability are **unknown**
- Controversial topic with many **uncertainties** and **potential negative impacts**

**Democratic use of science**

- Who controls the climate and who will have a say?
- Possibility of unilateral implementation (a country, or even an individual private actor)

Figure 2: Public Kit - Brochure

EuTRACE Final Assessment Report
Contact

With our **final assessment report** we aim to clarify:

- How can we deal with the uncertainties & risks?
 

There are many uncertainties & risks of climate engineering. We are investigating how the development of appropriate government structures can be supported.
- What is climate engineering?
 

We are introducing the topic to a broader public and are tracing the development of the discourse on climate engineering, placing it in the framework of European mitigation and adaptation climate change policies. We are evaluating the understanding of climate engineering among researchers, policy makers and civil society.
- What climate engineering techniques are available?
 

We are outlining the main technological options that are currently under discussion and that might be available, including considerations on their technical feasibility and implementation costs.
- What is at stake?
 

We are considering the main physical parameters (e.g. temperature, precipitation, ecosystems, etc.) and quantifiable economic impacts. We are using the results of recent research on climate engineering to explore the uncertainties and economics of various technologies.
- Where do we go from here?
 

We are using our understanding of impacts and uncertainties to focus on social consequences, such as public perception and acceptance, as well as the feasibility of policy options

Further information available under  
[www.eutrace.org](http://www.eutrace.org)

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Norwegian Meteorological Institute (MetNo)  
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University of East Anglia  
University of Edinburgh  
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