

## MCC Press Release

# Change the sunshine to save the earth?

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Today, the EU has asked the MCC and two other institutes to critically assess unconventional methods of climate protection. 9 million euro of funding for six years.

**Berlin, 05/11/2020.** The more urgent climate protection becomes, the more other options beyond reducing greenhouse gas emissions are coming into focus. According to the Intergovernmental Panel on Climate Change, humankind must also remove CO<sub>2</sub> from the atmosphere in order to achieve the agreed temperature targets. While afforestation could serve this purpose, other options, for example, are plantations with particularly fast-growing biomass for combustion in bioenergy plants (with capture and underground storage of CO<sub>2</sub>), crushed minerals distributed in oceans or across soils (which bind CO<sub>2</sub> there), or air filter systems. In the meantime, some are even discussing to manage solar radiation. The European Research Council of the EU today commissioned three top researchers to assess such options from a critical social science perspective, including [Jan Minx](#) from the Berlin-based climate research institute MCC (Mercator Research Institute on Global Commons and Climate Change).

The GENIE project ("GeoEngineering and Negative Emission Pathways in Europe") deals with issues of global importance, which however pose new uncertainties and distributional conflicts. For example, many carbon removal technologies are very land-intensive and can jeopardize food supplies or biodiversity. And new qualities of risk arise when climate change is addressed through solar radiation management, rather than by tackling atmospheric carbon concentrations as the root cause of warming. For example, using aircraft to distribute sulphur particles over large areas of the earth, or installing huge solar reflectors in orbit could limit global temperature rise, but may also induce critical changes in temperature and precipitation patterns and harvests around the world. Minx is co-leading the research programme together with Benjamin Sovacool (University of Aarhus, Denmark) and Keywan Riahi (International Institute for Applied Systems Analysis, Austria). It is scheduled to run for six years and has a total budget of 9 million euros.

The research team will specifically analyse the environmental, technical, social, legal, and policy dimensions of such unconventional climate protection interventions. The starting point is a series of meta-analyses, which supported by artificial intelligence will rigorously consolidate the available scientific knowledge. The GENIE project will then ground the topic in comprehensive social science research on climate protection. And finally, it will evaluate alternative climate protection strategies for European policy based on these results.

Commenting on today's announcement from Brussels, MCC Director [Ottmar Edenhofer](#) emphasises: "A grant of the European Research Council is one of the highest conceivable awards for scientists. The decision

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is a confirmation that outstanding research is being done at MCC. This provides the groundwork for our scientific and evidence-based policy advice."

The trio will be strengthened with further collaborations. The project is expected to start in May 2021, and first results should be published in 2023. "We are pleased about this great opportunity to advance our successful research on atmospheric carbon removal, and to analyse the topic of solar radiation management at the same time, with the necessary scientific distance and impartiality", says Minx, who heads the MCC working group Applied Sustainability Science. "The political debate on this topic has obviously been picking up speed recently – so it is timely that the EU has now launched a major assessment independent of material interests."

### **About the MCC**

The MCC explores sustainable management as well as the use of common goods such as global environmental systems and social infrastructures against the background of climate change. Our seven working groups are active in the fields of economic growth and development, resources and international trade, cities and infrastructure, governance and scientific policy advice. The MCC was co-founded by the Mercator Foundation and the Potsdam Institute for Climate Impact Research (PIK).

### **Further information:**

Communication from the European Research Council (ERC) on today's funding decisions:

<https://erc.europa.eu/news/erc-2020-synergy-grants-results>

ERC communication on the GENIE project:

<https://erc.europa.eu/news-events/magazine/erc-2020-synergy-grants-examples#GENIE>

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