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The high price of hot air:

Why the EU Emissions Trading Scheme is an environmental and economic failure

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Executive Summary

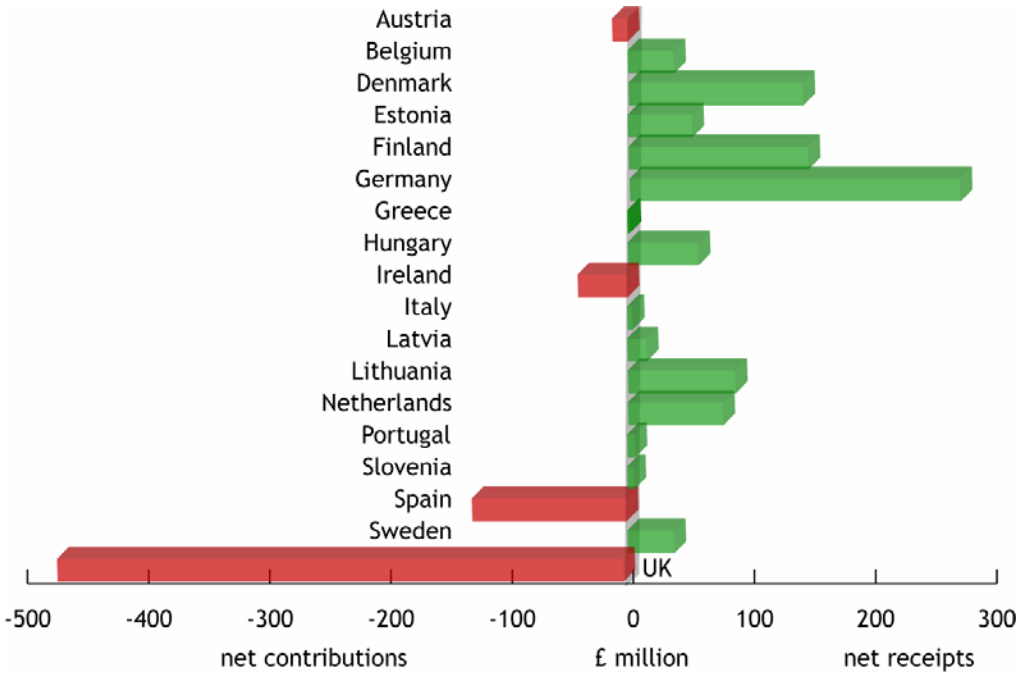
In 2005 the EU created an ambitious EU-wide Emissions Trading Scheme (ETS) to tackle the growing threat from global warming. The idea of a market-based solution to pollution control is appealing. In theory, allowing companies to trade "permits" to pollute should be a way of reducing pollution at the lowest cost.

Permit-trading schemes have worked successfully in the past: for example the US has been using a sulphur trading system since 1990, and the UK ran its own intra-UK carbon emissions trading scheme from 2002. However, in its first year of operation, the EU's ETS has raised serious questions about its organisation and effectiveness. The system has a number of serious problems.

- **Member states are not making equal sacrifices.** The UK has chosen very tough targets which use past emissions as a baseline, while other member states, (including some of the richest members) have given firms far more generous allowances based on future expectations. This means that UK firms have to buy permits from rival firms in other member states (costing the affected UK firms £470,000,000 in total in 2005). This transfer cost has more outweighed the theoretical advantages of replacing the EU's existing trading scheme with a pan-EU scheme.

- These costs will not change over 2006 or 2007 because the current allocations are locked in until 2008. *So in the first three years of the ETS, UK firms will transfer nearly one and a half billion pounds to competitors elsewhere in the EU, where controls are weaker.*

Estimated net contributions and receipts from the EU ETS in 2005



- For the UK, moving from a national system to the dysfunctional EU ETS has been a mistake in both economic and environmental terms. If the UK sets itself an ambitious target, and has an internal market to trade permits, the price of carbon rises, giving companies an incentive to invest in low carbon technologies. However, if the UK sets itself an ambitious target in a common system, when other member states have printed a glut of permits, all that happens is that UK firms buy from companies in other member states which can then make windfall profits while increasing their emissions.

- Climate Change Minister Ian Pearson has admitted that there are problems with the ETS targets of the other member states: "While the system appears to be functioning effectively, the results across the EU do raise questions about the stringency of the caps in some member states." (Telegraph 16 May 2006).

- **The loose targets set by other member states have allowed overall emissions to rise.** According to figures released in June 2006, member states handed out permits for 1,829 million tonnes of CO2 in 2005, while emissions were only 1,785 million tonnes. Emissions would have to be 44 million tonnes higher for the system to actually "bite" – *in other words, at present the system is simply not limiting emissions.* Only four out of the twenty five member states had targets which were lower than their actual emissions.

- **Botched central planning, rather than a real market.** Instead of auctioning off permits and allowing the market to operate, member states have handed permits out to firms according to 1960s-style National Allocation Plans (NAPs). This means handing permits free to individual firms on a variety of rather sketchy criteria. This attempt at central planning has had all kinds of perverse results. For example NHS hospitals have been forced to spend a total of £1,300,000 buying up permits, and 18 UK universities are also net contributors. Ironically, Large oil companies have made substantial profits from the scheme.

Some examples of costs for individual organisations

Organisation	**Deficit (or surplus) CO2 allocation in tonnes**	**Estimated value (at 2005 average cost of €18.2/t)**
Queen Elizabeth Medical Centre, Birmingham	bought 7,500 tonnes	- £93,000
Russells Hall Hospital, Dudley	bought 6,000 tonnes	- £72,000
St James Hospital, Leeds	bought 5,000 tonnes	- £62,000
University of Manchester	bought 7,400 tonnes	- £92,500
BP Oil	sold 1,400,000 tonnes	+ £17,900,000
Esso	sold 820,000 tonnes	+ £10,200,000
Shell	sold 1,600,000 tonnes	+ £20,700,000

NB figures for BP, Shell and Esso are for their operations across the whole EU.

- **Loose targets have undermined efforts to build a stable market.** When it was realised in April 2005 that many member states had set ultra-loose targets, the secondary "market" for emissions permits crashed (falling from €30.50 for a tonne of emissions to €9.25 over the course of a few days). This volatility increases risk for participants, which itself has a cost. It creates a lot of speculation, but reduces firms' incentive to reduce emissions. Only a stable future cost of carbon will allow companies to plan to reduce emissions. Tony Ward, energy director at Ernst & Young, said ETS had created volatility in carbon prices and had not encouraged meaningful investment in carbon reducing technologies. He added: "Instead, the scheme has encouraged the short-term trading of positions to optimise return and minimise financial risk." (Telegraph, 16 May 2006)

The price of carbon emissions (€/tonne)

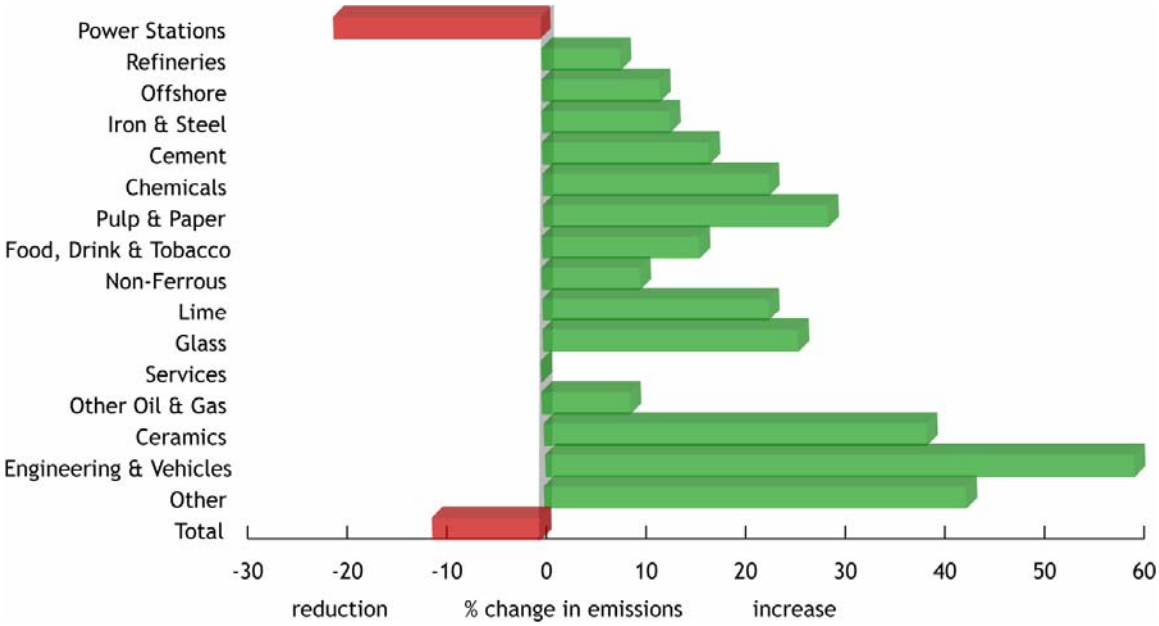
- **An administrative nightmare.** Compared to an energy tax or focussed emissions tax on power stations, the scheme is complicated and has imposed very high administrative burdens. Many small plants – for example the main boiler in a hospital – are covered by the scheme, and have to employ staff to conduct monitoring, and compliance activities, and pay for official verification. Despite this, such plants contribute little to total emissions. The estimates in the UK Government's preliminary Regulatory Impact Assessment suggest that this administrative burden is costing firms and public sector bodies approximately £62 million a year in the UK.

- **The EU's policies on climate change are far from joined up**. In 2004 EU member states spent €5.6 billion subsidising the production of coal – the most CO2–intensive form of power generation. Germany's electricity generator RWE this month opened a giant brown coal mine "Garzweiler II" near Düsseldorf. According to RWE, 1.3bn tonnes of brown coal will be mined in the next 40 years, producing 6% of Germany's electricity supply. The coalition government is now pressing for favourable treatment of brown coal (lignite) under the ETS.

- **An inflexible system.** The scheme only covers CO2 emissions and only from certain plants in certain sectors of the economy. The scheme looks only at *limiting* emissions from *a few industries*, rather than looking at how to reduce *net* emissions from the *whole economy* at the lowest net cost. Unlike in the Kyoto agreement, investment in CO2 'sinks' are not allowed as a means to hit the target.

- Given the distribution of permits under the UK National Allocation Plan (NAP), only power stations have been set targets tight enough to bind. So the scheme has effectively just functioned as a tax on power stations (which have then been handed on to consumers in the form of higher energy prices. The effects of the scheme could have been achieved at far lower administrative cost through a simple tax on energy.

Reduction (or increase) in emissions needed to hit UK NAP target 2005



- Indeed, the overall effect of the system - in countries like the UK where the targets do bite - is much the same as an energy tax. The main effect has been to substantially increase electricity prices. Several independent studies have suggested the ETS has fed into higher prices.

Impact on electricity prices

Study	Conclusion
OXERA (2004)	31% increase by 2013
IPA Energy Consulting (2005)	Household prices up 12%, Industry prices up 23-28%
Trucost	ETS responsible for a 12% increase so far
DEFRA regulatory impact assessment	Household prices up 3-6%, Industrial prices up 6-12%

Technical operating problems have made the ETS extremely un-transparent. The scheme commenced operation on 1 January 2005 with all 25 member states participating in the scheme. However data from the first year of operation is only available for 21 member states. No information has been received from Poland, Cyprus, Luxembourg and Malta because their emission allowance registries are not yet operational. The registries allow companies to directly trade with each other and keep track of the ownership of allowances. In these four countries, companies were limited to trading allowances on a forward basis and deprived of spot trading. The EU Commission is currently taking legal action.

Technical problems in the national registries for the Czech Republic, France and Slovakia have resulted in data for these countries being invalid. Errors in these countries led to some allowances being cancelled rather than surrendered at the end of the operational year. This means that accurate data is only available for 18 countries.

While 18 member states have submitted figures, the data for Italy is of extremely questionable quality. Between the initial release and the most recent update, recorded emissions appeared to have fallen by 8 million tonnes. While for other member states an average of 0.06% of permits were not surrendered (paid for) by the end of the year, around 60% of Italian permits have not been surrendered.

Rapid implementation of the ETS left too little time to adjust. Several operators have complained that the rapid implementation of the ETS has allowed no time to innovate or reduce emissions. The USA emissions trading scheme (for sulphur, rather than carbon emissions) needed two years for the details of allocation, caps, etc., to be agreed before trading could take place in a single national market, affecting around 250 industrial installations. But in the EU a more ambitious process was launched within a year, in a group of fifteen existing states and ten new ones, most of which have hundreds of affected installations (there are around 11,000 in total).

The Government has known about the problems with the ETS for some time. As early as July 2004 Patricia Hewitt wrote to then Commission President Romano Prodi to complain about the lack of rigour in other member states targets. She warned that, "Allocations beyond need are in effect gifting companies a free asset, which their competitors in other countries will not receive. Any over-allocation will also mean there is little or no incentive for industry to change behaviour and reduce emissions…. We also believe there is also a very real risk that over-allocation will mean that little or no trading occurs (who needs to buy?). Trading will be limited and there will be little emission reductions."

She threatened that in this case "The credibility of the trading mechanism could be undermined, *and the EU and its Member States would need to find other less flexible and more costly regulatory instruments to meet our obligations."*

Conclusion: The ETS is not a cost effective way to reduce pollution.

(1) Even a back-of-the-envelope calculation suggests that the EU's ETS is far from being the most cost effective way to reduce net carbon emissions. Adding up simply the transfer cost and the administrative cost suggests a cost to the UK economy of £530 million a year (without including the knock-on costs of higher energy prices). This is unacceptably high, given that there is no evidence that the scheme is actually limiting emissions across the EU.

(2) If the UK is to pursue ambitious carbon abatement targets, it needs to either persuade the other member states to make an equal effort or pursue a UK-only emissions scheme.

(3) One way or another, the administrative costs of the current trading scheme means that it the same objectives could be achieved at lower cost with an energy tax or targeted action on power generators. If a trading scheme is going to work, smaller plants (e.g. NHS hospital boilers) should be excluded from it.