



The outlook for carbon capture and storage

By Barbara McKee,
Chair, World Energy Council Cleaner Fossil Fuel Systems Committee

The World Energy Council (WEC) Committee on Cleaner Fossil Fuel Systems (CFFS) promotes knowledge worldwide on the research, development, demonstration and deployment of cleaner fossil fuels systems to meet global energy needs. Carbon Capture and Storage (CCS) is an innovative set of technologies currently under development to reduce emissions from large stationary sources of carbon dioxide (CO₂), notably fossil energy power plants and industrial facilities. Raising worldwide awareness of CCS is now a major focus of the CFFS Committee's activities.

CCS is projected to play a large, critical, unique role in reducing CO₂ emissions adequately to avoid significant implications of climate change. There is now a broad global consensus, reflected in decisions by the G8, to set a goal of making CCS widely commercial by 2020. The G8 agreed "to commit by 2010, to a diverse portfolio of at least 20 fully integrated industrial-scale demonstration projects (larger than 1Mt CO₂ per year) for the broad deployment of CCS by 2020."

Work to develop CCS technologies and practices has been ramping up considerably throughout the world over the last decade or so. In addition, global collaboration on CCS is increasing through such organisations as the Carbon Sequestration Leadership Forum and the WEC Committee

on Cleaner Fossil Fuel Systems.

CCS involves the separation and compression of CO₂ from an exhaust stream, its transportation to a storage site and injection into a deep geologic storage formation. Several pilot-scale capture projects are currently in operation and numerous tests of geologic storage have been undertaken and are proving successful in demonstrating safe and secure long-term storage. CO₂ transportation by pipeline has been commercial for decades. The first commercial-scale demonstration projects for power generation that fully integrate capture, transport and storage are currently being developed and will be in operation in the early-to-mid 2010s. Legal and regulatory frameworks for CCS are being put in place in several countries.

While considerable progress has been made, a number of significant challenges have yet to be overcome. They are:

- Reducing the cost of capturing CO₂;
- Fully developing the legal and regulatory frameworks for CCS throughout the world;
- Creating mechanisms to finance CCS in both industrialised and developing countries; and
- Securing public understanding and support.

The WEC Committee on Cleaner Fossil Fuel Systems is continuing its mission to raise global awareness of CCS. □

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