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The Deployment of Carbon Capture and Utilisation Technologies Takes a Key Step Forward

International Effort Establishes Global Standards to Meet Tech's Growth and Opportunity Across Sectors

BRUSSELS, BELGIUM – On October 1st, 2019, representatives from EIT Climate-KIC, the Global CO₂ Initiative, the Phoenix Initiative, and other interested stakeholders gathered in Brussels to discuss the future of Carbon Capture and Utilisation (CCU) assessment methodologies, a critical step in unlocking R&D and commercialisation efforts for this growing climate solution.

This workshop is part of an initiative by the Global CO₂ Initiative, EIT Climate-KIC, the Phoenix Initiative, and other European organisations to harmonise their individual efforts to create assessment guidelines for carbon capture and utilisation (CCU) technologies across sectors by determining their economic and environmental impacts.

The workshop was hosted by the Institute of Advanced Sustainability Studies (IASS) as part of its contribution to the CO₂nsistent project, a three-year effort initiated and funded by Global CO₂ Initiative and EIT Climate-KIC with the aim to provide an extensive tool for the assessment of CCU.

CCU involves the capture of CO₂, a potent greenhouse gas, from the air or point sources and its subsequent conversion into products or services. It has been touted as a technology that promotes

connections between industrial sectors, offering economic opportunity and environmental impact reduction. Most importantly, when fully deployed, carbon management in general is set to play an important role in the future as one of the solutions to mitigate the climate crisis all while creating a new economy. As CCU gains momentum as a possible solution to reduce global CO₂ emissions, the need for a standardised assessment of CCU implementation grows more urgent.

The establishment of guidelines by multiple individual parties is an issue for the standardisation of CCU assessment. Today's meeting helped clarify whether the individually developed guidelines are consistent with each other. Potential inconsistencies in CCU guidelines could lead to confusion in decision-making when time comes for large-scale CCU implementation. During an earlier workshop at the University of Michigan, Ann Arbor in April 2019, the Global CO₂ Initiative, EIT Climate-KIC, the US National Energy Technology Laboratory, and the US National Renewable Energy Laboratory successfully addressed guidelines harmonisation within the context of ISO standards and multiple national efforts within the United States.

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Project Background

The University of Sheffield (USHEF), RWTH Aachen University, Technische Universität Berlin (TUB) and the Institute for Advanced Sustainability Studies (IASS) Potsdam, funded by the Global CO₂ Initiative and EIT Climate-KIC launched first-of-a-kind TEA and LCA guidelines for CO₂ utilisation in August 2018. Not only did these guidelines, that were published and are disseminated by the Global CO₂ Initiative, receive broad attention from stakeholders but have been put into practice, for example, by Carbon XPRIZE, a global competition to develop breakthrough technologies that will convert CO₂ emissions from power plants and industrial facilities into valuable products like building materials, alternative fuels and other items that we use every day. The original publication is now being revised in the frame of a new three-year effort.

The project called CO₂nsistent will develop and extend the first guideline version into an extensive tool for the assessment of CCU. It aims to update the current guidelines to address issues raised by stakeholders – such as extending their scope to more industries, establish early-stage technology assessment guidelines and methods to identify environmental and economic indicators, and finalise and publish early-stage technology assessment guidelines, along with example studies.

About the Global CO₂ Initiative at the University of Michigan:

The Global CO₂ Initiative at the University of Michigan aims to identify and pursue commercially sustainable approaches that reduce atmospheric CO₂ levels by 4 gigatons/year. We fund and conduct research to transform CO₂ into commercially successful products using technology assessment, technology development and commercialization. Technologies are needed that are carbon negative, reducing the current CO₂ footprint of a product, and dollar positive, or economically viable at scale. The combination of these factors will provide an incentive to invest in and deploy new technologies.

For more information, visit <https://www.globalco2initiative.org> and follow the Initiative on Twitter: [@reuseCO2](https://twitter.com/reuseCO2)

Supplemental Quotes

“Whether governments or companies invest into CCU technologies partly depends on the consistency of scientific opinions on the topic - a CCU technology should not produce contradictory results depending on the guidelines used,” said Sander Jahilo, Sustainable Production Systems Programmes Manager at EIT Climate-KIC.

“The guidelines for CO₂ Utilization we published last year are used by hundreds of users in academia, industry, and governments from around the world and the user base grows daily – a testimony for the need for harmonized guidelines,” said Volker Sick, Director of the Global CO₂ Initiative at the University of Michigan.

“Aside harmonization of LCA and TEA methodologies for CO₂ utilization, CO₂nsistent wants to act at the edge between science and politic, overcoming language barriers and mobilizing scientific results into notions directly applicable for policy decision,” said Lorenzo Cremonese, Senior Research Associate in the CO₂ Utilisation Strategies and Society Project at IASS Potsdam.