

4th CARBON DIOXIDE UTILIZATION CONFERENCE

CCS and CCUS Post Kyoto

February 25, 2015
San Antonio, TX

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Economic Commission for Europe

Committee on Sustainable Energy

Revised recommendations of the United Nations Economic Commission for Europe to the United Nations Framework Convention on Climate Change on how carbon capture and storage in cleaner electricity production and through enhanced oil recovery could be used in reducing greenhouse gas emissions .

Prepared by the Group of Experts on Cleaner Electricity Production from Fossil Fuels.

The policy architecture under the United Nations Framework Convention on Climate Change (UNFCCC) is under discussion. It is expected that parties will adopt a legally binding instrument no later than 2015 for application from 2020.

According to most internationally credible projections and forecasts, fossil fuel use will grow significantly by mid-century.

Without additional emissions mitigation efforts, global mean surface temperatures are expected to increase between 3.7 and 4.8°C by 2100 compared to pre-industrial levels.

If the world is to succeed in constraining CO₂ emissions to levels consistent with a less than 2°C rise in global temperatures, then CCS will need to contribute about one-sixth of needed CO₂ emission reductions in 2050, and 14 per cent of the cumulative emissions reductions between 2015 and 2050.

OECD countries will need to show leadership in validating the technologies with both research and development and commercial-scale demonstration and assisting in deploying them at scale. By 2050, non-OECD countries are expected to account for 70 per cent of the total cumulative mass of captured CO₂.

There is already a growing commercial market for using captured CO₂ for enhanced oil recovery (EOR).

The ECE considers that captured emissions of CO₂ from fossil fuel use that are used for enhanced hydrocarbon recovery and verified as not having been released to the atmosphere should be fully accounted for in the post-Kyoto Protocol agreement.

Public Policy Parity

CCS mitigation has been formally adopted as an environmentally sound technology within the Kyoto Protocol. These outcomes must be preserved in a post-Kyoto international agreement that avoids emissions liabilities under any future cap and trade regime, generates a tradable offset instrument under any future baseline and credit arrangements, and/or is eligible to claim climate funding assistance.

Public Policy Parity *(Cont'd)*

It is critical that national and international policies on CCS/CCUS activities have parity with other no carbon/low carbon technologies regarding their climate mitigation potential commensurate with the state of technological and infrastructure development.

Knowledge-sharing regarding CCS/CCUS deployment is valuable and should be encouraged (subject to the terms of international agreements covering intellectual property rights).

Public Policy Parity *(Cont'd)*

A post-Kyoto international agreement should accept a broad array of fiscal instruments to encourage CCS/CCUS, but the selection of instruments should not be mandated but rather left to the discretion of national governments.

Other instruments that national governments may choose to deploy to encourage CCS/CCUS until carbon is properly and adequately priced could include measures (such as preferential dispatch or contracts for differences) that affect how CCS plants are operated in their electricity systems.

A post-Kyoto international agreement must recognize that capturing and storing CO₂ from all industrial sectors will be essential to reach climate goals.

CCS/CCUS deployment will accelerate if governments work together to financially sponsor demonstration projects. An international agreement should allow for and encourage joint venture projects, particularly between developed and developing nations.

Governments should establish incentives to develop alternative, cost-effective applications involving captured carbon dioxide that result in emissions reduction and its permanent isolation from the atmosphere and oceans. Governments should remove disincentives such as legislation that imposes excessive long-term liabilities for storage operators.

Investments in Developing Countries

Developed country investment in developing countries can take many forms. The agreement should be flexible to accommodate a broad variety of mechanisms including:

- (a) Foreign direct investment.
- (b) Development assistance efforts.
- (c) Follow-on to the Clean Development Mechanism that recognizes CCS and CCUS₄.
- (d) Sharing emission credits.
- (e) Recognizing the role of regional development banks and rewarding national governments for financing projects through regional development banks.
- (f) Recognizing the role of the World Bank Group and recognizing national government contributions to financing projects through World Bank facilities.

It is crucial that CO₂ injected into reservoirs for enhanced hydrocarbon recovery be treated as storage if the CO₂ is stored permanently. Measurement, reporting.

ECE can help develop and promote any international standards required for the efficient achievement of CCS and CCUS.

Public outreach and communication is a determining factor for the future of CCS, and the UNFCCC should consider outreach and communication regarding CCS as a carbon dioxide emissions reduction strategy.



CCS developments need to be monitored and tracked globally. Best practice guidance on CCS should be developed and disseminated. UNECE has the capacity and capability to help develop norms and standards, including best practice guidances, while offering a neutral and transparent platform.

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