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Global Commons and Climate Change

MCC Press Release

How a carbon central bank can turn Europe into a CO_2 "eater"

Net-negative emissions are feasible: in the "Thünen Lecture" of the German Economic Association, MCC Director Ottmar Edenhofer has been looking far beyond today.

Berlin, 17/09/2024. The EU has decided to achieve climate neutrality by 2050. In principle, for every tonne of CO_2 still being emitted then, one tonne will be taken out of the atmosphere. A European Carbon Central Bank could play a key role in getting there, leveraging market-based incentives to set the course for a net-negative emissions balance in the second half of the century – turning Europe into a CO_2 "eater", so to speak. The way this could work from an economic perspective has now been explained by Ottmar Edenhofer, Director of the Berlin-based climate research institute MCC (Mercator Research Institute on Global Commons and Climate Change), in the prestigious "Thünen Lecture".

Since 1986, the Thünen Lecture has been one of the highlights of the annual conference of the German Economic Association (*Verein für Socialpolitik*), which ranks among the largest and most respected economic conferences in Europe. According to the association, the invitation to give this lecture "honours distinguished members or other persons and their academic achievements in Economics in the German-speaking world".

The starting point for the considerations presented in this year's lecture is the need to "overshoot": due to the delay in climate policy, humanity must temporarily accept more greenhouse gas in the atmosphere than consistent with the temperature targets. At the same time, carbon removals must be increased on an industrial scale, including through new methods such as air filter systems or climate plantations – the cultivation of fast-growing biomass for combustion with carbon capture and storage. After the climate transition, the removals will compensate both for the unavoidable (or very difficult to avoid) residual emissions and for the excess CO_2 content. This enormous future task – in some scenarios, carbon removals will cost 3 percent of global economic output by mid-century – must be organised efficiently.

Edenhofer proposes so-called clean-up certificates as a core instrument. They give the right to emit one tonne of CO_2 in combination with the obligation to take back one tonne of CO_2 at a specific future date. So far, the EU Emissions Trading System (ETS) only offers simple emission rights, which are reduced year by year and, according to current legislation, will fall to zero in 2039. Adding clean-up certificates makes the climate transition cheaper and more flexible: CO_2 emissions would not have to be avoided at all costs, even as permits become scarcer, if it is more cost-effective to emit now and remove later. The price of these certificates would reflect expected future cost reductions in carbon removal technologies. The financial risk

of the climate transition would then be borne not by the state, but by the economy, which is, after all, obliged to make the removals.

To ensure that the idea does not fail due to physical inadequacies or corporate tricks, Edenhofer argues that it should be implemented by a strong and credible institution, and makes the case for a future "European Carbon Central Bank". By issuing the certificates, it could oversee the quantity control of net emissions, keeping this matter out of day-to-day party politics – just as the European Central Bank does with interest rates. This important new EU authority could also correctly reflect the economic value of non-permanent removals, such as afforestation or storing CO_2 in building materials, in the clean-up certificates. And to ensure that companies do not undermine their carbon removal obligation through strategic bankruptcy, they would have to deposit financial collateral with the Carbon Central Bank.

"Even today, carbon removal is far from a niche technology – and it is becoming the third missing pillar in global climate policy alongside emissions avoidance and climate adaptation," Edenhofer argued in his Thünen Lecture. The Director of MCC and of the Potsdam Institute for Climate Impact Research also heads the European Scientific Advisory Board on Climate Change, which was founded by the EU in 2022. Edenhofer concluded that "technological progress in this area can significantly reduce the costs" and that a greater focus on carbon removal "can enhance international cooperation around climate protection". "Carbon removal can become a game changer," he added, "and I have tried to map out some next steps."

Further information
The slides from Ottmar Edenhofer's "Thünen Lecture" can be found here:
https://www.mcc-berlin.net/240916_Edenhofer_ThünenVorlesung.pdf

About MCC
MCC explores and provides solution-oriented policy portfolios for climate mitigation, for governing the global commons in general, and for enhancing the many aspects of human wellbeing. Our six working groups are active in fields like economic growth and development, resources and international trade, cities and infrastructure, governance, and scientific policy advice. Co-founded by the Mercator Foundation and the Potsdam Institute for Climate Impact Research. | www.mcc-berlin.net/en | https://twitter.com/MCC_Berlin

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