# Trading our way into trouble?

For carbon trading advocates, the onward march of 'cap-and-trade' schemes seems unstoppable. But a growing chorus of critics believe otherwise. **Christopher Cundy** talks to the sceptics

Australian prime minister John Howard remarked upon the March launch of his government's A$200 million ($166 million) forestry preservation fund that it was better than the Kyoto Protocol. Rather than trying to save forests through carbon trading mechanisms, the fund would take direct steps to tackle deforestation and thus reduce greenhouse gas (GHG) emissions.

"What this initiative will do, in a shorter period of time, is make a greater contribution to reducing GHG emissions than, in fact, the Kyoto Protocol," Howard told ABC Radio.

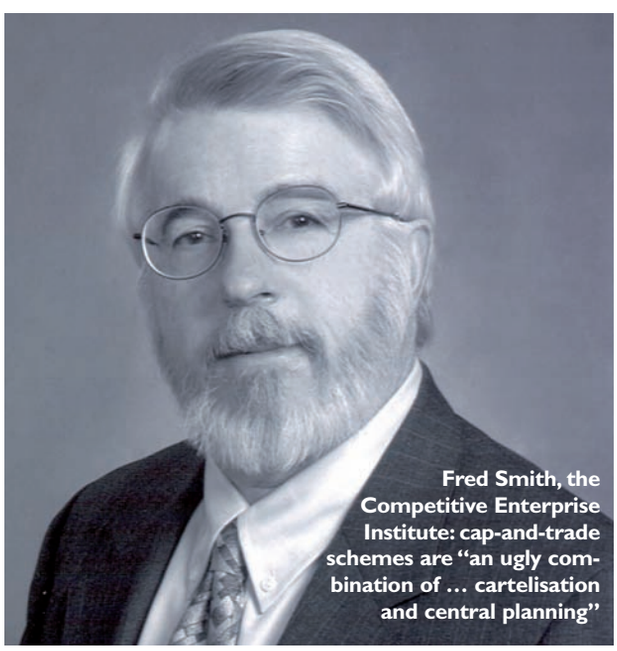
Was this just another rap from a notorious Kyoto dissident? Or is there some truth in saying the best way to tackle climate change is not through carbon trading? Howard has allies in industry, academia and among NGOs. Despite the dramatic growth of carbon markets, there is a growing number of voices saying carbon trading won't put the world on a path to avoid the climate crisis, and it risks undermining economic growth. Meanwhile, there are more tried and tested – and cheaper – ways to drive the urgent structural changes needed, critics say.

Criticism has come at both the theoretical and practical levels, with the implementation of carbon trading's two flagship schemes – the EU Emissions Trading Scheme (ETS) and the Kyoto Protocol's Clean Development Mechanism (CDM) – providing ample fuel for the critics' fire.

The architects of the EU ETS are not blind to its failings. Peter Zapfel, the European Commission's EU ETS coordinator, told a conference in Berlin in March that Europe "should not hide that we had some teething problems" – critics point to the over-allocation of emission permits to industry in the first phase of the scheme, alleged impacts on competitiveness, and the fact that no reduction in overall GHG emissions has yet been achieved in the EU since the scheme began in 2005. But, equally, he emphasises that the first phase "was always a 'learning by doing' process", and that it's early days for the mechanism.

What sits uncomfortably with NGOs, and what the Commission is less prepared to defend, is the massive windfall profits that certain large polluters have enjoyed. For instance, UK power generators gained around £800 million ($1.6 billion) in the first year of the EU ETS, according to Edinburgh-based IPA Consulting, by passing on the costs of carbon allowances to the consumer – even though they were allocated for free.

According to the Foundation for the Economics of Sustainability (Feasta), based in Dublin, EU officials who planned the ETS were aware of the windfall effect, but opposition from industry would have made it impossible to introduce the ETS if the permits had not been given away. "It was essentially a massive bribe," says Richard Douthwaite, the foundation's co-founder.



**Fred Smith, the Competitive Enterprise Institute: cap-and-trade schemes are "an ugly combination of … cartelisation and central planning"**

The second phase of the EU ETS, from 2008–12, will see more credits auctioned, but the vast majority will still be given away for free to polluters. And industry is lobbying to maintain that position. "Auctions and excessive reduction targets would create the wrong incentives and would encourage shifting $CO_2$-intensive production away from Europe," says a spokeswoman for German chemical giant BASF.

The windfall profits are a symptom of a malfunctioning ETS, says Douthwaite, who supports the trading concept but advocates handing emission rights to individuals, rather than big emitters.

Concerns over the issue of carbon emission rights led Fred Smith, president of US think-tank the Competitive Enterprise Institute, to label the companies that are lobbying for the introduction of a US cap-and-trade scheme – such as Cinergy, DuPont and GE – as creators of a carbon cartel.

A carbon permit, he told a recent House of Representatives subcommittee hearing, "represents the capitalised value to existing users of the benefits they get from fossil fuels and the other sources of greenhouse gases. It is already accounted for in balance sheets, investment portfolios, collateral for loans and so on. That value is now extracted from its current use and sent elsewhere instead – into the hands of the carbon cartel".

Cap-and-trade schemes such as the EU ETS, Smith says, are "an ugly combination of two of the greatest ills to affect the market economy over the past two hundred years – cartelisation and central planning".

The central planning factor comes in setting an appropriate cap, something Smith asserts that government agencies will always do at the wrong level, and which will cause unintended consequences elsewhere in the economy. He cites the example of the US rule on ethanol content of gasoline, which he claims caused a sharp rise in corn prices and hence the price of tortillas – leading to social unrest in Mexico. "Did the legislators consider this unintended negative consequence when they passed the law? I don't think so," Smith told the House subcommittee.

A carbon tax, Smith says, is the "least worst option" and other commentators agree it's a more appropriate policy tool. A tax is as much a market-based mechanism as a trading

scheme, argues Anne Smith, Washington DC-based vice-president at consultancy CRA International, as it imposes a cost on emissions and lets the market decide where and how to make reductions. A tax would be simpler, it would avoid the problems surrounding the issuance of carbon rights, and would make for more certainty in carbon pricing, she says.

Cap and trade proponents, however, argue that while a tax delivers a price of carbon, it cannot be relied upon to deliver a certain volume of reductions.

"It is simple to establish a market-based approach that will work for GHGs on a domestic basis, but such a system does not look like the 'downstream' point-of-emissions cap-and-trade approach that was appropriate for [controlling] sulphur dioxide [$SO_2$] and nitrogen oxides [NOx]. It is not simple to establish an international scheme using any of the available approaches, and that limits what individual countries dare to do domestically in terms of the aggressiveness of their emissions reduction programmes," she says.

Her views are echoed by Feasta's Douthwaite, who notes that it would be politically impossible for the ETS alone to deliver EU $CO_2$ reduction targets, since a tighter cap would send emissions costs – and hence energy prices – soaring to "unacceptable" levels (since energy demand is not greatly influenced by price, there is a strong risk that millions of people would be put into fuel poverty, he says).

Even those who are firmly in favour of cap and trade, such as Dallas Burtraw, a senior fellow at Resources for the Future, a Washington, DC-based think-tank, warn that complexity and political compromise can undo a successful market design. "We can do a lot in this country with good old prescriptive regulation. If we get to the point where a $CO_2$ cap-and-trade policy begins to resemble the Chicago phone book, it is probably better to move away from this kind of approach," he says.

Nonetheless, there is a strong movement towards cap-and-trade in the US, with numerous climate bills in Congress all proposing some kind of trading (see pages S34–S36). Kevin Smith of London-based NGO Carbon Trade Watch wonders why Congressional trading advocates are so optimistic their proposals will work.

"[Carbon trading] is an enormous, untested experiment. It leads me to believe that the system has been chosen less for its track-record in reducing emission levels and more for the fact that it presents a much less intimidating prospect for the business community in avoiding the serious economic changes that need to happen to make serious emissions reductions," he says.

**Anne Smith, CRA International: carbon tax, not carbon trade**

One other difference between the EU ETS and the successful US SO2 and NOx trading programmes is that the ETS isn't strictly a cap-and-trade scheme. Owing to the linking directive, companies can import carbon credits from Kyoto-authorised emission reduction schemes such as the CDM. The governments of other developed countries such as Japan are also hoovering up CDM credits to meet their Kyoto targets.

Larry Lohmann of UK-based NGO The Corner House, and editor of *Carbon Trading: A Critical Conversation on Climate Change*, argues that this link is a distraction from the necessary task.

"It allows Northern polluters to delay the long-term investments in restructuring that nearly all governments are now telling us must be undertaken immediately if long-term onerous costs are to be avoided. And the CDM also slows down the structural reorientation away from fossil fuels required in the South.

"The majority of CDM projects are just add-ons and supports to an overwhelmingly fossil-oriented system" (see box below).

Michael Wara, an associate based in the San Francisco office of law firm Holland & Knight, argues that some CDM projects are inefficient routes to emission reductions. Citing the example of 17 CDM projects that destroy HFC-23 gas, which will cost the developed world approximately €4.6 billion in carbon credits, he calculates that 'add-on' technology could have been installed at a cost of just €100 million. Similar technological fixes can be applied for nitrous oxide destruction, he says.

"Supporters of HFC-23 projects argue that the entire point of the CDM is to identify low-cost opportunities to reduce emissions and, once identified, they should not be skimmed off the top of the market.

"But the CDM is both a market and a subsidy from industrialised to developing countries. As a subsidy, it should be judged by how effectively it reduces emissions for each dollar expended. In these terms, the CDM is a very inefficient subsidy," he wrote in *Nature*.

On the other hand, the CDM's

## Can carbon trading break the coal habit?

Fossil fuels are the major source of GHG emissions, so a climate policy should encourage development of alternative energy sources. Can carbon trading achieve this aim?

"Emissions trading may coax a bit more out of the fossil economy, but it is not going to help the world get past it," says Larry Lohmann of UK-based NGO The Corner House.

The heritage of carbon trading can be traced back to the US, where, under a programme to tackle acid rain introduced in 1990, coal-fired power stations came under a cap-and-trade scheme for $SO_2$ emissions.

Lohmann says the $SO_2$ scheme probably was the most cost-efficient way for corporations to make a "modest" emissions cut in the short term, but notes that it merely encouraged the shrewd use of existing technology.

"There were no radical innovations addressed at, say, supplanting coal-fired capacity or reducing demand and no innovation in technologies such as wind turbines," he says.

"Nor did it help stimulate public debate about what kind of pollution control US society wanted. It redistributed pollution in a way that has led to heavy and costly litigation. It may have delayed more serious cuts," he adds.

Anne Smith, vice president at consultancy CRA International in Washington DC, agrees that cap and trade will only stimulate incremental technology innovation and deployment, and argues that such schemes must be accompanied by funding for R&D into new technologies. "Economic analysis shows that market forces produce a less than socially optimal quantity of R&D," she says.

Kevin Smith at Carbon Trade Watch, another NGO, questions if reducing fossil fuel use can ever be achieved without economic pain. "I feel that it's the elephant in the room that people just don't talk about. For over a century now, economic growth has been strongly correlated with increases in $CO_2$ emissions. The only times there have been dips in emissions have been during the times of economic recessions, like in the 1920s, and the dramatic collapse of Russia's emissions in the 1990s during its corresponding economic collapse."

## Dishing the dirt on clean development

Under the Clean Development Mechanism (CDM), close to 45 million carbon credits have been issued by mid-April – equivalent to a saving of 45 million tonnes of carbon dioxide.

According to CDM rules, these carbon offsets should also bring sustainable development benefits. But it's the host countries, rather than the CDM's Executive Board, that decides what a sustainable project is, and some interpretations of sustainability have clearly riled environmentalists.

Industries that have come in for criticism include sponge iron production in India – such as at the Shri Bajrang site pictured below. Here, around 100,000 carbon credits are generated annually for creating electricity through a waste heat recovery (WHR) system that taps the flue gases.

But while the CDM component of the Shri Bajrang works may be reducing GHG emissions, the plant itself is anything but sustainable in any strict sense of the word – and in the region where it is located, around 40 other sponge iron plants are operating, causing serious pollution.

"Pollution is having a massive detrimental effect. There's a layer of particulate debris that has caused crop yields to fall. That has a major impact on subsistence farmers," says Jutta Kill of FERN, the Forests and the EU Resource Network, a UK-based NGO. Water extraction by these plants has also hit stream flow, devastating downstream fisheries, she claims.

Kill argues that such plants should not be allowed to run CDM projects. "Verifiers will approve projects that are socially and environmentally damaging, so long as they have host country approval," she says.

Shri Bajrang itself did not reply to requests for comment by press time. However, the CDM project validator, TÜV SÜD, did respond. It said its role is to check that all environmental regulations have been complied with, and that GHG emissions had been reduced – which was the case in this project.

"We checked that the Shri Bajrang sponge iron plant and WHR plant complied with regulatory compliances – a public hearing was held before the permission to establish was received from the Chhattisgarh Environment Conservation Board. Furthermore, both air and water consents were obtained and verified by the audit team," says Ayse Frey at TÜV SÜD's carbon management service in Munich, Germany.

NGOs including WWF have attempted to address the sustainability issue by developing a voluntary 'Gold Standard' to raise the bar for sustainability and additionality criteria in CDM projects.

But, under the current UN rules, there is nothing stopping polluting industrial facilities benefiting from carbon credits – and, regardless of the climate benefits of projects such as Shri Bajrang, this will never be acceptable to environmentalists such as Kill.

supporters argue that it has generated billions of dollars of investment flows into developing countries – and has bought growing support for the international climate regime.

But Lohmann sees other fundamental flaws with the CDM – for a start, he says, the mechanism can actually increase emissions. "Remember that even in classroom theory, the net emissions effect of any CDM project is at best zero. CDM projects are designed to license or 'neutralise' emissions elsewhere. If anything at all goes wrong with the implementation of that theory, CDM projects will increase net emissions," he says.

Moreover, the calculation of emissions saved in a CDM project, via the setting of the baseline and using the concept of business-as-usual, is just a hypothesis or 'chances are' calculation, he argues. "And yet this is the basis for a multi-billion-dollar trading system," notes Jutta Kill of Forests and the European Union Resource Network (FERN), a UK-based NGO.

Lohmann says it's time to take stock of the situation before carbon trading becomes institutionally entrenched. "Roughly 10 years has already been wasted trying to work out the details of carbon trading schemes that are essentially unworkable. During that time, many institutions and careers have been built up whose future depends on trying to spin out the carbon trading project even further. That has entrenched a dangerous momentum – one that shows signs of being loftily indifferent to logic or empirical evidence," he says.

Of course, many others argue that emissions trading offers an economically efficient mechanism for identifying the lowest cost emissions reductions – and note that it enjoys broad support among industry, many environmental groups and policy-makers. But emissions trading advocates would do well to heed the critical voices – and try to ensure that the means of emissions trading do not become more important than the ends.