

# DOES THE UK NEED A CONTRIBUTION FROM NUCLEAR POWER?

# YES

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**Dr Robert Hawley CBE FREng**

A worrying feature of the recent General Election campaign was the absence of any serious political debate about energy policy – an issue that affects all of our lives, and has a profound impact on the health of the national economy. I sincerely hope that a serious debate about energy policy and the future role of nuclear energy takes place quickly after the election. Without urgent action the UK will face a crisis in the security of our electricity supply in the next decade as existing coal and nuclear stations close and we become increasingly dependent on imported gas for electricity generation. Moreover, without a substantial contribution from nuclear, we are very unlikely to meet our targets for reduced emissions of greenhouse gases to combat the dangers of climate change.

Consider the facts:

- Nuclear energy supplies almost a quarter of UK electricity safely, reliably and cost-effectively, emitting virtually none of the greenhouse gases that are the principal cause of climate change, or the pollutants that cause urban smog and acid rain. It contributes to energy diversity and security of supply.
- Decommissioning is proven and the establishment of the Nuclear Decommissioning Authority provides assurance that the historic nuclear legacy will be dealt with safely, efficiently and cost-effectively.
- Waste management policy is being addressed, belatedly, through the CoRWM process, and once a clear route is decided should not be a barrier to new nuclear build.

But what will happen when the closure of the Magnox and AGR stations is completed by 2023, leaving only Sizewell B to contribute a mere 3% of our electricity needs?

Carbon dioxide emissions are rising now and the Government concedes that it will fail to meet its emissions reductions targets in 2010. What confidence can we have that a 60% reduction in carbon dioxide emissions by 2050 is achievable if the largest low carbon source of electricity disappears from the mix? Meeting that target, assuming no change in technology, would allow only 30% of fossil fuel for electricity generation. If nuclear remained around 20%, renewables

would have to account for 50%. To get even 10% of electricity from wind by 2020 (half the Government's target) would mean building over 20 2MW wind turbines a week for the next 15 years. This is clearly an impossible target. Moreover, the cost of subsidies to provide 20% of electricity from wind would be three times more expensive than an equivalent nuclear programme.

On current policies, imported gas – mainly from Russia, but also from North Africa and the Middle East – will be the dominant fuel for electricity generation, accounting for up to 80% of production by 2020. Britain will be at the end of a long pipeline, traversing regions of potential political instability and giving rise to risks of serious supply shortages and price volatility. Britain could move from being the most energy secure country in the G8 to the least secure by 2024.

Unless the Government moves quickly to avert these risks the UK will face the prospect of higher energy prices, and the potential for major blackouts. By encouraging private sector investment in efficient, competitive new nuclear with measures such as pre-licensing of reactor designs, amending planning and regulatory requirements, and introducing a market that recognises and rewards nuclear's contribution to security of supply and emissions reduction, the Government could move towards ensuring a secure, stably priced energy supply and a cleaner environment for the future.

# NO

**Pete Wilkinson** helped to establish Friends of the Earth in 1971 and Greenpeace UK in 1978. He is a published author and a popular public speaker. He now runs his own environmental consultancy specialising in the energy sector and waste management.



Pete Wilkinson

I, and some 20 million others according to statistics, feel uncomfortable with a technology which I believe is intrinsically unsafe, which generates inherently problematic and costly waste streams and which creates more costs than benefits. In an age where efficiency and decentralisation must be the key attributes of any electricity generation programme, nuclear offers neither. Nuclear plants cannot be made co-generating, they commit us to a high-tech programme in an age of declining skills, and to a future which demands either potentially endless vigilance to prevent stored nuclear waste and materials falling into terrorists' hands or the anxiety of scientific uncertainty associated with long-term impacts from waste disposal. They require crippling financial investment in plants which are prime terrorist targets either for sabotage or materials diversion, and commit us as a

society to a future of repression and infringement of civil liberties. Even after 60 years of nuclear development and use, we remain uncertain as to the impact of low levels of radiation.

Such concerns about nuclear technology do not in any way ignore or dismiss the fact that in order to function as a society we require sufficient electrical capacity, nor that we have an obligation to meet our climate change targets. The presupposition that we can achieve both only by accepting that we need a nuclear contribution is, in my view, likely to be erroneous but remains demonstrably unproven.

The Government claims that any resurrection of a new nuclear build programme after the election will be driven by the climate change issue which it has put at the heart of domestic energy policy. But while there remains no transparent and independent energy audit of the nuclear fuel cycle – from uranium mining to the inevitably energy-intensive back-end waste management – the claim that nuclear power does not contribute to climate change will not convince sceptics like me. This argument notwithstanding, no matter how many nuclear plants the UK builds, the solution to the international problem of climate change requires an international solution, not to mention intervention in transport policy as well as energy.

The energy debate has been characterised as renewables versus nuclear, and the arguments about new nuclear build

have not changed much in the last 20 years despite six of them being dedicated to dialogue. But the problem with the energy review which provides the arena for the debate is that there has been no review worthy of the name. While we undoubtedly do not want to rely on imported electricity in an increasingly unstable world, we cannot, at the same time, use this as an excuse to unthinkingly compromise this and future generations by opting for nuclear.

We need an energy review worthy of the name: it needs to be an open and transparent dialogue involving all key stakeholder groups. It needs to arrive at a set of agreed assumptions, for example security of supply, self-sufficiency, maximising jobs, meeting international obligations, affordability, minimising environmental impact etc. It needs to be set against a backdrop of assumed interventionism and leadership in decentralisation to reduce losses in transmission and efficiency to reduce demand. And it needs to forensically examine the pros and cons of all available and potentially available technologies from 'cradle to grave' to determine if and how they can contribute to a sustainable and long-term energy strategy for the UK.

Only then will we be able to answer the question 'does the UK need a contribution from nuclear?' with any authority and with any realistic chance of moving away from confrontational attitudes which have dogged this debate for too long.