

Talking about a revolution

Governments must provide financial and regulatory support for CCS but they need to raise public awareness of the industry as well, says **Nobuo Tanaka**

Recent analysis from IEA projects concludes that CO₂ emissions attributable to the energy sector will increase by 130 per cent by 2050 in the absence of new policies or supply constraints. It is widely agreed that we need to halve energy-related CO₂ emissions by 2050, in order to limit the expected temperature increase to fewer than three degrees Celsius and to avoid serious climate-change implications.

Achieving a 50 per cent cut in CO₂ emissions by that time will take nothing short of an 'energy technology revolution', involving greater energy efficiency, decarbonisation of the power sector – including the increased use of renewa-

bles. The only technology available to mitigate greenhouse gas emissions from large-scale fossil fuel usage is CO₂ capture and storage. Our recent IEA publication, *CO₂ Capture and Storage: a key carbon abatement option*, suggests that CCS can contribute 20 per cent of the global emissions reduction needed to halve our 2005 emissions level by 2050 at a competitive cost.

The next 10 years will be crucial for CCS deployment. By 2020, the implementation of at least 20 full-scale CCS projects in a variety of power and industrial sector settings (including coal-fired power plant retrofits) and geological storage sites, will considerably reduce the

uncertainties related to the cost and reliability of CCS technologies.

Commitment to develop these projects is required by 2010 at the latest and is consistent with the Hokkaido statement of G8 Leaders from July 2008. Governments must lead efforts to develop appropriate financial and regulatory frameworks, whilst also raising the level of public awareness and acceptance.

The deployment of CCS technologies should be carried out on a worldwide scale, and include the early participation of non-OECD countries. It is only with such comprehensive efforts that CCS will be able to achieve its full potential as a major emission-abatement solution. ■



Nobuo Tanaka is executive director of the International Energy Agency (IEA)

Pump up the volume

A demonstration phase of full-scale CCS plant must be implemented at the earliest opportunity, says **Judith Shapiro**

Around the world individual parts of carbon-capture technology have been demonstrated, but the full chain of CCS has yet to be deployed at a commercial scale.

As with all new technologies, additional support will be needed to demonstrate the technology at full-scale. This phase is vital for understanding performance and enabling efficiency improvements. Inevitably, significantly greater costs will be associated with these early projects compared with future plants and, in addition, will incur the added cost burden of building the infrastructure needed to support a commercial CCS industry.

The main mechanism for incentivising

all low-carbon technologies into the future is the EU Emissions Trading Scheme (ETS) and it is widely expected that CCS projects will become self-financing within it at a future date. However, the current carbon price in the EU ETS will not be enough to incentivise early CCS projects, so additional support must be found.

Another option gaining traction, and adopted by the EU Environment Committee in October, is the proposal to allocate 500 million allowances from the New Entrant Reserve to support 10-12 CCS projects. As the French Presidency have been tasked with setting out details for a support mechanism for early CCS projects, there now appears to be hope

that this proposal will survive the vigorous EU negotiation period and provide the first concrete financial incentive for demonstration projects. For CCS to fulfil its role in reducing CO₂ emissions, a demonstration phase of full-scale plant must be implemented at the earliest opportunity.

With each new CCS plant worth an estimated \$500m in additional equipment, the industry will potentially be worth \$30bn up to 2030, rising to about \$50bn every year thereafter. And the International Energy Agency projects that 600 projects will be needed by 2030. If the UK can position itself in the vanguard of CCS, this will have profound implication for the economy. ■



Judith Shapiro is policy officer at the Carbon Capture and Storage Association