SENATE FINANCE COMMITTEE - HEARING THURSDAY 24 APRIL 2008

CARBON TAXES AND REVENUE RECYCLING

TESTIMONY OF HENRY DERWENT

Background of the Witness

My name is Henry Derwent. Until 15 January this year (2008) I was Director, International Climate Change at the United Kingdom's Department for Environment, Food and Rural Affairs (Defra), which is the lead UK Department on climate policy and sustainable energy, including energy efficiency. During most of the 10 Years that I held Director-level posts, variously named, dealing with climate change and energy I had responsibility for domestic and European climate change policies including economic instruments.

Other UK Departments of State have other relevant roles relating to climate policies, including the Department of Trade and Industry (now known as the Department of Business, Enterprise and Regulatory Reform) and the Treasury, which has lead responsibility for all taxation matters. The Treasury leads on the Climate Change Levy (CCL), the UK's primary energy tax, introduced just before I took up the above responsibilities in Defra; but my part of Defra leads on the Climate Change Agreements (CCAs) which allow energy intensive industries a substantial discount on this tax, on the energy efficiency programmes which are one of the applications of the CCL revenue, and on the UK and EU Emissions Trading Schemes which were introduced alongside energy taxation in the UK.

Current responsibilities of the witness

On 18 February this year I took up the post of President and Chief Executive of the International Emissions Trading Association, a not-for-profit trade association dedicated to the achievement of climate and environmental policy objectives with minimum cost and maximum efficiency through the establishment of market-based greenhouse gas trading systems across the world. IETA has a membership of nearly 180 companies spanning the whole value chain of emissions trading, from major industrial and power sector emitters of greenhouse gases through companies specialising in the measurement and verification of emissions, to the providers of emissions reductions from offset

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projects, to the providers of the financial services used by companies to reduce their risk and comply cost-effectively with their compliance obligations. The largest tranches of member companies are in Europe and North America, but there are companies from across the rest of the world as well. A copy of IETA's current membership list is annexed to this testimony statement.

I therefore do not testify on behalf of the UK Government, but from my experience gained while working in that role and from the perspective of my current role.

Energy taxation in the UK – the Climate Change Levy

In March 1998 the UK Government appointed Lord Marshall, then President of the Confederation of British Industry, to report on the role of economic instruments in reducing greenhouse gas emissions while safeguarding the UK's competitiveness. His report, in November 1998, provided the basis for the Climate Change Levy package (which included negotiated climate change agreements and a capital allowances regime) and the UK Emissions Trading Scheme. The levy is a tax on business use of energy, charged via fuel and electricity bills. The suppliers of those commodities collect the tax along with their sales. The levy formed part of the 1999 Budget proposals, and came into effect in 2001.

The levy is payable by business consumers – so not by the power sector or by domestic consumers. The levy is charged at standard rates per kilowatt-hour of kilogramme for different fuels (including electricity), designed to minimise fuel-switching. As a result the carbon price equivalent differs significantly between the levy rates on different fuels. The rates were frozen for some years, but have recently been allowed to rise with inflation. The levy is paid by all but the smallest businesses. There are certain exemptions for energy produced from most renewable sources, coal mine methane and combined heat and power (cogeneration).

The proceeds of the levy are, unusually for UK taxation practice and in response to concern about competitiveness impacts of the new tax, recycled back to business by means of a rebate in the employers' contribution to National Insurance. The objective was to make the tax revenue-neutral to the Government; however the rebate rate chosen has turned out to be more generous than intended so the whole system has so far actually cost the Government money. And the benefit of the rebate is not equally felt by companies: those with larger workforces gain more.

A proportion of the levy proceeds (14% in 2006-07) is, however, not recycled in this way but is used to finance Government energy efficiency programmes for business, managed by the Carbon Trust, a private sector not-for-profit company set up by Government which has added to its original energy efficiency business roles including venture capital investment in early-stage developments of low-carbon technology, loans for smaller

businesses, promotion and publicity for carbon reduction by business, and policy support and commentary.

Climate Change Agreements

In recognition of the cost impact on energy-intensive industries, such industries are offered the facility of negotiating agreements with Government to reduce their energy consumption to appropriately challenging levels, the achievement of which trigger an 80% reduction in the CCL tax bill. The reductions have to be achieved by 2010, with 2-year interim targets, and two trigger points at which the Government has the right to renegotiate the targets. The definition of "energy-intensive" has been changed, and now starts with a process-based definition taken from pollution control regulation, to which are added a general criterion of energy costs as a proportion of production costs, with a lower level if the product concerned has a 50% import penetration ratio.

There are 51 business sectors covered by the agreements, covering 10,000 facilities (processes or sites). The Government has struck agreements in some cases with sectors, in some cases with individual businesses, and in some cases with both. Negotiating the agreements required considerable help from consultants and proved extremely time-consuming. The agreements require businesses to reduce their energy consumption either in absolute terms or relative to units of production: few companies or sectors chose the absolute alternative. Various tolerances and allowances for changes in external circumstances (including shifts in the average energy intensity of a product mix) were also added into the equation; and companies were also given the facility of trading their obligations between each other, linked for a period to the UK's emissions trading scheme, though few CCA companies did so.

How successful have these policies been?

There a great many uncertainties to be negotiated in answering this question, stemming mainly from uncertainty about the counter-factual (particularly difficult for energy efficiency improvements where economic rationality suggests improvements should be made, but unidentified transaction costs get in the way) and the role that survey data or collections of anecdotes should have in the analysis. The levy is estimated to save some 3.5MtC by 2010, making it one of the more significant components of the UK's greenhouse gas emissions reduction, and the Government has said that there has been a £100 benefit to the UK economy from every tonne saved.

Some analysis has suggested the main impact comes from the "announcement effect" rather than the price effect, but that the savings achieved by the announcement effect are permanent (unless cost consequences are relaxed). There is however a significant body

of anecdotal evidence to suggest that the levy on its own has had little effect on investment decisions and behaviour among less energy-intensive companies, despite the fact that energy prices increased by around 15% - fluctuations in the underlying gas and electricity prices and changes due to new market regulation have tended to disguise the levy's impact. A number of companies have commented that the levy is a "blanket tax" which cannot be reduced by the company's own actions. Despite the permanence of original energy efficiency improvements, few companies regard the levy as a continuing stimulus to energy or carbon reduction.

Anecdotal evidence also suggests that the impact of the agreements has been significantly greater than that of the levy itself: the prospect, for energy intensive companies for whom the add-on of energy taxation is a significant proportion of costs, of avoiding 80% of the tax by concentrating on beating a negotiated target appears to have caught more of management's attention and to have led to more strategic planning than the gradual impact of the tax itself. Because of the continued "carrot" of the tax discount and the repeated milestone comparisons and negotiations over time, this effect is likely to be more persistent than the rather similar "announcement effect" identified for the levy. Those organisations such as the Carbon Trust who work closely with businesses on carbon reduction and energy efficiency find the prospect of clear and repeated opportunities for saving money very helpful in keeping managerial focus.

The Government's estimates have been that the agreements will have achieved another 1.9MtC by 2010 (though this is less than half of the savings reported under the agreements, much of which is attributable to other factors), with a net economic benefit of £90 per tonne. It follows that many of the energy reduction targets in the agreements, however fiercely negotiated, turned out to be comparatively easy to achieve, through some combination of negotiation asymmetries of information, genuinely wider availability of efficiencies than companies thought, and unrelated external economic and other circumstances. The first review of targets attempted to apply a more standardised reduction in energy use, but still encountered difficulties.

As for the impact on competitiveness, a recent full assessment of the evidence and arguments by the House of Commons Environmental Audit Committee concluded:

> Given the relatively limited price impact of the Levy, and the cost-savings that should accompany meeting Agreement targets, we believe that the CCL package has not been a damaging burden for UK business overall. In many cases it may have been good for the economy, given the savings in energy costs available for investment elsewhere, and the stimulus given to providers of energy efficiency products and services.

<u>How does this relate to emissions trading?</u>

It is not the purpose of this testimony to explain the development of greenhouse gas emissions trading in the UK and then in the EU, on which the Committee is probably

already well-informed. It should be noted, however, that in the UK (as in a number of other jurisdictions), energy taxation and a cap and trade system have existed side by side relatively harmoniously. Indeed limited fungibility between the tax-discounting climate change agreements and the UK's original non-mandatory cap and trade regime provided a rare example of the two approaches acting in a linked fashion. Business has complained repeatedly that there is (here and elsewhere in the UK system) an inefficient overlap of instruments – for some companies there are a number of different regimes that bear down on their energy and carbon consumption. This criticism has a common-sense force, added to by the fact that the dominance of carbon as opposed to energy as the key metric arose after the climate change levy scheme was designed, and moving the tax system towards carbon has taken a long time. However these schemes often impact in different ways and on different actors in a supply chain – the power sector, in particular, being a key target of the EU-ETS but not directly impacted by the climate change levy; and the unavoidable nature of at least some of the tax contrasts with the flexibility offered by trading, particularly when enhanced by lower-cost offsets. Plus, the cumulative effect may be a way of getting to the level of impact that local or national policy desires. In general the reasons why energy efficiency opportunities are not picked up are disparate and complex, and a mix of different instruments is likely to be necessary to combat them.

On the other hand some of the technical fixes in the UK are very complex: double counting of benefits and penalties under the EU-ETS and climate change agreements can occur, and is quite difficult to deal with equitably when the two schemes have different reconciliation timetables, different metrics, or different site or facility boundaries. While the worst of these problems are largely historical, as a result of the different parentage of the schemes, any approach that taxes consumption progressively but also caps consumption is going to entail some awkwardness. The UK Government has just finished consulting on a Climate Change Simplification Project aimed at going through these arguments.

One important verdict on the consistency and desirability of tax and trading together has been delivered by the UK in the form of that country's commitment, made in last year's Energy White Paper, to pursue a new UK domestic cap and trade scheme known as the Carbon Reduction Commitment, aimed at the tranche of emissions-producing businesses below the energy-intensive industries, including the service sector and large commercial operations such as the big supermarkets, who pay the climate change levy but are not incentivised by climate change agreements. Encouraged by the enthusiasm of many of the companies in this sector, the Government is pursuing the CRC scheme as a potentially significant producer of incremental emissions reductions

<u>Which is to be preferred – tax or trading?</u>

Assuming that a choice has to be made, what does the UK experience say about the criteria for that choice? IETA, unsurprisingly, has in general a strong preference for trading. The two strongest arguments in favour of tax are usually taken to be that tax is

predictable from the perspective of the taxed entity, and that the incremental transaction costs are low. The UK's alteration of real tax rates, the changes in the definition of energy intensive industries and the many tricky and negotiable criteria for exemptions or derogations from the basic tax calculation for energy-intensives, mostly offered in response to strong lobbying, suggest that predictability and low transaction costs do not necessarily follow. The total constraint on cost to industry is however stronger under tax than under trading, though the availability of lower cost offsets is one well-known way in which a cap and trade approach can have its potential costs mitigated.

The standard arguments against taxation in comparison to cap and trade do appear to be borne out by aspects of the UK experience. There is clearly no certainty of outcome in terms of carbon reduction. While estimates of what the tax instruments in the UK has produced in terms of the primary output of a climate policy – a contribution towards greenhouse gas stabilisation – are substantial, there is massive uncertainty about the error factor or double-counting around those numbers. There is also not much evidence of sustained behavioural change from tax on its own: the artificial "cliff-edges" of the climate change agreements seem to be necessary to make a real difference, and caps can at least equally well provide those edges. There are fewer positive incentives under taxation: while the agreements can provide them based on parameters that public servants have been able to negotiate, at the expense of total revenue, trading offers the possibility of motivating other companies to do more cheaply what some of their peers are struggling to manage.

The UK does provide a good example, however, of the possibility of dedicating revenue to specific purposes that reduce the net economic cost of the tax – the UK chose reduced employment taxation and energy efficiency programmes, but other desirable choices could be made. There is a comparable approach, however, under trading where the conditions that justify widespread auctioning (most importantly, the availability of cost pass-through) are satisfied and the proceeds of auctioning are also available for distribution. These are arguably less obviously a tax, though public sector accountants in some jurisdictions consider the differences technically insignificant, and perhaps easier to hypothecate to desirable purposes, even though the UK has managed this under a tax. Finally trading in emissions has developed the concept of project-based offsets, which can incentivise cases where the more generalised approach of taxation cannot reach. Potential offsets in the non-traded part of the UK economy are certainly not being identified through taxation.

UK business has for a long time supported the importance of a carbon price, while having significant doubts about the Climate Change Levy and its application. In its November 2007 report Climate Change – Everybody's Business", the CBI concludes:

> We believe that cap-and-trade schemes, such as the EU ETS, have several distinct advantages over taxation as a measure focused on large emitters in the power and industrial sectors. By setting a cap on emissions for those sectors within the scheme, they offer certainty about the level of reduction which will be

achieved. And despite calls for a global carbon tax, international agreement for a global cap-and-trade system currently looks very much more likely.

Conclusions

The UK provides valuable evidence of ways in which a tax approach to climate change can work out, including the significant complexity that can be created out of some apparently simple principles. It shows that a tax regime and a cap and trade regime can exist side by side, though preferably when some of those complexities have been reduced or avoided. The evidence for the benefits of recycling of revenue is to some degree hidden: it was a principle adopted at the start and strongly supported by business that recycling was a necessity, and this led a jurisdiction usually opposed to hypothecation to alter its principles somewhat, and not look back. The UK also arguably provides evidence of the comparative attractions of a cap and trade system, to which the Government and the great majority of UK industry remains solidly committed.