

Climate Change Act amounting to a commitment to keep intermediate emission reduction targets and interpretations of European directives consistent with our European competitors. This need not require the abandonment of the 80 per cent cut by 2050 target, at least for now, because the EU only has emission reduction targets up till 2020. This measure will assuage business concerns about the UK applying European directives more stringently than our competitors. Secondly, the government should scale back UK carbon costs where they exceed European levels and ensure that any exemptions to European directives are applied to the maximum extent allowed under law. As such, the CPF should be

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scrapped, EIIs such as cement should be exempted from the CCL in line with the corresponding EU directive, and the government should determine if it is possible to scale back the 2020 renewables target. These three initial suggestions could minimise the harm in the near-term and serve as starting points for a more thorough review of the matter by government. Apart from improving the UK's cost competitiveness this will simplify regulation and reduce compliance costs. Finally, when the European Commission reviews the status of free EUA allocations in 2014, the government should co-operate with its European partners and lobby the commission to ensure that free allocations for EIIs across Europe are maintained. Without all these measures, the government risks pricing cement production in the UK out of the market and exacerbating climate change.

Notes

- 1 'New Research Highlights Mineral Products Industry's Critical Contribution to Economic Growth', *epolitix.com Press Release*, July 2012: <http://www.epolitix.com/members/member-press/member-press-details/newsarticle/new-research-highlights-mineral-products-industrys-critical-contribution-to-economic-growth/sites/mineral-products-association/>
- 2 'Defra's Official Statistics Release: UK's Carbon Footprint 1990 – 2009', *Defra*, March 2012, p2: http://www.defra.gov.uk/statistics/files/Release_carbon_footprint_08Mar12.pdf
- 3 For example, it aims to meet 80 per cent of its electricity needs with renewables by 2050. 'Berlin's Green Welfare: Tax relief for German Industry, but not for households', *The Wall Street Journal*, August 2012: http://online.wsj.com/article/SB10000872396390444184704577589011729464948.html?mod=googlenews_wsj
- 4 'Building our low – carbon industries', *TUC and the Energy Intensive Users Group*, July 2012, p4: <http://www.tuc.org.uk/tucfiles/352/Buildingourlowcarboninds.pdf>

- 5 'Growing pains: British industry and the low-carbon transition', *IPPR*, May 2012, p4: http://www.ippr.org/images/media/files/publication/2012/06/growingpains-lowcarbontransition-May2012_9183.pdf
- 6 'Budget 2011', *HM Treasury*, March 2011, p32: http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf
- 7 'Budget 2012', *HM Treasury*, March 2012, p72: http://cdn.hm-treasury.gov.uk/budget2012_complete.pdf
- 8 MPA Quarterly Statistics: http://cement.mineralproducts.org/documents/Table_2_Quarterly_Cementitious_2_Oct_12.pdf
- 9 'Monthly Statistics of Building Material and Components', *The Department for Business, Innovation & Skills*, July 2012, p12, table 8: <http://www.bis.gov.uk/assets/biscore/statistics/docs/c/12-313g-construction-building-materials-bulletin-july-2012.pdf>

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Policies intended to reduce carbon emissions are destroying British jobs without making any difference to climate change. The aluminium smelting industry, for example, has been virtually eliminated by two major closures: in Anglesey and Lynemouth, Northumberland. Here we describe the impact on one of the mundane industries on which the nation depends: cement manufacture. What is true for cement also applies to our other energy-intensive industries, including chemicals, glass, ceramics and steel. In 2011 George Osborne said that we should cut emissions 'no slower but also no faster' than our economic rivals, but costs are still being imposed unilaterally on British industry, with new impositions due in 2013. At the very least, the Government should scrap plans for a carbon price floor, exempt all energy-intensive industries from the climate change levy to the maximum extent permitted under EU directives, and abandon the unachievable target of generating 20 per cent of electricity by renewable methods by 2020.

Are our carbon-reduction targets self-defeating?

Kaveh Pourvand

Energy intensive industries (EIIs) comprise industries such as iron and steelmaking, mineral products and ceramics. They are crucial to the UK economy. The mineral products industry alone, which includes cement, employs 70,000 people and supports £400bn of revenue and 2.5 million jobs in the wider economy.¹ EIIs are also among the largest contributors to the UK's output: their combined gross value added (GVA) was £14bn in 2008, or 11 per cent of the UK manufacturing total. It is accepted across the political spectrum that a manufacturing revival is needed to put the UK economy on a course of sustainable growth. For this to happen, the UK government needs to ensure that UK-based EIIs have an internationally competitive cost base. They currently do not. As the term suggests, energy is a key cost for EIIs

but the UK's current decarbonisation strategy raises these to high levels relative to competitor countries. Indeed, UK regulations only add to already considerable costs created by EU legislation. As a consequence, government policy is likely to be environmentally *and* economically self-defeating by encouraging mobile EIIs to relocate to less carbon-constrained developing economies.

This problem is known as 'carbon leakage' and paradoxically results from the ambition of the government's decarbonisation strategy. Following David Cameron's pledge to lead the 'greenest' government ever, the coalition has stuck firmly to the implementation and continuance of the 2008 Climate Change Act, committing the UK to a unilateral cut in carbon emissions of 80

per cent by 2050 compared with 1990 levels. A plethora of policies have been devised to meet this obligation and the general ethos of the UK approach is to cut faster than our neighbours. Many UK carbon policies are therefore unilateral or reflect a strenuous interpretation of European directives. However, a simplistic focus on cutting domestic emissions misses out the international dimension of the challenge of climate change. While UK-only emissions have fallen from approximately 450m tonnes in 1990 to around 400m in 2009, carbon consumption – which includes emissions attributable to imported goods – has increased from just over 600m tonnes in 1990 to 750m tonnes in 2008.² Emissions are not any better if they occur abroad. Ironically, an ill-conceived attempt to cut domestic emissions rapidly may exacerbate the more important problem of the UK's carbon consumption.

The UK's approach can be instructively compared with that of Germany which also has ambitious emissions reduction targets but is careful to protect its EIIs with significant concessions on energy costs, estimated to be €9 billion in 2011.³ The Chancellor, George Osborne, is cognisant of this problem. At the 2011 Conservative Party conference, he said the government should cut emissions 'no slower but also no faster' than fellow European countries, and soon after a £250m support package was announced. Yet, as will be argued, this is largely a token gesture for EIIs like cement.

■ The Cement Industry

The cement industry is a very good example of an important UK EII that faces an uncertain future due to high energy costs. The £800m a year industry supports 17,488 jobs and maintains 12 cement production sites in the UK. It accounts for nearly ten per cent of the mineral product industry's £9bn annual revenue. It is also consolidated, with five firms – Tarmac, CEMEX, Lafarge, Hanson and Quinn Cement – accounting for all of UK production. The production process is inevitably energy intensive. In a nutshell, it involves pulverising input materials, principally limestone, into powder which is then heated at very high temperatures of up to 1450°C in an industrial oven called a kiln. This forms a material called clinker, the base component of cement. This process is responsible for CO₂

emissions in two ways: directly through the high temperature production process and indirectly through the consumption of energy, principally coal, the upstream generation of which also emits CO₂. Consequently the industry incurs carbon costs through various UK and EU regulations.

The industry trade group, the Mineral Products Associations (MPA), estimates that these costs will be €65m in 2013 alone, or over ten per cent of the industry's revenue. Their data are reproduced below:

MPA estimates of Carbon Related Costs

All figures in €'000

	2013	2015	post 2020
European Union Emissions Trading System (EU ETS)	35,311	116,555	306,394
Carbon Price Floor tax on fossil fuel use in power generation	3,795	7,575	7,575
Cost of Feed-in Tariffs	2,433	3,030	3,030
Cost of Renewables Obligation	6,949	8,644	12,940
General costs of Electricity Market Reform	2,588	5,176	11,646
Climate Change Levy	4,733	4,828	5,074
Grand Total	64,559	154,558	355,409

Source: MPA

These are trade association estimates but they echo TUC concerns that UK and EU energy regulations 'will have a corrosive effect on the viability of entire industry sectors within the UK'.⁴ Similarly, the centre-left think tank IPPR warns that carbon leakage 'may well become a problem in the future if energy costs for British-based EII facilities rise as the government has projected'.⁵ A review of the various regulations listed in the table will shed light on the various energy costs UK-based EIIs face.

The European Union Emissions Trading System (EU ETS) is by far the most significant cost. The ETS obliges CO₂ producers to pay for the right to emit by stipulating that each standardised tonne of CO₂ emitted is backed by a purchasable permit called a EUA or European Union Allowance. These costs are set to reach astronomical levels for the cement industry by 2020. However, one caveat should be added to the MPA's cost estimations. The European cement industry currently receives a fixed free allocation of EUAs from the EU because it is recognised as one of 164 special sectors at risk from carbon leakage. MPA estimations assume that cement will lose this special status when it is reviewed in 2014 on

the basis that cement carbon costs are relatively low compared to other European industries. This is unlikely, however, because there are many industries on the EU's list with even lower carbon costs than cement. If it strips cement of this status, the European Commission would also have to do the same to these other industries which would constitute a drastic policy change on their part.

Returning to the other estimates, the **Carbon Price Floor (CPF)** is a good example of an ill-designed unilateral policy that simultaneously undermines competitiveness and institutionalises carbon leakage. The CPF starts in April 2013 and mandates a minimum price for EUAs purchased by UK firms by way of a top-up carbon tax. The top-up rate for 2013/14 will be £4.94 per tonne of carbon dioxide and for 2014/15 will be £9.55.⁶ This is a significant premium on the market EUA rate. However, the scheme does nothing to reduce CO₂ emissions because total EU emissions are set at an EU-wide level. This means that if British firms are dis-incentivised from purchasing EUAs, they would merely be left on the market for other European firms not subject to the CPF. It is a dubious tax that the chairman of the parliamentary Energy and Climate Change Select Committee, Tim Yeo MP, has dismissed as simply a revenue raising measure.⁷

The **Renewables Obligation (RO)** obliges electricity suppliers to purchase a minimum amount of energy from expensive renewable sources. The UK created the RO to comply with the EU Renewables directive, which aims by 2020 to have 20 per cent of EU energy supplied by renewables. Each country sets its own targets. Britain has committed itself to the biggest renewables increase in the EU of nearly 14 per cent (from 1.3 per cent in 2005 to 15 per cent in 2020). The **Climate Change Levy (CCL)** is a tax on the supply of fossil fuels to end-use customers rather than for electricity generation. For example, electricity supply is currently taxed at 0.509p per kilowatt hour. CCL costs are passed onto the cement industry by their energy suppliers who incur the tax. The UK has created the CCL to comply with the EU's *Taxation of Energy Products Directive*. However, the UK also applies the CCL to mineral producers like cement even though the directive specifically exempts their energy supply from such taxation.

The **Industrial Emissions Directive** is also EU mandated legislation set to start from 2013. It is designed to increase energy efficiency for industrial processes, obliging the cement industry to purchase costly emissions abatement technology. The MPA currently forecast an annual cost of €8.7m but await details of the directive's precise implementation in the UK. Richard Leese, MPA director of Energy and Climate Change, says 'history tells us the Environment Agency will be stricter in its interpretation' than other countries. **Feed-in Tariffs** and the **general costs of electricity market reform (EMR)** are other energy costs passed onto cement producers.

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Thus, while policy discretion may be limited with EU directives, the UK frequently exceeds European regulatory standards with its own legislation and targets. Taken as a whole, this regulatory framework significantly increases the cost of cement production in the UK. There is some evidence that carbon leakage has already begun. Cement production in 2011 was down by 28 per cent since 2007.⁸ Jerry Mclaughlin, the MPA's chief economist, points out that while domestic cement production has flatlined since 2008, the volume

of imported cement has stayed roughly constant over the period at approximately 1.1 million tonnes a year.⁹ This trend is set to intensify as the economy recovers, with increased demand for cement being met by imports.

■ The role of government

The government's £250m relief package, set to start in 2013, is of too small a scale to make a significant difference. Its two major components are £110m of relief for EU ETS costs and a further £100m for UK-only CPF costs. Richard Leese points out that cement is not eligible for the former while its eligibility for the latter is yet to be decided. The small size of the support will probably mean that the CPF relief will be prioritised for more prominent EIIs than cement. There is more the government can do.

Firstly, it should insert an amendment into the