



Saving emissions trading from irrelevance

By Stephen Tindale

- ★ Allowances under the Emissions Trading System are trading at less than €8 per tonne of carbon dioxide. This is far too low to stimulate increased investment in energy efficiency or low carbon energy. The system must be overhauled so that it provides higher prices and greater stability.
- ★ As a first step, the cap on the volume of emissions should be lowered, to reflect the fact that the economic recession has led to lower emission levels than expected when the cap was set. A lower cap should be combined with a price floor and a price ceiling.
- ★ Without safeguards, an effective emissions trading system would lead to more manufacturing in countries with cheap energy and no carbon price. The EU should therefore introduce border tax adjustments, with revenue returned to the country of origin for spending on energy efficiency and low carbon energy.

Introduction

Absorbed in Europe's economic woes, policy-makers have been paying less attention to climate change. But climate change poses a major risk to long term economic growth. The Stern Review¹ showed that

¹ Nicholas Stern, 'Review on the economics of climate change', 2006.

the economic cost of reducing emissions would be much lower than the cost of inaction, and so having to deal with the consequences of major climate change. Greater energy efficiency would boost growth, by creating employment in improving the energy efficiency of existing buildings and reducing energy bills. An expansion of renewable energy will reduce Europe's oil and gas import costs and create many thousands of jobs in the wind, solar and marine industries. Well designed climate policies could contribute to EU economic recovery by increasing investment in energy efficiency and low-carbon energy.

The Emissions Trading System (ETS) is central to European climate policy. The ETS was established in 2005 to reduce greenhouse gas emissions by industry and to provide a price signal that would lead to increased investment in energy efficiency and low-carbon energy. A further objective is to raise revenue

for governments, once emissions allowances are auctioned off.

The ETS was the world's first international emissions trading scheme, so phase 1 (2005-07) was explicitly a learning phase. Member-states allocated too many emission allowances, and so the price of allowances fell almost to zero. The over-allocation in phase 1 led the Commission to reject many plans submitted by member-states for phase 2 (2008-12). But there was still over-allocation.² So the Commission proposed that in phase 3 (2013-20), it should set a single, Europe-wide cap on the number of allowances. This was agreed in a revised 'ETS directive' in 2009.

² Simon Tilford, 'How to make EU emissions trading a success', CER report, May 2008.

The revised directive also requires governments to auction phase 3 allowances to many sectors, including the power sector, which accounts for over half the total emissions covered by the ETS. Allowances had previously been given to companies for free rather than being auctioned.³ Member-states were permitted to auction allowances in phase 1

³ EU-12 countries (member-states which joined in 2004 or 2007) are permitted to continue giving free allowances, though the free allocations must be phased out during phase 3.

(up to 5 per cent of the total) and phase 2 (up to 10 per cent) but this approach has not been widely used. The auctioning of phase 3 allowances significantly increases the revenue-raising potential of the ETS.

So the ETS has been strengthened since its introduction. But substantial weaknesses remain. Emissions of greenhouse gases have fallen, but this has much more to do with the economic recession and the consequent reduction in industrial activity than it does with the ETS. Continuing over-allocation of allowances, combined with the economic crisis, have caused allowance prices to drop to around €8 per tonne of carbon dioxide at the time of writing. Such a low price provides no real incentive for energy efficiency or investment in low carbon technologies. A low price also significantly reduces the revenue governments will get from auctioning allowances. Further measures to strengthen the ETS are therefore required, as the Commission, most national governments, some MEPs and some major energy companies have recognised.

The Danish EU Presidency held an informal meeting of energy and climate ministers on April 19th 2012, which discussed the options for strengthening the ETS, including reducing the number of allowances and setting a price floor below which allowances would not be sold. After this meeting, Climate Action

⁴ *Climate action DG press release, 'First annual report on the EU ETS to focus on timing of auctions', April 19th 2012.*

Commissioner Connie Hedegaard announced that the Commission would publish proposals on how to strengthen the ETS before the end of 2012.⁴ Having previously spoken against any “interference”

in the carbon market, the Commission is now considering a range of interventions.

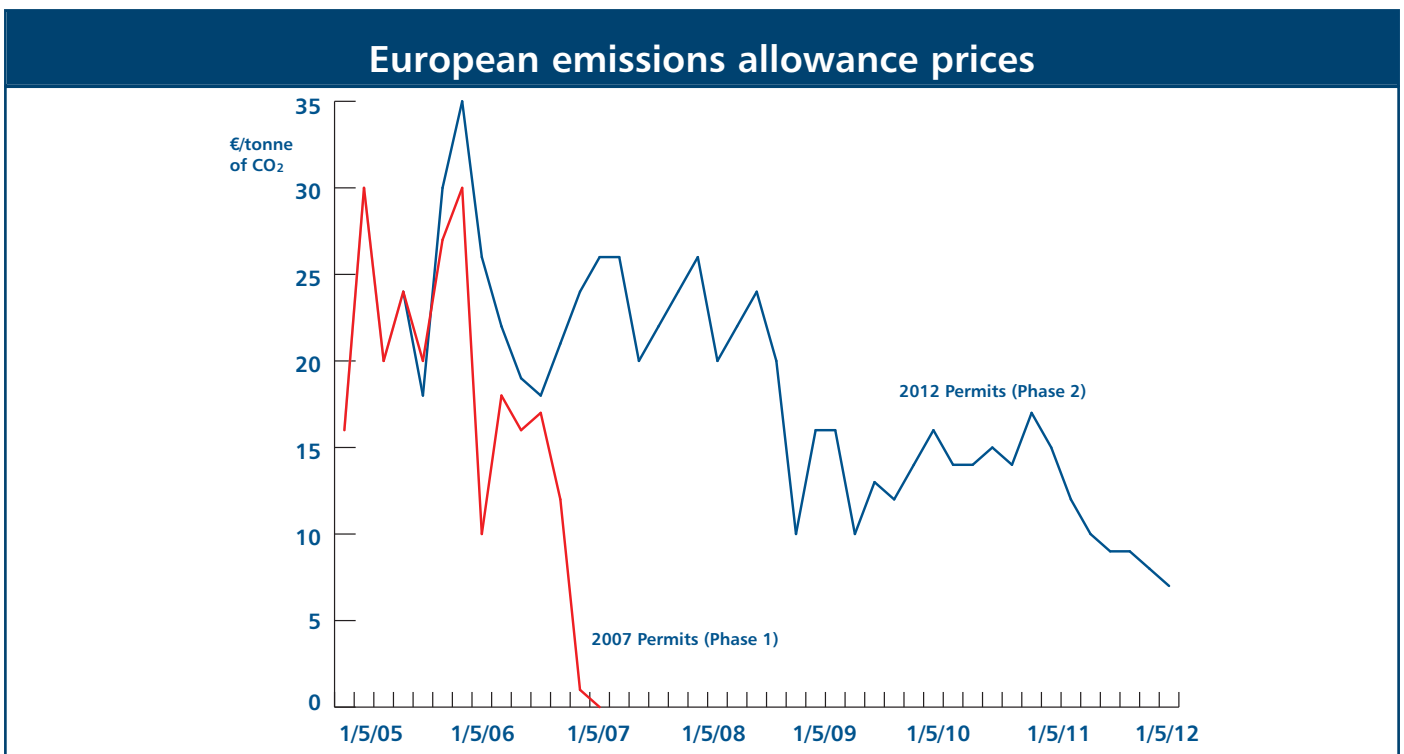
What has the ETS delivered?

To what extent has the ETS delivered its objectives? Greenhouse gas emissions have fallen: they were 5 per cent lower in 2010 than in 2008 (the start of phase 2). But the ETS has played little role in this reduction. The recession has been a major cause, and other EU policies, including the energy efficiency minimum standards for appliances in the ‘eco-design directive’, fuel efficiency targets for vehicles and the promotion of renewables, have had a greater impact on emissions than has the ETS.

The ETS has also had little impact on firms’ investment decisions. Since the ETS was launched in 2005, allowance prices have been extremely unstable.

Phase 1 emission allowances were being traded at above €15 per tonne in 2005. The price rose to €35 per tonne in mid-2006 but then collapsed as the market realised that member-states had allocated far too many allowances. Phase II allowances were being traded at above €30 per tonne in mid-2008, fell to below €10 per tonne in early-2009, then rose to around €15 per tonne in mid-2009. From mid-2011 they have again fallen – to less than €7 per tonne in May 2012. This unpredictability has increased the cost of capital for investment (a major cost for the capital-intensive energy sector) and pushed up the cost of investment in energy efficiency, in innovation, and in replacing Europe’s ageing energy infrastructure.

Even more damaging than price instability has been the low level of carbon prices. The current price is far too low to have much impact on investment decisions, given how expensive low carbon plants remain.



Source: European Carbon Exchange (now part of ICE).

Regulators set the allowances cap for the third phase (2013-20) of the ETS on the assumption of continued economic growth. The number of allowances was intended to reduce emissions from those sectors covered by the ETS to 21 per cent below 2005 levels in 2020. The Commission failed to anticipate the scale of the economic recession (as, to be fair, most others did too). This has resulted in the supply of allowances being set too high once again, and the

⁵ Deutsche Bank, 'Carbon Update: What is the value of a political option?', November 2011.

⁶ UBS, 'Carbon price to collapse, €210bn wasted', November 2011.

demand being low. Deutsche Bank predicts that allowance prices will remain below €10 per tonne through the third phase unless the ETS is strengthened.⁵ UBS has predicted an average carbon price of just €3 per tonne between 2013 and 2020.⁶

So the ETS has contributed little to climate or energy policies so far – and without intervention looks unlikely to do so in future. Nor has it raised much revenue for governments, mainly because most allowances were given out for free. But the near-collapse of the carbon price will mean that governments will get much less revenue than expected from auctioning between now and 2020. The Commission hoped auctions would raise around €200 billion, but that was on the assumption of a

⁷ Michael Grubb, 'Strengthening the EU ETS', *Climate Strategies*, March 2012.

carbon price of €25-40 per tonne. But a price of €7 per tonne would deliver well below €50 billion.⁷ This will add to many countries' fiscal problems:

EU governments will receive €150 billion less than expected. Germany – Europe's highest emitter – will sacrifice around a quarter of this amount.

This money was supposed to be recycled into investment to address climate change. Lower revenues and budget deficits threaten this investment. Member-states are supposed, under a 2009 political agreement, to spend at least half of the revenue from ETS auctioning on programmes to expand low-carbon energy sources and to deal with the unavoidable consequences of climate change, such as floods and droughts. However, the Commission has little control over how governments spend revenue – member-states are only required to provide information on what the funds are spent on, and the Commission has few tools to make them spend it on climate change. Some of the expected future revenue has been allocated to European programmes, notably the New Entrants Reserve 300 (NER 300), under which the revenue from 300 million allowances will be spent on Carbon Capture and Storage or innovative types of renewable energy. But the proportion of total ETS revenue allocated to low-carbon investment through the NER 300 scheme is small. Most of the revenue will be available to governments for other spending, paying creditors or cutting taxes.

If it is to deliver greater investment, the ETS needs a much higher carbon price in the short term and

much greater price stability and predictability over time. Greater price stability would mean that investment capital would be available at lower cost, because of reduced risk. But a low ETS price will not incentivise much investment in low carbon technologies, even if it is entirely stable and predictable. The minimum allowance price that would deliver investment in low carbon technologies is unclear, since it depends in part on the prices of the alternative, high carbon fossil fuels, which are uncertain and unstable. But the €30 per tonne price of mid-2008 was said by many companies and investors to be high enough to influence investment decisions significantly.

Options for strengthening the ETS

The options for strengthening the ETS can be divided into two categories: those which lower the quantity of allowances and therefore indirectly affect the price through supply and demand, and those which directly influence the carbon price. Quantity mechanisms might increase the carbon price – or at least prevent further decline – but would not deliver greater stability. Price mechanisms could deliver both a higher price and much greater stability.

Reducing the quantity of allowances

If the EU moved its 2020 greenhouse gas reduction target from 20 per cent to 30 per cent – as it has agreed to do if other countries adopt similar targets – the ETS cap would have to be lowered to ensure that it contributed to meeting the tougher target. The EU could also lower the allowances cap without strengthening its 2020 greenhouse gas target.

The Commission is considering a longer-term target to reduce greenhouse gas emissions by 2030. There is in fact already a 2030 ETS cap, since the cap on the volume of allowances is set from 2013 (the start of phase 3) to decline by 1.7 per cent every year, and this trajectory will continue each year after 2020, unless altered by an EU decision. But an ambitious 2030 greenhouse gas reduction target would require a faster reduction in allowances than this.

Instead of lowering the cap, the EU could withdraw (or 'set aside' as this approach is usually called in European discussions) a number of allowances from the market. This could be linked to a specific policy, to reflect the impact of that policy on the carbon market. This was discussed during the negotiations on the 'energy efficiency directive'. Greater energy efficiency will bring lower emissions, and without further reductions in allowances, there would be a further fall in the carbon price. The Commission suggested setting aside a proportion of allowances – 10 per cent of all phase 3 allowances – in its 2011 proposals for an 'energy efficiency directive'. The European Parliament supported this approach, but its amendment to the draft 'energy efficiency

directive' did not specify the number of allowances to be withdrawn. The decision taken on June 14th following negotiations between the Commission, the Council and the Parliament does not include any allowance set aside. Instead, the Commission will make fresh proposals in a forthcoming report on how to strengthen the ETS.

If sufficient allowances were set aside, the ETS cap would effectively have been lowered. This could prevent further price reductions, though that would depend on the rate at which allowances were withdrawn and on the volume of phase 2 allowances carried over into phase 3. But it would not be likely to increase prices significantly – even the 1.4 billion allowances proposed by the Commission would be unlikely to achieve this. And it would not increase the predictability and stability of the ETS. Indeed it could make the system more unstable: market participants could legitimately say that as institutions had intervened in the market once, they might well choose to do so again.

However, set aside is the approach that has the best chance of being agreed quickly. The ETS is in urgent need of support if it is to avoid irrelevance, so it is a necessary step to take. But it is far from sufficient.

Mechanisms to increase the price

European institutions could agree that no allowances would be sold at auction below a certain specified price. This Europe-wide price floor would be the best way to provide price stability in the ETS. The price floor would not be setting a fixed price for allowances, so would not turn the ETS into a tax. (A European carbon tax has much to be said for it, but runs straight into subsidiarity objections about 'European taxes', as former Commission president Jacques Delors found when he proposed one.) A price floor would simply provide a backstop to the carbon market.

European institutions could also agree a ceiling price. There is a risk that a price ceiling agreed by politicians, including those from major coal-using countries, would not be high enough to internalise all the external costs of greenhouse gas pollution. Nevertheless, a combination of a price floor and a price ceiling would be better than the existing system of great instability and extremely low prices, so should be introduced.

The United Kingdom has already introduced a price floor. This will begin at £16 (€19.3) in 2013, rising yearly in a linear fashion to reach £30 (€36.2) in 2020. The UK approach provides some price certainty for power sector investors in the UK – though not total certainty, as politicians have been known to change policies despite commitments not to. However, the UK price floor is unlikely to result in lower greenhouse gas emissions Europe-wide, as the UK is but one of the 27 member-states, plus Norway,

Iceland and Liechtenstein who use the ETS. The UK price floor will not lead to higher prices elsewhere, as the UK does not have a high enough proportion of total allowances to influence the Europe-wide price. Indeed it is more likely to lead to lower prices elsewhere: fewer allowances would be purchased in the UK, making more allowances available at auction in other countries. This scenario would leave overall emissions from ETS sectors unchanged.

A Europe-wide price floor and ceiling would create certainty for investors, deliver emissions reductions and raise considerable revenue. A price floor/ceiling, combined with set aside, would also make the system less economically damaging. In the short term, a price ceiling would stop set aside from leading to a large spike in investment costs to firms, which would be passed to consumers through higher prices. These higher prices would reduce Europe's economic potential in a period of stagnation or worse. In the long term, the price floor would make the price signal for investment in carbon reduction loud and clear, reducing Europe's carbon emissions. And if ETS can be made to work, it will be more likely to be taken up by other parts of the world – which is crucial for reducing global greenhouse gases, most of which are now emitted outside Europe.

Competitiveness

A higher carbon price would need to be accompanied by measures to safeguard industries which are energy-intensive and whose products can be easily imported to the EU. Without safeguards, a stronger ETS could lead to greater import of products like chemicals, cement and aluminium from countries with cheaper energy costs, such as China and India. Carbon-intensive industry moving elsewhere would do nothing to protect the global climate. It could actually worsen the impact of the manufacturing sector on the climate, since two-thirds of China's energy and over 40 per cent of India's comes from coal. By contrast, 17.5 per cent of the EU's energy comes from coal, and 25 per cent from gas, which is less carbon-intensive than coal.

Not much of this so-called 'carbon leakage' has occurred so far. But that is because the ETS has not yet been effective and has not delivered a high carbon price. A high European carbon price could lead to substantial carbon leakage.

In its 2008 proposals for the reform of the ETS directive, the Commission suggested two possible approaches to protect industrial sectors at risk from carbon leakage. One was to allow the free allocation of permits to such sectors to continue. And it is this option that the Commission has now effectively chosen: governments are allowed to pay up to 85 per cent of the ETS allowance costs of those of their energy-intensive companies deemed to be at risk.

This approach is preferable to the alternative: simply allowing these sectors to become uncompetitive and to move out of Europe. This is because the decision to allow national carbon-cost subsidies does not entirely remove the incentives for companies to be more energy efficient. The maximum state aid governments will be able to pay starts in 2013 at 85 per cent of these companies' carbon costs and will fall to 75 per cent by 2020. Nor will the state aid be payable at all on the extra ETS allowances required by Europe's least energy-efficient firms. But the help energy-intensive companies receive will soften the pressure to implement major decarbonisation strategies such as carbon capture and storage. And it does nothing to encourage economies such as China to develop cleaner energy sources and to reduce their emissions.

The second option the Commission considered in 2008 was so-called border tax adjustments. Importers would be required to make payments to the EU when their goods were imported into the EU, to reflect the goods' carbon content. Following negotiations with member-state governments, border tax adjustments were dropped in favour of free allocations.

Border tax adjustments clearly carry a risk of being, or at least being seen as, protectionist, and further complicate World Trade Organisation negotiations.

Since the inclusion of aviation in the ETS in January this year, all airlines using European airports are required to hold ETS allowances to cover all emissions from all flights which use a European airport, including the portion of that flight that is not in European airspace. Fifteen per cent of allowances for airlines must be auctioned. Commission officials have said on many public platforms that this is a de facto border tax adjustment. Non-EU governments have threatened to take the EU to the World Trade Organisation (WTO) over this issue. The Airline Transport Association of America and three of its member airlines took a case to the High Court in London, arguing that the inclusion of aviation in the ETS was breaking international law by including the portion of the flight outside European air space, and also contravened the EU-US Open Skies agreement. The UK court referred the case to the European Court of Justice. On December 21st 2011 the Court of Justice issued its decision, finding that the inclusion of

aviation in the ETS "infringes neither the principles of international law at issue nor the Open Skies agreement".⁸

⁸ *Court of Justice of the European Union, press release 139/11, December 21st 2011.*

Further challenges are likely, including at the WTO. The Commission's legal advice is that the inclusion of aviation in the ETS is not discriminatory, so is WTO-compliant. The EU should stand firm and continue to include aviation in the ETS.

The best way to avoid border tax adjustments damaging global trade negotiations would be to

combine the introduction of border tax adjustments with mechanisms to return the revenue to the country of origin. Calculating the emissions from aviation is, however, much simpler than calculating carbon emissions embodied in a manufactured product. However, calculating embodied emissions is not impossible. A tonne of cement manufactured in, for example, China could be charged for the amount of emissions that result from the average use of energy used to make a tonne of cement in China, based on the current Chinese fuel mix. The International Standards Organisation already has an agreed standard to calculate the carbon embodied in manufactured goods. This approach would inevitably lead to disagreement about fairness and accuracy of calculation. But it is a necessary part of any border tax adjustments.

Border tax adjustments would have to apply to imports from all non-EU countries, including the US. This would be necessary for reasons of fairness, but also to ensure that they do not infringe World Trade Organisation rules.⁹ It is also necessary for climate reasons. The US has the world's largest coal reserves, and gets around half of its electricity from the burning of coal. The Obama administration has tried to introduce a federal emissions trading system, but has not succeeded in getting this through Congress.

⁹ *Daniel Gros et al, 'Climate change and trade: Taxing carbon at the border?', Centre for European Policy Studies, 2010.*

The revenue from border tax adjustments should be returned to the country of the product's origin, and ideally spent on energy efficiency programmes or investment in low-carbon energy.

Prospects for strengthening the ETS

The Polish government remains opposed to the set aside approach, and to all options to raise the ETS allowance price. Warsaw appears isolated on this issue. No other government has spoken publicly against any intervention in the ETS. As the ETS is decided by qualified majority voting, Poland could not by itself prevent changes to strengthen the ETS. But it is possible that other member-states are simply keeping quiet because they know that the Polish government will speak out, and that in a vote they would side with the Poles.

There are some industrial voices calling for a stronger ETS. A group of companies which back a tighter ETS cap, including Alstom, Shell, Dong, SSE and Vestas, published a joint letter with environmental NGOs E3G and Bellona Europe on December 19th 2011, calling for the setting aside of allowances in phase 3 and a price floor in post-2020 phase 4.¹⁰

¹⁰ *The full list of signatories to this letter was: Alstom, Dong Energy, Bellona Europe, Climate Markets and Investment Association, Shell, SSE, Doosan Power Systems, E3G, Eneco, EWEA, Tyco, Germanwatch, Danish Energy Association, Eurec Agency.*

The British government, having introduced a UK floor price, might be expected to support a European price floor. But the Conservative party is a vociferous opponent of ‘European taxes’, so the UK may oppose an EU floor price.

The French government supports a price floor for carbon, which is unsurprising given its reliance on low-carbon nuclear energy. The French government also supports border tax adjustments. The new minister for industrial revival, Arnaud Montebourg, suggested in May 2012 a series of partnerships with industrial sectors such as steel, aluminium and cement. Companies signing up to such partnerships would be exempted from the ETS, but all others would have to pay for sufficient ETS allowances. He also said that the revenue could be returned to developing countries to fund low carbon technologies. (There is cross-party agreement on this in France. Former president Nicholas Sarkozy suggested a similar approach in 2009.)

Spain might also support the setting of a price floor: the new centre-right government is less close to the coal industry than its Socialist predecessor was, and is badly in need of revenue.

Would the German government support a price floor? Germany has a national target to reduce emissions of greenhouse gases by 40 per cent by 2020, so in principle should be in favour of an effective ETS. But the major German power companies are against. However, Germany has a general election in 2013 and Chancellor Merkel is looking for ways to win back green-minded voters (who, in Germany, are strongly anti-nuclear and were angered by Merkel’s pre-Fukushima policy to keep nuclear power stations open after 2022). Her government has set out an ambitious ‘energy concept’ which will be expensive to implement. More revenue from allowances auctions would therefore be welcome. Germany has said that more than 90 per cent of ETS auctioning revenues will be used for climate measures, including its plan to transform its energy system by investing more in

energy efficiency and renewable energy sources. A higher ETS price would also make renewable energy more cost-competitive. So Germany could cut the subsidies given to renewable technologies, whose popularity is, anyway, waning. Merkel’s government therefore has a clear interest in increasing ETS auction revenue through a higher carbon price, and might be willing to support a price floor, despite opposition from Germany’s coal industry.

Conclusion

There is no single measure which could be implemented quickly enough to strengthen the ETS. A combination of measures is needed. A substantial set aside of allowances would prevent the price from collapsing further. A Europe-wide price floor for carbon would provide the long term market certainty needed to attract investment. A sensible way forward would therefore be for substantial allowances to be set aside as soon as possible, and for the Commission to propose a price floor, price ceiling and border tax adjustments.

A price floor would not turn the ETS into a tax. It would set a reserve price, below which allowances would not be sold at auction. So it would provide a backstop, not set a fixed price. A price floor of €30 per tonne would provide an effective signal to investors to put money into energy efficiency and low-carbon energy supply. A €30 carbon price, rather than the current €8, would also quadruple the amount of revenue that governments receive from the auctioning of emissions permits.

If the ETS is to become a credible mechanism for meeting the EU’s climate policy objectives, the Commission needs to make these proposals as soon as possible.

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