



International Chamber of Commerce

The world business organization

Discussion Paper

Challenges to the Implementation of New Technologies: the Case of Carbon Capture and Storage

Prepared by the Commission on Environment and Energy

Executive Summary

The Need for Carbon Capture and Storage (CCS)

Full use of the range of abatement technologies will be key to the reduction of greenhouse gas emissions in a cost-effective and timely manner. CCS is a technology with a very great potential contribution to abatement efforts – the IEA estimates a 20% contribution to 2050 and more thereafter – and will be an essential option in coal-endowed countries that lack alternative energy sources. Some technologies have already been excluded from recognition under crediting regimes, such as nuclear under the Clean Development Mechanism, and the status of CCS is yet to be determined.

Commercial Challenges

The implementation of CCS will involve combining both existing and new technologies in unfamiliar ways and at greatly increased scale. These facts imply significant technical and commercial uncertainty and investment risk. The incentives provided by the carbon markets are currently insufficient to motivate such investments. Public policy could assist in reducing such risks through the provision of common infrastructure and legal certainty.

Environmental and Safety Challenges

Although there is little reason to believe that CO₂ injected into well-selected and managed sites will create significant environmental or safety risks, a regulatory framework is required to give the public assurance on these concerns. A regulatory framework is also needed to ensure that other regulations do not unnecessarily restrict CCS. Long-term public assumption of the carbon liability will be required.

Recommendations

1. Establish a well-designed regulatory framework. Site selection and management should be regulated with due regard to the nature and magnitude of the risks involved, ie, a risk-management approach that is in proportion to the management of similar risks in other settings. The use of market mechanisms to manage appropriate risks should be permitted.
2. Commission a number of large-scale demonstration plants in order to calibrate the technological and commercial risks, indicate cost reduction possibilities and develop regulations based on operational experience. Public sector participation or other forms of assistance will be required for these projects.

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