



E3G

# Decoding Nuclear Nonsense

*A reader's guide to the 2007 UK  
Energy White Paper*

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### About E3G

E3G is an independent, non-profit European organisation operating in the public interest to accelerate the global transition to sustainable development.

E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change.

E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere.

More information is available at [www.e3g.org](http://www.e3g.org).

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## A reader's guide to the 2007 UK Energy White Paper

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### Introduction

The 2007 Energy White Paper will be published by the UK government on Wednesday 23<sup>rd</sup> May.

Over recent weeks, increasing media coverage has portrayed the coming White Paper as being (to quote a recent Observer headline) “**Brown's vision for a nuclear Britain**”. Central to these reports have been the suggestion that nuclear power is a means of meeting both Britain's energy needs and its climate change goals.

The UK government has consistently pledged that there will be no public subsidies for nuclear power. It is quite possible, however, that the government will try to cheat on this commitment.

Tom Burke here provides a guide to the White Paper, setting out 7 key areas that readers should keep in mind when analysing the government's proposals.

His central message is that a pursuit of nuclear power will do nothing to deliver UK energy security or reduced carbon emissions in the required timeframe. Instead, investing in nuclear power would divert capital and resources away from the essential development of Carbon Capture and Storage.

A more detailed dissection of the potential role of nuclear power can be found in Tom Burke's recent David Hall Memorial Lecture which is [available for download](#) on the E3G website.

# Decoding Nuclear Nonsense

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### **1. The generators must be allowed to build new nuclear power stations.**

This is an intentionally misleading statement. There is nothing to prevent anyone who wishes to build a nuclear power station from doing so today. Except, that is, the economics. The reason no-one is applying to build new nuclear power stations is that there is no pressing need to do so at the moment.

Much is being made of the uncertainty caused by the regulatory and planning systems. These arguments are largely hand waving. The real barrier to investment in new nuclear build is the uncertainty about future electricity prices and the cost of actually constructing nuclear reactors.

Uncertain electricity prices are a consequence of a liberalised electricity market – a government policy explicitly intended to drive down electricity prices. This leaves the government with the choice of either abandoning the liberalised electricity markets it wants the rest of the EU to adopt or finding some way to cheat on its pledge to provide ‘no subsidies’.

### **2. How will the government cheat?**

The most likely way to cheat would be by offering to provide a framework for the pricing of carbon that offers enough stability to encourage long term investment. Put in plain language, it will propose a floor price for carbon. Given that the current price for carbon is less than 1€ a tonne and the floor price needed to make new nuclear attractive would be much more than 20€ a tonne this would commit the Treasury to very large future expenditures.

It will also cheat by making the taxpayer bear an unspecified share of the cost of radioactive waste disposal. Alistair Darling has consistently refused to specify what he means by ‘full share’ of these costs. If the cost is to be shared at all then

the generators are not being asked to bear the full cost. That means they will be getting another subsidy.

### **3. Language to watch.**

Beware of words like 'allow'. This can be interpreted to mean 'should not be prevented from'. However, as there is no prevention anyway it is more likely that what is meant is 'allow' in the sense of 'should be actively assisted to'. It is much more likely that this is what the government means.

The three obstacles the government is intending to help the generators with are: the time it would take to subject the reactor design to a proper examination of its safety case; the time it would take for the need for the reactors to be examined properly by the public; and the uncertainty about the future price of electricity.

### **4. Are they really necessary?**

This proposition is a return to the supposed 'generation gap' much favoured by the CEGB before Mrs Thatcher sold it. It is simply an artefact of forecasting. No 'generation gap' will appear. It is true that our existing generation capacity will decline in the future, including our nuclear generation capacity. As it does so it will be replaced in the future, as it has been in the past, with new capacity decided on by the generators. That is how markets work. There is currently a margin of more than 20% of capacity over peak demand. Why would anyone expect the generators to build new power stations before they are needed?

### **5. What about increasing our dependence on Russian gas?**

This is simply a scare tactic. First, gas is used mainly to provide heat. Only a quarter of the gas we burn is used to produce electricity. Much of that quarter is used to generate electricity at peak times because gas turbines can be switched on and off easily. Nuclear power stations must be run constantly to be economic so they can only replace a small proportion of the gas we use for electricity generation.

Anyway, most of our gas now and in the future comes from that deeply unstable country, Norway. Furthermore, Russia is more dependent on our revenues than we are on their gas as has been pointed out by one of our former ambassadors to Russia.

## 6. What about climate change?

New nuclear build can do nothing worthwhile to help with climate change and would divert capital, and more importantly, scarce skills away from investments in the carbon neutral coal technologies, renewables and energy efficiency that will reduce our carbon footprint faster and more cheaply than new nuclear build.

Even under the most favourable circumstances there is no possibility of any new nuclear electricity being available in Britain before 2020. As the government points out, we will have had to replace most of our nuclear and some of coal generating capacity before then. We will have to do that in a carbon neutral way to meet our emissions reductions targets.

If we will deploy the carbon neutral technologies to generate electricity before we can possibly have any new nuclear electricity, what do we need the nuclear for?

## 7. Anything else?

Look very carefully at any numbers about capital costs or construction times. The nuclear industry has always got these wrong. Frequently cited estimates for the capital cost of a nuclear power station range from \$1,000/kilowatt to just over \$2,000/kilowatt hour. The estimated cost of 8 reactors actually being constructed in Asia is just over \$4,500/kilowatt. The construction time for the much vaunted new reactor in Finland has increased from 48 months to 66 months in 18 months.