UK Fiscal Policy Solutions to Climate Change

by

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CAT

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http://www.inforse.org/europe/seminar2010_CAT.htm
Mapping UK
current, emerging and alternative
Fiscal Policy Solutions to
climate change

Martin Kemp
Some Questions

• What is the **purpose** of UK fiscal policy on climate change?
• How does the **current policy framework** fit together?
• How do the **key policies** work?
• How can we **categorise** new proposals?
• What are the **trade offs** between alternatives?
Purpose

• To address climate change?
• To reduce carbon emissions?
• To deploy renewable energy technologies quicker and sooner?
• To reduce land based emissions?
• To promote biofuels?
• To internalise the price of carbon?
• To get investment in renewables?
• To help UK PLC?
“One way or another, nations will implement a rationing system for fossil fuels in the years ahead. ... The sooner all of the options are brought together and discussed so that their costs and benefits can be transparently assessed, the better.”

Heinberg (June, 2007)
Current and Emerging Policies

- EU Emissions trading scheme (ETS)
- CRC Energy efficiency scheme **Live 1st April**
- Renewable Obligation (RO)
- Feed in Tariffs (FiT) [Under 5MW] **Live 1st April**
- Use of System Charges
  - Balancing, Transmission and Network
- Renewable Transport Fuels Obligation
- Renewable Heat Incentive [Emerging] (RHI)
At what level?

**Carbon**
- EU Emissions Trading Scheme: Huge Biz
- CRC Energy Efficiency Scheme: Big Biz

**Electricity**
- Renewable Obligation (5MW+)
- Feed in Tariff (under 5MW)

**Transport**
- Renewable Transport Fuel Obligation (All)

**Heating**
- Renewable Heat Incentive (All)
Department of Energy & Climate Change

- Created in October 2008
- Budget threatened – Announcement Oct-2010
- DCLG moving teams to DECC.
Welsh Assembly Government.

- Launching Energy Revolution – Thursday
- Called for 100% renewables electricity
- Integrating land use and energy policy
- Limited Devolved responsibility.
ETS design (phase 1)

EU Emissions Trading Scheme

The phases:
Phase 1 (2005→2007)
Phase 2 (2008→2012)
Phase 3 (2013→2020)

Aim: Phase 3 (agreed 2008) states 60-80% carbon reduction by 2050

How: Business trading via National Allocation Plans

Next: Exact cap coming June 2010

Problems (Phase 1)
Over allocation of permits
Permits free
Limited scope??

Money from: Business / NA
Where does the money go in phase 3?

Allocation of ETS / EUA revenue

- Given to business
- Member State in proportion to 2005 emissions
- Member State (if Eastern block) or EU?
- Member State (if 'low per capita income' or 'high renewables')
- EU CCS demonstration
# EU ETS development

<table>
<thead>
<tr>
<th>Phase</th>
<th>Auctioning</th>
<th>Additional scope</th>
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<tbody>
<tr>
<td><strong>Phase 1</strong>&lt;br&gt;2005→2007</td>
<td>0%</td>
<td>NA</td>
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<tr>
<td><strong>Phase 2</strong>&lt;br&gt;2008→2012</td>
<td>~3%</td>
<td>Glass, mineral wool, gypsum, flaring from offshore oil and gas production,&lt;br&gt;petrochemicals, carbon black and integrated steelworks.</td>
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<tr>
<td><strong>Phase 3</strong>&lt;br&gt;2013→2020</td>
<td>~60%</td>
<td>Aviation</td>
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ETS and Carbon accounting.

- Targets (ETS etc) are on what we measure.
- Limited measurement could move emissions.
- The climate science is based on emissions.
- Tighter targets seems prudent.
Renewable Obligation process

- Incentive for electricity producers to use renewables.
- Utilities trade to buy renewable obligation certificates (ROCs).
- To meet the suppliers obligation.
- Roc value varies on supply and demand.
- The buy our rate puts a price ceiling on the ROC.
- Now banded (variable rate depending on tech)
- Banding effectively decreases the cap.
Who buys out?
Feed In Tariff

- Set rate per kWh per technology
- Utilities charge customers premium.
- Investors get guaranteed return.
RO or FIT?

• Very similar mechanics but different outs, why?
• History
• England and Germany
• Inputs: **Pricing**
• Germany cut 15-17%
  – 1st April 2010
• Leapfrog!?
• Stage of deployment
• Learning Rates
Renewable heat incentive

Aim: 78TWh (pa) of renewable heat by 2020
10% of 2008
~13% of 2020 based on DECC target met.

System: Roughly the same as FiT
No exports for heat
Has ‘deeming’ of demand
- promotes efficiency
- limits rebound.
Alternative Policies

- Tradable Energy Quotas
  - Cap and Share
  - Cap and Rebate

- RO / FIT
- Business Trading

- Carbon Pricing
- Taxation
- Personal Trading

- Taxation
- Supplementary
- Additional
New Tax

Supplementary
- Provides revenue
  - For Fuel Poor?
  - For Adaptation?
- Perceived as party political

Substitute
- Seen as ‘efficient’ tax reform.
- Tax ‘bads’ not ‘goods’
- Makes a much wider debate.
- After carbon tax ‘rent’
Tradable Energy Quotas - Design

The Cap

Share

Ind. Sale

Biz. Buy

Emitters buy from Gov and Individual sales

Enforcement at point of purchase

Emitters buy from Gov and Individual sales

Enforcement at point of purchase
Tradable Energy quotas in practice

- Individuals get an annual allowance of carbon. Effectively an additional income.
- This could be cashed in or used as needed.
- When you purchase a fossil fuel you need to pay in credits.
Cap and Share

THE CAP: A cap on greenhouse gas emissions and an annual quota of emission entitlements is set based on scientific evidence.

THE SHARE: Emission entitlements are shared equally to every citizen.

THE SALE: Citizens sell their entitlements via post offices and banks.

THE BUY: Primary oil, gas and coal companies buy entitlements to cover the emissions from their fuels.

THE ENFORCEMENT: Inspectors match entitlements to emissions and enforce the cap by fining companies with too few entitlements.
# Balance of Proposals (Big debate)

<table>
<thead>
<tr>
<th>Taxation</th>
<th>Trading</th>
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<tbody>
<tr>
<td><strong>A clear price for business?</strong></td>
<td><strong>A cap on emission?</strong></td>
</tr>
<tr>
<td><strong>Substitution</strong></td>
<td><strong>Lowest abatement cost</strong></td>
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<tr>
<td>More efficient economy</td>
<td><strong>TEQ</strong></td>
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<tr>
<td><strong>Supplementary</strong></td>
<td>Greater Energy Awareness</td>
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<tr>
<td>More money for fuel poor and adaptation funding</td>
<td><strong>Cap and Share</strong></td>
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<td>Encouragement to decrease cap.</td>
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<td><strong>“Evil”</strong></td>
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<td>“Boring”</td>
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Objective Mapping

EU Emissions Trading Scheme
CRC Energy Efficiency Scheme

Renewable heat incentive
Feed in Tariff (UK)

Renewable Obligation
Renewable Transport Fuel Obligation

Limit emission
Help UK PLC
Increase RE Deployment
Increase investment
Bring technology forward
Are FiTs bad?

Monbiot – FiT bad use of public money?
  High marginal abatement cost?
  Technology dependant (PV yes)
  Larger questions on distributed generation.
  Onsite generation decreases energy demand!
  Heads or Tails?

Ignoring FiT’s – Cost comparable by 2013
  PVMA methodology!!
ZeroCarbonBritain 2030

• Mixed approach
• Lots of targeted intervention
  – Retrofitting etc.
• A hybrid core policy
  – Cap and trade
  – Carbon tax
• New Business models
  – Align priorities

• Why?
  – Cap + fixed price.
Questions?