GUEST COMMENTARY - G8 should support, fund CCS development in China and India

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The international climate change discussion focuses on greenhouse gas price signals, trading, taxes, and emerging technologies. Various leaders also discuss a Marshall Plan for climate change. But the G8 Summit 2008 in Hokkaido Toyako, Japan will offer an opportunity for the leaders of the world's largest economies to seriously focus on a specific climate change strategy – technology transfer into developing countries.

Japanese Prime Minister Yasuo Fukuda recently outlined an agenda for Japan's presidency of the G8 that includes support for developing countries' efforts to combat global warming.

As international leaders consider the Japanese agenda, we suggest that funding for full-scale carbon capture and storage (CCS) projects in China and India is particularly important to develop experience with CCS and combat greenhouse emissions in these countries

Barriers to development of CCS

Widespread commercialisation of CCS is a critical element in the array of activities that must be undertaken in order to stabilise global emissions. The International Energy Agency (IEA) estimates that CCS in conjunction with coal-fired power generation can account for 20 per cent of our global mitigation efforts by 2050, while the Intergovernmental Panel on Climate Change (IPCC) estimates CCS could contribute 15 to 55 per cent of mitigation efforts by 2100.

Investment in commercial facilities employing CCS is slowly beginning. At least three large-scale CCS projects are operational – in Norway (natural gas processing), Canada (coal gasification and enhanced oil recovery), and Algeria (natural gas processing) – and numerous projects are being planned. However, several regulated utilities in the US have delayed or abandoned plans for Integrated Gasification Combined Cycle (IGCC) power plants with CCS.

Unfortunately, significant cost barriers impede rapid commercialisation. Some experts estimate that offsetting the current expense of constructing and operating power plants equipped with CCS would require a price signal in excess of $40 per tonne of CO2 emissions avoided (whether through a cap-and-trade system, carbon tax, or other price signal mechanism).

With current price signals significantly weaker than $40 per tonne, governments must drive implementation of CCS by funding projects, decreasing the cost of technologies, limiting risk, and providing a more certain regulatory environment.

Internationally, a concerted program of public investment in large-scale CCS demonstrations is imperative to decrease costs and allow widespread commercialisation by 2020 and significant emissions reductions by 2030.

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CCS in China and India

While the development of CCS power plant projects is debated, deployment of CCS in China and India will enable technology transfers to these rapidly expanding markets. As energy demand soars, both nations are rapidly increasing coal-fired generation capacity. Since both rely on coal as their primary energy source, implementation of CCS in these countries is imperative.

A "Marshall Plan for Climate Change" should involve both a short-term and a long-term goal:

- 2008 to 2012: Constructing two DME, methanol, and/or ammonia plants with CCS in China/India to demonstrate the technology and further our scientific understanding.
- 2012 to 2020: Constructing two power plants with CCS in China/India to apply the technology, lower the cost of future installations, and demonstrate feasibility.

A key component of future funding for CCS will be acceptance under post-Kyoto agreements. Acceptance will not occur without full-scale demonstration projects and full scientific analysis.

Price signals alone will not be sufficient to drive development of CCS projects – we must have a fundamental commitment by G8 leaders to provide funding for construction in order to ensure that CCS becomes widely deployed within the time frame necessary to achieve meaningful emissions reductions.

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