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Trading carbon

How it works and why it is controversial

Cap and trade is the most cost-effective way to reduce emissions

'Those who advocate only command-and-control regulation seem to ignore all of the published data, from the experiences of academics, governments and the private sector, that highlight precisely why emissions trading is a more cost-effective approach to reducing emissions than blunt regulation. Put simply, it is better to reduce emissions in a way that results in lowest costs to society.' **Abyd Karmali, Managing Director, Global Head of Carbon Markets, Merrill Lynch**¹

Carbon trading does not result in the lowest cost to society. The best that carbon trading can do is lower the price that certain polluting industries have to pay to comply with their present short-term reduction targets. It enables polluters to meet their reduction targets over the crucial next decade without the structural changes that will be needed for the longer-term reduction targets and the transition to a low carbon economy. Most commentators now agree that structural investment in a non-fossil fuel future has to begin now, not in ten or even two years' time. The longer the delay, the more everybody will have to pay. Professor David Driesen of the College of Law, Syracuse University, USA, argues that lowering short-term business costs *'does not increase incentives for valuable innovation'*. In short, by concentrating on short-term lowest cost for companies, the long-term cost for the economy and society is increased.

Effective implementation of a greenhouse gas cap and trade scheme also requires the ability to monitor and verify reported emissions reductions. As Daniel H. Cole points out, trading systems are 'quantification-heavy'. They cannot reduce the costs of achieving an emissions reduction goal except in the presence of an extensive, far-reaching, uniform and accurate system of measurement and monitoring. While some equipment exists, such as continuous emissions monitors for CO₂, for many operations and other greenhouse gases there is no such equipment. Although, as Marc Roberts observes, *'when economists discuss such matters as emissions trading they sometimes talk as if monitoring devices were widely available to cheaply and reliably record the amount of all pollution emissions'*, widespread adoption of such devices cannot be taken for granted. If direct and verifiable measurements are not going to be made, giving polluters pollution quotas makes little sense.³ Thus the 'comparative efficiency of alternative environmental instruments cannot be determined in isolation from the institutional and technological circumstances in which they operate'.⁴

As the US Clean Air Act demonstrated, [See Case study 1](#) it was more efficient, given the state of pollution measurement at the time to use performance regulation to reduce sulphur dioxide emissions over a cap and trade scheme which was introduced only once direct, independent real-time

'Governments are relying way too much on the price of carbon to deliver everything.' *'The oil price shocks of the 1970s didn't wean us off oil, so why should we believe that a high carbon price will wean us off carbon.'*²

Dr Jim Watson of Sussex University Energy Group

'ETS has done

monitoring equipment was widely available.⁶ Trying to achieve reductions through cap and trade regulation, in the absence of adequate monitoring and measurement equipment, would have been extremely expensive due to the lack of the necessary measurement technology. With technology-based regulation, on the other hand, the technology itself was the monitoring device. As Michael T. Maloney and Bruce Yandle explain: *'If the approved technique was in place, and working order documented, emission control was being accomplished.'*⁷

The lack of an adequate measurement system can only exacerbate the opportunities for dishonesty that are already inherent in carbon cap and trade schemes, where both buyers and sellers have strong incentives to conceal whether reductions have actually been made and where pollution permits are traded as equivalent to offset credits, whose reduction claims are unverifiable by design.

Some of these problems might be avoided with an 'upstream' rather than a 'downstream' system of monitoring – that is, one that measures the amounts of fossil fuels coming out of the ground rather than the amounts being burned. While measurement technology is bound to improve over time, there is 'no reason to expect that countries or corporations will reduce their greenhouse gas emissions to comply with quotas that cannot be effectively monitored and enforced'⁸ [See Box 3](#).

The claim that carbon trading provides the most cost-effective way of reducing greenhouse gas emissions becomes even less convincing if carbon offsets are considered. It is astonishing that companies that lobby for cost-effectiveness as the guiding principle in climate policy are willing to pay for carbon offsets generated from projects that net up to \$1 billion when the cost of the purchase, installation and running of the equipment that generated the credits was just \$15 million. [See Case study 4](#). Straight payment for the use would surely have been the more 'cost-effective' alternative.⁹ Chapter 3 discusses the perverse incentives such offset mechanisms provide. In the case of French chemicals firm Rhodia, its revenue from the sale of carbon credits is already 35 times larger than from the sale of adipic acid, the company's core production. Similar issues arise with CDM offset projects that eliminate refrigerant gas HFC-23 where in addition to the spectacular profit margins (installation cost of equipment costs of around € 100 million versus offset revenue of up to € 4.7 billion), the offset profits appear to have driven production of potent greenhouse gases up beyond demand, just to be able to maximise the revenue from offset credit sales.¹⁰

With regard to effective reduction of fossil fuel emissions, the EU's Large Combustion Plants Directive (LCPD) has to date been a more effective measure, in terms of reduced carbon emissions, than any other EU climate specific policy.¹¹ The directive sets a non-tradable limit on the level of sulphur dioxide, with plants that 'opt out' of the scheme required to close by 2015. This will lead to the closures of numerous oil- and coal-fired power stations and reduce the related greenhouse gas emissions.

nothing to curb emissions, ... is a highly regressive tax falling mostly on poor people [and] enhances the market power of generators. Have policy goals been achieved? Prices up, emissions up, profits up ... so, not really.'⁵

**Citigroup's Peter Atherton
– January 2007**

Philip Luyten, environment manager at Total Petrochemicals, states that 'The EU ETS has given no extra incentives for greenhouse gas reductions or changes to the fuel mix.'

**ENDS Daily 1 February
2007**

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11. On the LCPD plant closures, see Harrison P (2009) 'UK and Poland top dirty coal list, closures loom.' Reuters, 12 Feb; <http://planetark.org/wen/51627>

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