

Cutting CO2 - Creating Jobs

Foreword to recently published FOE report on meeting the Government's manifesto target of a 20% CO2 cut for the UK.

The new Labour Government was elected with a manifesto commitment to reduce emissions of carbon dioxide, the main climate changing gas, by 20% by 2010. Additionally, the UK is bound under the 1997 Kyoto Protocol to contribute to the European Unions target of an 8% reduction in emissions of the six main climate changing gases by between 2008 and 2012. European Governments are currently considering how this target will be shared between member states.

While the Government's manifesto commitment represents an emission reduction greater than the UK is legally bound to make, it is still far less - even if implemented more widely by other industrialised countries - than will be necessary to prevent dangerous climate change. The United Nations Intergovernmental Panel on Climate Change (IPCC) has advised Governments that preventing dangerous climate change will require a global emission reduction of some 60% compared to 1990 levels, with stabilisation of emissions thereafter, by the middle of the next century. For industrialised nations this translates to over an 80% cut in CO₂ emissions by 2050.

This scale of emission reductions poses major challenges to economies driven by the consumption of fossil fuels, coal, oil and gas and will require a significant restructuring of energy markets towards renewable energy and energy services.

The challenge for the UK Government is to take the long term view and begin to reorientate energy markets now so that progressively more stringent emission cuts are achievable in a cost-effective manner and without massive social disruption within industries based upon fossil fuels. The decisions it makes over the coming year will be critical in determining whether the UK's energy market is put on a path towards sustainability, and the huge social, economic and environmental rewards of such a transformation are achieved, or whether the UK continues on its current path with only marginal improvements in energy efficiency and development of renewable energy.

There has been considerable discussion about how emissions cuts can be achieved and at what cost. This report is a contribution to that debate. It clearly demonstrates that:

- The Government's manifesto commitment is practically and technically achievable - through domestically focused policies to promote energy efficiency, combined heat and power, renewable energy and traffic reduction. Indeed, a more stringent 30% target could be achieved by 2010.
- This commitment can be achieved in a cost effective manner - and for much less additional investment (£0.75bn per year) than would be raised through a moderate industrial carbon/nuclear energy tax - without the need for any emission trading. A 30% cut would incur higher total costs (£2.2bn per year).
- The policies to deliver on this commitment would bring considerable social and economic benefits at the national level through a net gain in employment of over 230,000 jobs in 2010. This arises largely because the new sustainable energy industries are more job-intensive than conventional fossil and nuclear energy. Policies to pursue a more

stringent 30% target would deliver more jobs, potentially up to half a million in 2010.

These conclusions are based on the results of input-output modelling of the energy sector conducted for FOE by ESD. The model outputs a least-cost fuel mix model for a given set of policy constraints. The outputs reported here are illustrative of the type of fuel mix that could result from a range of policies to promote energy efficiency, combined heat and power, renewables and traffic reduction. Some significant conclusions can be drawn from such outputs:

- Contrary to the wild assertions of the nuclear industry, the modelling shows that new nuclear capacity will not be needed. Indeed, a 30% cut in UK CO₂ emissions can be achieved even with the closure of the ageing Magnox nuclear reactors by 2010.
- Similarly, the 20% target could be met whilst maintaining a significant share of the electricity generation market for deep-mined coal. In this report we do not set policy constraints which specify what that share should be, as there is a dearth of research on which to base a such a figure. The potential for 'cleaner coal' technologies to reduce CO₂ emissions is, at present, somewhat speculative, whilst current estimates of the 'minimum market' needed for the deep-mined coal industry vary widely.

It must be noted that this model is a national sectoral model, and therefore does not produce regionally disaggregated outputs regarding employment and the energy market structure. The regional distribution of the job losses and job gains in the transition to a sustainable energy system is, however, very significant. There is a strong case for policy measures designed to protect and create jobs in regions where job losses may be concentrated, such as coal-field areas. A policy package which delivers substantial social and economic benefits at the national scale can free up financial resources to tackle regional deprivation. Further research into the policies and measures needed over the 5-15 year timeframe is critical. Friends of the Earth hopes to contribute to the work needed to close this policy gap.

As noted above, the fuel-mix reported here is illustrative. A different set of policy constraints for the same CO₂ target would generate a different fuel-mix output and a different net cost. As the cost of the policy mix reported here is so low, there is potentially 'room to manoeuvre' to include policies which, although they might increase the net economic cost, would bring other social or environmental benefits which are not covered by the model. An example might be policies designed to protect a share of the market for deep-mined coal at the cost of opencast coal and subsidised imports. This could be beneficial on social grounds (reducing social exclusion in coalfield communities) and environmental grounds (protecting valued landscapes and agricultural land).

Nonetheless, the Government still faces a difficult political dilemma over the future of the coal industry. Coal is the most carbon intensive of the fossil fuels and combatting climate change probably requires a longer-term phase-out of the use of coal. The key issues are over what timescale and how to mitigate the social implications of such a move and assist the diversification of coal field communities so that they too benefit from the introduction of sustainable energy. Coal has already been squeezed hard in the UK - for political reasons ranging from union-bashing to cutting the unit price of energy in a privatised market. The latter resulted in a significant switch from coal to gas. While this switch resulted in reduced emissions of carbon dioxide it did not establish a basis for continued emissions cuts, and the social consequences for deep coal mining communities were severe. Friends of the Earth believes that the continuation of such political strategies is as unacceptable for social reasons as it is for environmental ones. In the longer term, environmental, social and economic goals can only be met together if the Government guides the energy market towards sustainability.

A restructuring of energy markets away from fossil fuels towards renewables and energy

services is essential if the worst impacts of climatic change are to be averted. The UK Government therefore faces a unique opportunity. It is clear that climate protection can deliver environmental, economic and social benefits if the Government sets a framework to ensure that social and environmental goals are delivered by energy markets. The UK has the opportunity to lead such a transformation, considerably strengthening its ability to lead the international climate debate.

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