

Carbon/Energy Taxes

Presentation to the meeting

‘What’s Fair?’

The Social Implications of Cutting Carbon Emissions’

By

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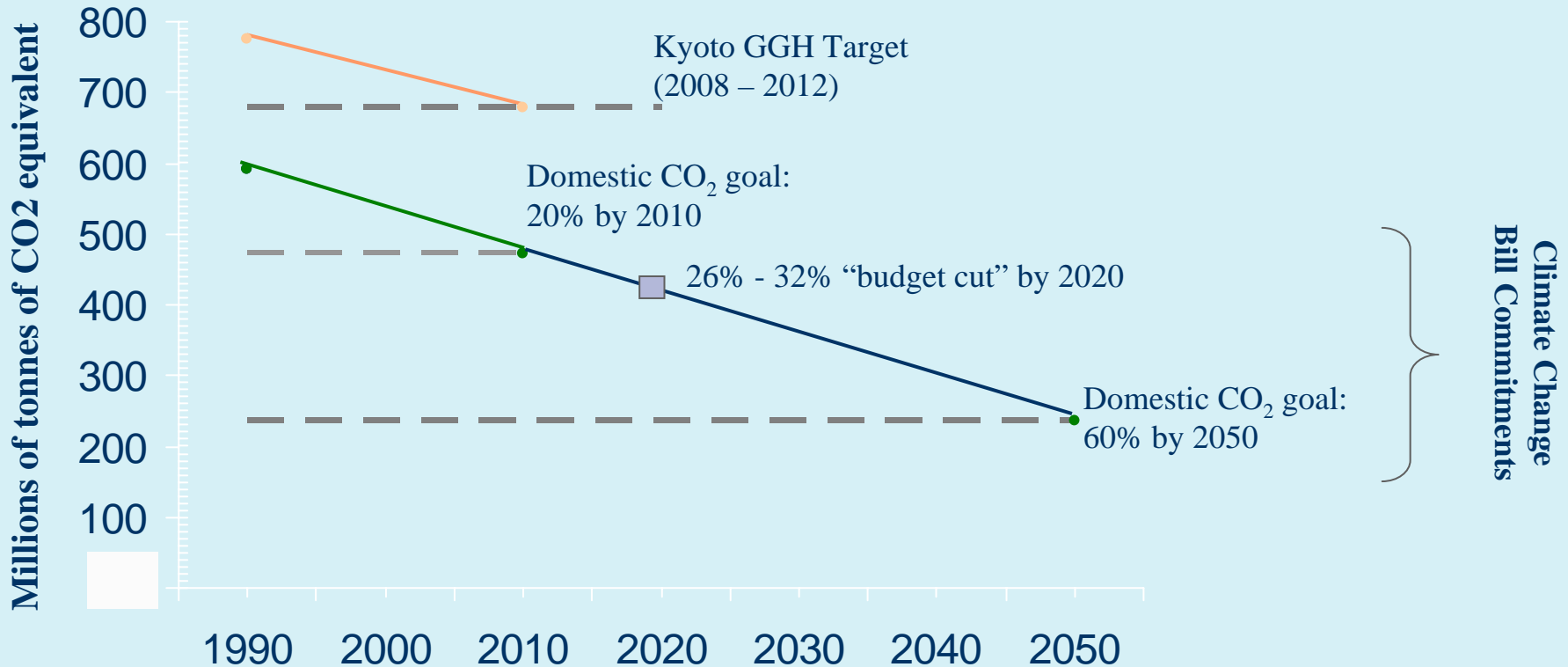
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The Challenge of Climate Change

No greater priority than to

- Ration carbon on the demand side
- Develop and deploy low-carbon technologies on the supply side
- Climate stabilisation at levels of CO₂ concentration that limit global average temperature increases to 2°C will require a rate of carbon emissions reduction that is outside all previous experience
- Currently on course for warming of 6°C+ during the next century; when the Earth was 5°C warmer (many millions of years before humans were around), there were tropical conditions at the poles
- A world warming to that extent, at that rate, would probably support less than 3 billion people and make human civilisation impossible
- We have 10-15 years for carbon emissions to start reducing globally and to keep on going down

UK emissions targets



Carbon rationing

- Rationing is necessary because people have an extraordinary innate ability to think up new ways of using energy (patio heaters, plasma TVs, SUVs, indoor ski slopes, outdoor skating rinks, stand-by etc. etc.)
- *Either* set the quantity of emission allowances (reducing on an annual basis), allow trading, and the carbon market sets the price of carbon (EU Emission Trading Scheme; Carbon Reduction Commitment; Personal Carbon Allowances - PCAs)
- *Or* set the price of carbon through a carbon tax, and the quantity will adjust (downwards if the tax is increasing)
- To get on the required carbon trajectory, either allowances will have to be reduced quickly (high allowance prices); or carbon taxes will have to increase to a high level
- Both approaches are problematic politically
 - People are used to taxes – and dislike them intensely
 - People associate quantity rationing with war-time austerity
- How best to proceed?

Carbon taxes

- Theory: demand for goods is negatively related to price; increase the price, two things happen:
 - People will consume less of the taxed good (because it is more expensive)
 - People will substitute away from the taxed good (e.g. sweaters, energy efficiency in the home, low-carbon energy sources etc.)
- Third thing happens unless consumption of good falls to zero (which with energy it doesn't): Government gets revenue. Very important. Green Fiscal Commission – green taxes 20% of revenues by 2020.
- For the first two things to happen:
 - People must be aware of the price and the price rise (for energy they are not; need revolution in metering etc.)
 - People must be aware of how much they consume (for energy they are not; need a revolution in billing etc.)
 - People must be aware of the substitutes, and these are affordable and socially acceptable (for energy they are not; need high-profile EEACS, incentives to use them, funding mechanisms – energy efficiency is cost-effective, but people don't do it)
- These issues must be tackled for carbon taxes to be effective. Good news is that they are being tackled. Bad news is that it is happening much too slowly. It will have to happen much more quickly whatever rationing mechanism is being employed.

Carbon taxes and fuel poverty

- Proper metering, billing, advice, funding mechanisms, and incentives provided by a carbon tax escalator could resolve the problem for the richest 80% of the population.
- The poorest 20% would need special provisions. Many of them are in fuel poverty (would need to spend more than 10% of their income on energy services to attain given level of warmth). Fuel poverty is driven by:
 - Incomes, energy prices, thermal efficiency of the dwelling, energy behaviour, other factors, i.e. It is a complex concept, and government has only a tenuous influence over many of the key variables. [Is fuel poverty as a policy concept past its sell-by date?]
- In the lowest income decile, households at the 80th percentile of energy use consume more than 6 times as much energy as at the 20th percentile. Why?
 - Factors: thermal efficiency of dwelling; energy behaviour; large, under-occupied home; old or ill (need more warmth); in all day; household size etc.
- Need to understand the relative importance of these factors.
- Carbon taxes have the potential to exacerbate fuel poverty, but do not need to do so. Key issues are: use of tax revenues; action on the thermal efficiency of dwellings

An equitable carbon tax

- Social guarantee: those on low incomes would pay no carbon tax until their dwelling satisfied good energy efficiency standards (e.g. SAP 70-80)
- Those paying no carbon tax would get priority for comprehensive thermal efficiency measures (after installation they would pay the carbon tax)
- Tax increases by annual escalator (say start at 2p/kWh – about 20% of current price) and increase by 5-10% p.a. Would raise £billions.
- Increase tax thresholds; reduce income tax (reinstate 10p. rate?); reinforce tax credits; could also redistribute Winter Fuel Allowance to target low-income households (carbon tax to be revenue-neutral overall, need to balance tax gains for low-income households and others, in principle could be more redistributive than PCAs, because paying for all emissions, and not just for those traded). In reality would need to strike a very sensitive political balance between winners and losers.

Carbon taxes and PCAs

Some relative advantages and disadvantages

- Both instruments would require extensive support for energy efficiency measures in homes, plus metering, billing, advice etc.

Taxes:

- For 80% of the population, with supporting measures as described, they would solve the household energy efficiency problem within 10 years
- Making them fair for the other 20% would be difficult but not impossible; could make them very redistributive from rich to poor if desired
- Very easy and cheap administratively
- Very easy to understand as far as the public is concerned

PCAs:

- Raise awareness of carbon and not just energy
- Set quantity of emissions
- Automatic mechanism to compensate those who use least carbon-energy (not all of whom will be poor)
- If allowances on equal per capita basis, very large redistributive transfers
- Administratively very costly (every adult would need personal carbon account, equipment for electronic carbon debiting; national on-line, real-time carbon market)
- 100% public education exercise required

Conclusions

- Both carbon taxes and PCAs have the potential to reduce personal carbon emissions
- Neither instrument will be popular or easy to introduce
- For ease of introduction and understanding, and because it can relatively easily address 80% of households (more than 80% of emissions), I would go for carbon taxes
- Introducing PCAs would take a minimum of ten years (education, consultations etc.)
- Could start with carbon taxes and switch to PCAs later