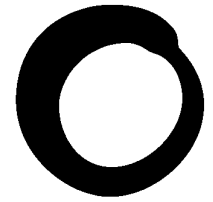


September 2011



**Friends of
the Earth**

Briefing

Energy-intensive industry and climate change

This briefing assesses the impact of climate change policies on energy-intensive industries, and the claims that these policies are negatively affecting the competitiveness of UK industry. This issue is very relevant right now, as the Government is planning a package of measures to help energy-intensive industries by the end of 2011.

It argues that the UK's economic interest is best served by strengthening, not weakening, climate change policy, particularly given the UK's growing dependence on increasingly expensive imports of fossil fuels.

It argues for policy support for energy-intensive industries to make the low-carbon transition, but that this transition will be slowed if carbon price signals are weakened.

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Summary

By industry estimates, climate change policy is less than 5% of an energy-intensive business' energy bill.

By contrast, fossil fuel prices for these industries have doubled in the last 10 years.

Some new Government climate change policies will put up bills for energy-intensive users, but again this is small in comparison with changes to fossil fuel prices: the Carbon Price Floor will put average bills up by 2% by 2016; but the industry predicts energy prices will go up by 3% a year.

Also recently, the Government has altered climate change policies in ways which help energy-intensive users. Increased exemptions to the CCL will save them 1% a year on bills; removing the CCS levy will save industry 2% on bills. These counter the CPF rise. Industry has also benefitted from other Government tax changes - for example dropping corporation tax from 27% to 23% by 2014.

Energy-intensive users get other reductions to their energy bills – for example free allowances under the EUETS, which are set to continue, and ability to buy cheaper electricity and gas than smaller industry.

UK industry is not faced with higher energy costs than its main competitors. Gas prices for large UK industry are among the lowest in the EU, and electricity prices are smack in the middle.

Energy-intensive users will be part of the UK's low-carbon economy, and they need support from Government to make that transition. However climate change policies are not a barrier to that transition, but an essential part of it.

The UK economy overall is at great risk from growing reliance on fossil fuel imports, which are set to get ever more expensive. All economies worldwide are at ever-growing risk from climate change. Energy-intensive industry, like all sectors of the UK economy, need to do their part in going low-carbon, and fast. Seeking to water-down climate policy is not the answer.

Background

Oil and gas prices for UK industry have more than doubled in the last 10 yearsⁱ. This – not climate change policies - is the overwhelming reason why industry's fuel bills have gone up in recent years. Energy intensive industries' research says that climate change policies are less than 5% of their current bills.

Oil and gas prices are also very likely to keep on rising. At the same time, as North Sea Gas and Oil run out, the UK will be increasingly dependent on oil and gas imports. We are currently 17% dependent on imports of oil, and 35% dependent on imports of gas. By 2025, the Government saysⁱⁱ these figures will be 60% and 68%. If gas prices continue to rise an

average new large gas-fired power station will require £400m pounds worth of imported fuel every yearⁱⁱⁱ.

“We are no longer in control of our destiny in the way that we were during the heyday of North Sea gas and the price we pay for our gas is determined by a global marketplace not the marginal cost of North Sea production.”

Sam Laidlaw, Chief Executive of Centrica, June 2011^{iv}

The UK is in great danger of being extremely reliant on imports of very expensive, volatile-priced oil and gas.

For UK households, industry, energy-intensive industry, and in particular the UK economy overall, it's therefore imperative that the UK gets off the fossil-fuel hook, and invests in energy efficiency and low-carbon technologies. Staying on fossil fuels will leave the UK and our industry inefficient and uncompetitive and at the mercy of global energy markets.

This is the background to the current energy-intensive industry debate.

1 Energy-intensive Industries – the current situation

Energy intensive industries are sectors such as chemicals, steel, aluminium, cement, ceramics and paper. These sectors are responsible for 45% of all business and public sector greenhouse gas emissions^v. They must go green if the UK has any chance of meeting its climate change obligations.

But many of these industries are also part of the solution to climate change – we need industries such as steel and chemicals in a low-carbon economy. They are also an important part of the UK economy, and employ 125,000 people, 2% of the UK workforce.

These industries have raised concerns in recent years that climate change policies are adding to the costs they face, making them uncompetitive internationally, and risking the closure of plant in the UK, or corporations relocating in other countries. One concern is that the EUETS will make EU industry move to Asia; another more recent concern is that the new Carbon Price Floor (a unilateral policy in the UK) will make UK industry move abroad.

In light of these concerns, the Government has committed to assess the situation and bring in a package of measures to help energy-intensive industry in late 2011. The industries are lobbying for a wide range of help – including exemptions from the new Carbon Price Floor, and financial assistance to invest in low carbon and energy efficiency technology.

2 Friends of the Earth's view

While climate change policies do add to the costs industry face, they are small in comparison with the costs industry faces from rising fossil fuel costs.

Research for the Energy Intensive Users trade body's^{vi} shows clearly that it is rising fossil fuel prices, even on central, conservative estimates, which will cause by far the biggest increase in their fuel bills, rather than green policies. A “representative customer” has a 2010 energy bill of around £20 million, of which less than £1 million is due to climate change policies. Future bills will rise, but their research is clear that the overwhelming cause of that is rising fossil fuel prices. Climate change policies will add to bills, but are a much smaller contribution, the industries already get major exemptions from these policies, and the largest impact (EUETS) also affects many of their main competitors.

There is strong overlap of interest for energy-intensive users, and climate change goals. Energy Intensive users will benefit from measures to cut their fossil fuel use – given their ever-increasing fossil fuel bill.

So, the answer is for UK policy to push these industries towards investment in low-carbon technologies and energy efficiency. Well designed climate change policies can therefore help those and other industries make the transition away from increasingly expensive reliance on volatile and high-priced high-carbon energy and electricity.

However, measures which cut the price of carbon in the economy – such as exemptions to the Carbon Price Floor – are counter-productive. They will make it less likely that energy-intensive users invest in low carbon technology and energy efficiency. This is bad for the environment, and also bad for those industries – who will fall behind their competitors who are investing in improvements. Future competitive advantage lies in using fewer resources and less fuel; there is little sense in trying to protect industries from these pressures, rather than help them adapt to them.

So, Friends of the Earth supports measures to help energy-intensive users go green. It will cut their fuel bills. This will be good for the industry, the economy and the environment. **Section 5 sets out measures we support.**

But we do not support measures to weaken the carbon price signal. We do not support cuts to the Carbon Price Floor (CPF) because we do not believe a case has been made that the CPF causes a genuine competitiveness problem for UK industry. We don't pretend that CPF is a perfect policy – there are indeed problems with it. The answer here though is reform, not removal. **Section 3 sets out our arguments against a CPF exemption. Section 4 sets out our concerns with the case set out for the impact on UK competitiveness.**

3 UK competitiveness and the Carbon Price Floor (CPF)

The Government says that the CPF is designed to give investors certainty about carbon prices in an environment where the EUETS carbon price is too low and volatile. The CPF adds a ‘top-up’ tax on fossil fuel used to generate electricity, with the intention that the total carbon price (EUETS+CPF) doesn't fall below a certain minimum level.

Although this is in theory a good idea, there are some flaws in it – one being that this is an amendment to a Europe-wide policy which is only applied in the UK. There are therefore claims that this will damage the competitiveness of UK industry.

The competitiveness of the UK industry is not just down to one specific climate policy however. The whole of the Government's tax and regulatory system, on climate policy and in other areas, affects whether the UK is more attractive as an investment location than Germany or Poland or India.

The CPF has been set at 0.09 p/kWh of gas used for electricity generation in the first year 2013-2014, with an indicative rate of 0.18p/kWh for 2015-2016^{vii}. Using the Industry's definition of an average energy-intensive user, using 100,000 MWh of electricity and 20 million therms of gas a year, in 2016 the CPF will have added roughly £400,000^{viii} to an energy bill of around £20 million – ie a 2% increase over 5 years^{ix}.

So the CPF is clearly adding to bills. But there are 4 points to take into account:

- a) *The CPF is small in comparison with broader energy price rises – it is the rise in fossil fuel prices which should be worrying energy-intensive industries*

The Energy-intensive users group's research predicts energy prices (outside of climate change policies) will have increased by over 3% a year, and by over £3million in total by 2016. For industries everywhere, the substantive issue to be addressed is reliance on ever-increasing prices of fossil fuels.

- b) *In the UK it's important that the costs of transition to a low-carbon economy are shared fairly between different users of energy. Energy Intensive Industry can already buy energy way cheaper than other industry and continue to benefit from some major exemptions to climate policy:*

Prices in 2010	Electricity, p/kWh	Gas, p/kWh
Small industry	8.8	2.8
Medium industry	7.5	2.2
Large industry ^x	6.0	1.6
Domestic	12.1-13.5	3.6-3.8

(source: DECC, quarterly energy prices June 2011^{xi})

Energy-intensive industries across Europe including the UK have benefitted hugely from phase 1 and phase 2 of the EUETS. The over allocation of permits in the EUETS has netted the steel and other industries billions of pounds in windfall profits. Surpluses for Arcelor Mittal and Corus for 2008-2012 have been estimated to be worth £1.4 billion and £380 million^{xii}. Over allocation can be banked to 2020. There is also evidence that companies have in addition been able to pass on costs, netting further profits^{xiii}.

In addition even from 2013 - when EUETS steps up the move from free allocation to auctioning of permits - the **energy intensive industries will continue to get the vast majority of their permits for free**, unlike other sectors who will have to buy them at auction. This is a further, major and long-term package of help for energy intensive industries.

Energy-intensive Industry make the argument that although fossil fuel prices are rising, this affects all businesses, and that it is unilateral UK policies which make the big difference to UK competitiveness. However:

- c) *At the same time as the CPF was announced, the Government introduced compensatory measures:*
- Reducing corporation tax from 27% to 26% in April 2011, and down again to 23% by 2014. Corporation tax was already lower than in other competitor countries - for example over 30% in France and Germany^{xiv},
 - Increasing the exemption from the Climate Change Levy for energy-intensive industries from the planned 65% back up to 80%, and increasing the length of that exemption from 2013 to 2023. The 80% exemption is worth roughly £1million a year for an average energy-intensive company^{xv}.
 - Removing the Carbon Capture and Support levy costs from industry, saving average businesses 2% on bills in 2015, 3% in 2020.

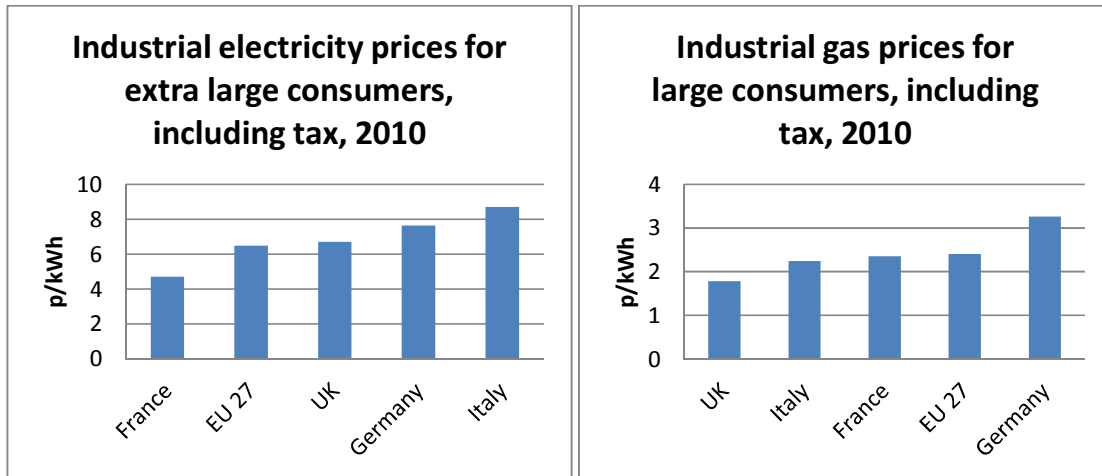
Since the general election the Coalition has also taken the Renewable Heat Incentive (RHI) off bills, a major piece of support for energy-intensive industry, given that their July 2010 report said “it is the impact of the RHI that is particularly striking”, estimating its cost to one company at £30 million in 2020.

These four measures more than counter the CPF increase: the CPF can't be considered in isolation

- d) *UK energy costs are not worse than EU energy prices*

The DECC July 2011 publication on large energy intensive users says that: “*based on the latest data from Eurostat, UK electricity prices for very large industrial users are in the middle of the EU15 pack, and UK gas prices for large industrial users are the cheapest in the EU15*”^{xvi}

UK versus EU industrial energy prices for large consumers:



Source: DECC quarterly energy statistics, 2011^{xvii}

These data also show that for large industry the gap between UK and EU27 electricity prices is falling over time – UK prices were 38% higher than the EU27 in 2007 and are just 3% higher now – and the gap between UK and EU27 gas prices is wider now – UK prices were 14% lower than the EU 27 in 2007, and are 26% lower now.

The CPF rates in 2016 do not appear to make any material difference to relative European energy prices.

UK energy-intensive industries already receive a pretty hefty package of support, have been given four other types of support which counter the CPF rise, are able to buy energy much cheaper than other industry, and do not have energy prices higher than competitors in Europe. So is there a genuine competitiveness issue here, or is this simply opportunistic lobbying for a tax exemption?

4 Crying Wolf?

There is a genuine lack of data in the public domain about the costs faced by energy-intensive industries, and how much energy or climate change policy or the broader tax and regulatory regimes affects those companies, compared with similar companies in different countries. DECC's evidence above suggests that the UK's energy-intensive industries are not at a competitive disadvantage.

What little else there is available does not present a convincing case. The most information is held in two documents (July 2010 and March 2011) for the Energy Intensive Users Group^{xviii}. The March 2011 document's executive summary states: “*the report again highlights that the cumulative impact of all climate change policies is significant; especially on energy intensive sectors (see Graph 1)*”. This graph 1 is titled “*cumulative impact of **climate change policies** on an energy intensive user's costs*” (our emphasis added), and shows a rise from just under £2million in 2010 to just under £18 million in 2020. However, this graph is exactly the same graph as Graph 9 later in the report, except that Graph 9 is titled: “*Incremental impact on a*

representative customer of all climate change policies, higher energy prices and higher transmission and distribution prices” (our emphasis added). Graph 9 is clear that energy prices are responsible for over £9 million of the £16 million cited in Graph 1 – ie over half of the impact claimed in the title of Graph 1.

It also appears as if the impact of climate change policies is often being overstated. For example, the EEF response to the July 2011 DECC report on energy-intensive users headlined that “*by 2020 climate policy could be adding up to 52% to the price of electricity*”. This figure is the absolute worst case scenario in the DECC report for percent increase in electricity, and is based on a scenario with a 50% reduction in wholesale gas prices. First, it is very unlikely that this will happen given recent and forecast gas price rises, but even if it did happen this rise in electricity prices would be more than countered by the fall in industry's gas bills. This low gas price scenario has total energy bills at £11 million in 2030 compared with £12 million with unchanged gas prices. So if this scenario did happen, even though electricity prices rise, overall **energy bills** for energy-intensive industries would be lower not higher^{xix}.

Energy-intensive users assert that “climate policies” are damaging their competitiveness, and are a threat to UK jobs, but there appears to be little evidence that this is the case. An exemption from the the carbon floor price is not good for either the UK or their industry. It lowers overall UK tax revenues, and it will slow the necessary transition to a low-carbon economy,

5 Support for energy-intensive industry

Energy-intensive industries have a role in the transition to a low-carbon economy. We do not believe though that the CPF – adding 2% to energy bills by 2016, compared with far greater changes from fluctuations and rises in global fossil fuel prices – constitutes an immediate threat to those industries which warrants an exemption from the CPF.

Instead, the Government can strengthen its policies to help these industries make the transition to lower energy use and low carbon technologies.

There is a great deal that can be done. AEA Technologies have written a comprehensive report for the Committee on Climate Change on the range of carbon and energy cutting measures different energy-intensive industries could take, and the Centre for Low Carbon Futures have also produced a similar report, calling for major policy support from Government^{xx}. An August 2011 report estimates that investing 23 billion Euros in efficiency technology would save EU energy-intensive industry 100 billion Euros^{xxi}. Many cost effective measures are possible, but there are also policy and other barriers to implementing these, and barriers vary markedly between sectors.

The CBI have set out a number of recommendations to Government to support energy-intensive industries in its “blueprint for energy-intensive industries” report. We support:

- **A clear assessment from Government of the impact of energy and climate change policies on different sectors, and whether this constitutes a threat to that sector's competitiveness.** This assessment does not exist at present.
- **Government to work with business to create individual sector decarbonisation road-maps.** Each sector faces different challenges, policy help should be tailored accordingly.
- **Support from the Green Investment Bank for industrial energy efficiency investments.** The GIB also needs to be able to borrow well before 2016.
- **Further support for industrial CHP**
- **Further policy support for Carbon Capture and Storage**
- **Government support for energy-intensive industries negotiating long-term low-carbon power contracts,** through Electricity Market Reform
- Policy change through Electricity Market Reform **for energy-intensive industries to benefit financially from help with short-term electricity demand-balancing**

Conclusion

The collective effort of industry, Government and others must be on helping industries invest in using less energy and low carbon energy, not weakening measures which help make this happen.

Appendix

Carbon Floor Price – what is it?

This policy was introduced in the Spring 2011 Budget, and comes into effect in 2013. It's a price, currently fixed for 2013-2014 with indicative rates out to 2015-2016, that electricity generators must pay for every tonne of carbon they produce. It's intended to complement the EUETS, ensuring there is a minimum and stable price for carbon, to encourage low-carbon investment. Electricity generators will pass this price on to industrial and domestic customers through bills. The rate for gas used as a electricity-generation fuel is set in the first year at .091p /kWh. For comparison, the amount that industry currently pays for electricity under the Climate Change Levy is 0.43 p/kWh, with an 80% discount reducing that to 0.086 /kWh^{xxii}.

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- ii https://www.og.decc.gov.uk/information/bb_updates/chapters/production_projections.pdf
- iii Uses 2010 figures from UK Digest of Energy Statistics for average TWh used by a gas-fired plant, and the DECC “high” gas price scenario for 2020 of 120p/therm.£400m figure is in today's prices.
- iv http://www.centrica.com/files/pdf/the_economist_uk_energy_summit.pdf
- v <http://www.b2beco.com/files/UK%20climate%20change%20program.pdf>, page 3
- vi Waters and Wye, 2011. *The Cumulative Impact of Climate Change Policies on UK Energy Intensive Industries - Update Against New Government Policy*.
- vii There are also rates set for use of coal and oil in electricity generation
- viii Taking DECC projections of TWh from coal, oil and gas fired electricity in 2016, with HM Treasury predicted CPF rates for each.
- ix Assuming that 2.1 kWh gas to produce 1 kWh of electricity; total bill costs taken from Waters Wye report 2010 graph 11.
- x By the energy-intensive industries’ definition, they are “large” industries – on average using 100,000 MWh of electricity alone.
- xi Tables 3.1.3, 2.2.3, 2.3.3
- xii Sandbag Fat Cats reports 2010 and 2011. www.sandbag.org.uk
- xiii CE Delft, 2010. Does the energy-intensive industry obtain windfall profits through the EUETS?
- xiv <http://www.worldwide-tax.com/>
- xv Average gas use says W&W report =20m therms = 586m kWh = around £878,570 at CCL gas price of £0.0015/kWh, so current exemption at 65% is worth £570,000 (rising to £700,000 at 80%). The electricity CCL rate is £0.0043/kWh, =£4.3 /MWh, so use of 100,000 MWh is a CCL of 430,000, so exemption = £280k off at 65% rate, rising to 344k at 80% - so currently exemption= 570+280=850k off, rising to 1044k off
- xvi DECC, 2011. Provisional estimates of the impacts of energy and climate change policies on energy prices and bills of large energy intensive users.
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- xviii <http://www.waterswye.co.uk/reports>
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- xxi For just 4 sectors: basic chemicals, paper and cardboard, metal production and processing of non-metallic mineral products. www.rolandberger.com/media/press/releases/New_study_on_energy_efficiency.html
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