

## Oxford Energy Comment

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## Europe, Emissions and Echternach – assessing Brussels’ January 2008 package.

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The European Union’s rate of progress has often been likened to the traditional dance of Echternach, a way of proceeding around this Luxembourg village that involves two steps forward and one back. So it is with the European Commission’s mega-package of climate change and energy proposals of January 23.

For the plans to extend in time and expand in scope the emissions trading scheme (ETS) constitute a definite advance in the scheme’s design. But the new target for a 20% renewable share in Europe’s energy mix will involve costs that go beyond what is strictly necessary to achieve the over-arching goal by 2020 of a 20% cut in greenhouse gases on 1990 levels (or 14% from 2005, which is really the new base year for the Commission plans). It may therefore be, at best, a side-step.

**Good riddance to Naps.** Brussels plans for the third phase (2013-2020) of the ETS to correct two major flaws in earlier phases. The first is to introduce a EU-wide cap on ETS emissions to replace the national allocation plans (Naps) that governments have used to “game the system” to their advantage. Now, after 2012, there would be just one EU-wide cap amounting to a 21% reduction in allowances over the 2005-2020 period. This will cover all big industrial facilities coming under the ETS, to which will be added a few extra sectors such as aluminium and the gases of nitrous oxide and perfluorocarbons. In all sectors outside the ETS, such as services, transport, building and agriculture, there will still be national emission ceilings where the Commission proposes differentiation according to the 27 EU states’ relative wealth and development (a feature of the package elsewhere) The cap for these non-ETS sectors is to be a 10% reduction. Thus the overall formula will be: minus 21% in ETS + minus 10% in non-ETS = minus 14% for the whole EU economy.

**Welcome to auctioning.** The second correction would provide for much greater auctioning of allowances – fully from 2013 for the power sector, progressively for other sectors – and much less granting allowances for free. This should put an end to windfall profits for companies for passing on to customers the cost of something that they, the companies, never paid for in the first place.

It has, of course, been entirely logical for energy companies to charge customers where they can the price that given-away allowances fetch in the ETS; not to do so would incur an opportunity cost. But such windfall profits are not only politically unpopular at a time of rising bills for energy users. They can be environmentally counter-productive. They do not change companies' behaviour. In fact, such gains insulate managers from the financial pressure of the ETS to move to low-carbon generation or industrial processes. Regular auctioning would help to ensure that companies account for carbon costs as genuine (therefore inescapable) production costs, not just presenting an opportunity that only a financial fool would forego.

Another advantage of auctioning is that, in sectors to which it fully applies, bureaucrats do not have to decide precisely which emissions cuts to apply to such and such a company. This flexibility has benefits for companies too. If, for instance, a certain electricity generator did not want to reduce its emissions over 2005-2020 in line with the EU ETS cap of a 21% cut, it could, if it had the money, buy more permits at auction. Free ETS allowances are different. Their allocation will still be determined by bureaucrats, who may well use them to give financial help to energy-intensive industries faced with foreign rivals unburdened by ETS-like carbon constraints (see carbon leakage).

The rate of auctioning will build up over time, as will the revenues. If all sectors in the ETS had to pay for all of their allowances, at a rate of Euros 40 per allowance, auction revenue would rise by 2020 to Euros 75bn a year, or 0.5 % of gdp, the Commission estimates in its impact assessment [1]. Partial auctioning, with full payment demanded only in the power sector, would produce around half this revenue. Speaking at a press conference, environment commissioner Stavros Dimas put auction revenue at Euros 30-50bn a year.

If the auction proceeds are fully recycled back into the economy, they may constitute no greater drag on the economy than free allocation of allowances. It all depends, as the Commission points out, how they are recycled. The EU executive is suggesting that governments should recycle at least 20% of the money into climate change control programmes. This is a sensitive political matter in which many national politicians will bridle at too much direction from Brussels. Member states will obviously vary in their spending preferences, and in this context it should be noted poorer states will be given relatively more to spend (see burden-sharing section). Some states may want to help poorer householders to meet higher energy bills, while others might want to boost employment and their economies by cutting payroll and corporate taxes.

**Renewables - a target too many?** There are some benefits to the 20% renewable target. One is extra security from using home-grown bio-fuels or home-blown wind power, and from the displacement of a certain amount of imported oil and gas. Another is the general growth of the renewable energy industry in Europe, which already has an annual turnover of Euros 30bn and employs 350,000 people. A third spin-off from an arbitrarily high renewable target might be speedier development of certain higher cost technologies such as solar PV or wave and tidal power, which might be needed sooner than expected, if climate change proves unexpectedly rapid.

Nonetheless, meeting the renewable target could, at the margin, hamper progress towards the greenhouse gas reduction goal. This is because of its effect on ETS carbon price, which is, or should be, the driver for all low-carbon technology, such as nuclear and carbon capture and storage, as well as renewables. For the paradox is that if any of these low-carbon technologies is pushed artificially hard – through non-market mechanisms, such as targets, rules or government fiat – the effect will be to depress the carbon price simply by pushing demand for carbon allowances on the ETS artificially low.

So Commission officials privately admit their projections show that, everything else being equal, meeting the twin 20% emission and renewables goals simultaneously would produce a carbon price of Euros 39 a tonne of CO<sub>2</sub> by 2020, compared to Euros 49 a tonne if the greenhouse gas target alone were allowed to drive renewables. Thus, it is possible that the emissions target might be undermined if the incentives to develop nuclear and/or CCS were sufficiently undermined by a weaker carbon price.

Of course, it is true that the EU carbon market could have been bent more out of shape if EU leaders had followed the European Parliament, which wanted a renewables target of 25% of final energy demand. It is also the case that aiming now at a 20% renewable target might prove a useful building block if the EU subsequently went for a higher emission cut. For the EU has clearly said that while its 20% emission cut (on 1990 levels) is unconditional, irrespective of what the rest of the world does, it would move to a 30% cut if this were matched internationally.

**The burden of burden-sharing.** Brussels initially modelled the “least cost” way of meeting the twin 20% goals. This approach would put a much heavier burden on poorer member states. In the case, for instance, of Bulgaria, this would be as high as 2.16% of gdp, because it would be expected to exploit a relatively large potential for emission reduction and for green energy with relatively small financial means at its disposal. The reverse would be true of, say, the UK, with the cost on it amounting to only 0.49% of gdp [2].

So, knowing last year’s EU summit had called for fairness, and also wanting to show the EU to the world as a model of cooperative effort, the Commission decided to modify its whole approach in favour of poorer countries in three ways:

- In emissions from non-ETS sectors, poorer states will be permitted to expand their emissions by up to 20% (by 20% for Bulgaria, 19% for Romania etc), while richer countries would have to cut their non-ETS emissions by up to 20% (20% for Denmark and Ireland). This will produce a small increased cost for the Union as a whole – from 0.58% of gdp (on the least cost scenario) to 0.61% of gdp.
- A slight redistribution of the right to auction ETS allowances – amounting to 10% of the total – from richer to poorer states. Member state governments will hold, and have the right to the revenue from, these auctions which will be open to bidders from anywhere across the EU. So, for example, Latvia will be able to auction off, and keep the money from, slightly more allowances than companies in Latvia would normally use, while Germany would have slightly fewer allowances than companies in Germany would normally use. Such a

shift would have no impact on overall cost to the Union, just on income distribution within it.

- National renewable targets have been similarly differentiated. The overall goal is to raise renewables' share in final energy demand from 8.5% in 2005 to 20% by 2020. Half this 11.5 percentage point gap was closed by an equal increase to every state's renewable target share, and the other half with increases varied to take account of relative gdp, and to a small extent states' green energy starting point and potential. At the two extremes, this gives Romania only a 6.2 percentage point renewable increase in its energy mix, but the UK a 13.7 percentage point increase.

**Trading fears.** This last differentiation almost certainly raises the overall cost of the Union's renewable effort, but the Commission does not seem to have calculated a figure. However, it has another, more awkward consequence. By giving some states targets higher – and other states targets lower – than their domestic potential, it creates a desire to even this out through trading so-called “guarantees of origin”, which give legal proof of the green nature of the electricity in question.

Satisfying this desire makes economic sense. One study shows a reduction of Euros 8bn in costs by 2020 flowing from trade in these guarantees, compared to a situation in which each country has to meet its target with domestic resources alone. [3]

The Commission had originally hoped to create as wide and liquid a market in these green certificates as now exists in emission allowances. Though some guarantees are traded across EU borders at present, they are usually linked to physical delivery of the green electricity. In other words, if a guarantee is to get the benefit of a German feed-in tariff, the electricity it represents has to be fed into the German grid. What Brussels is now proposing is to unhook these guarantees from physical delivery of the green power in question, creating a virtual market in green certificates.

However, this raised fears from the renewables industry and especially from Berlin and Madrid that unrestrained trade would do serious damage to Europe's most successful feed-in tariffs in Germany and Spain. The Commission has acceded to their fears and introduced a series of restrictions. Only those states on track to meet their renewable targets can sell guarantees abroad, and states can require “prior authorisation” schemes to vet the outflow of guarantees from their territory. Another so-called “lock-in” restriction would lock in a renewable energy operator to staying with the first counterparty that its first guarantee or subsidy deal with was made with.

The upshot will be a failure to use trade to overcome the rigidities of the national targets, and so to get renewable investment into the right places across Europe.

**Will there be an international agreement to match?** This imponderable has forced the Commission to leave several aspects of its package hanging in Brussels in the air. One of these is the fate of credits earned outside the EU under the Clean Development Mechanism. For the time being, the Commission proposes to keep the current limits on their use in the EU. Its fear is that, if there were no successor regime to Kyoto, the EU might find itself the only home for these credits, which could come crashing in on the ETS and reduce the carbon price to as low as Euros 4 a tonne of CO<sub>2</sub> [4].

The broader concern about the lack of a post-Kyoto agreement relates to the prospects for energy-intensive EU industries competing with foreign rivals without any comparable carbon constraint, and the possibility of companies leaving the EU to avoid carbon controls, so-called carbon leakage. The Commission has taken no firm position, but said it takes these problems seriously and would review the situation in 2010-11 with an eye on three options:

- Negotiating international sectoral agreements that would place non-EU companies under the controls as EU firms in the same sector. This might be feasible in sectors with relatively homogenous products like steel and cement; it would be far harder in more complex industries like chemicals.
- Helping EU companies faced with carbon-unconstrained competitors by giving them more free emission allowances. The Commission insists this would not let them escape emission cuts, but would recognise these EU companies are less able to pass on the cost of emission allowances without losing market share to foreign rivals.
- Imposing on the makers of imports into the EU the same requirement to buy emissions allowances as exists for their EU counterparts. This will stir controversy inside the EU and even more outside, and will have to conform to World Trade Organisation rules. But challenges might be difficult to mount from the US, where there are Congressional plans for similar trade protection accompanying any US emissions control programme.

**Role model for the world?** The most striking feature of the Commission's new climate change package is the differentiation of effort being asked of the various 27 EU members. This tends to raise economic costs to the Union, but is probably good internal politics. Not many EU governments will be able to complain of a mismatch between means and targets. Can this be an example to the rest of the world, with wealthier states displaying a spirit of *richesse oblige* that paves the way to a cooperative agreement? EU energy commissioner Andris Piebalgs believes so. He points out that the 27 EU states have a wider gdp per capita gap between them than exist between the US and China. Therefore if they can come to a package deal, so can Washington and Beijing.

The trouble with this nice thought is that the EU is not a microcosm of the world, but a collection of neighbouring states committed to solidarity and common values in a way that other states in the international constellation are not.

1. Commission Impact Assessment, SEC (2008) 85/3, pages 10-11 on auctioning.
2. Ibid, pp22-23.
3. Ibid page 12.
4. Ibid page 14.