



Nuclear power is not a solution to climate change

Friends of the Earth opposes any new nuclear power stations in the UK and globally

Nuclear advocates argue that nuclear power is necessary to 'keep the lights on' while cutting our climate change emissions and reducing Britain's increasing dependence on gas imports. Climate change is the biggest threat we face but nuclear power has no role to play in a safe and energy secure solution. Renewable energy is the only sustainable, large scale, low-carbon and safe energy option, in the UK and globally.

To stop the devastating effects of climate change, the UK needs to cut its carbon dioxide emissions by at least 80% from 1990 levels by 2050. A new nuclear programme would only make a minor contribution to tackling climate change and the various risks and dangers are simply not worth it, nor its toxic long term legacy.

Nuclear power generates less than 4% of UK energy consumption and globally only 3.1% [1]. Even trying to maintain, let alone increase, such levels would raise more intractable problems in terms of additional waste, terrorism risk, compromised foreign policy, proliferation, hidden costs, accidents and even the future reliability of uranium imports. Nuclear power is a threat to energy and national security.

The best way for the UK to reach its emissions reduction and energy security goals is through investment in the diverse range of renewable and combined heat and power technologies, together with energy efficiency measures [2]. Clean coal with carbon capture and storage could also play a significant part in reducing both dependency on gas imports and carbon emissions quickly. Energy efficiency measures alone could cost-effectively reduce fuel use by up to 30% [3]. This would also significantly and quickly reduce UK emissions, not just from electricity generation but also from heating and transport.

The UK has the best renewable wind, wave and tidal energy resources in Europe, but we are barely using them yet. Offshore wind farms alone could supply most of our electricity needs and potentially much of our energy too. And we can also use tidal, wave, biomass, solar power and other renewables to further reduce emissions and achieve energy diversity rather than dependency. Fuel imports and emissions can be further reduced by the building of Combined Heat and Power (CHP) schemes, large and small. Currently, about 30% of UK's overall energy supply is dumped as waste heat and hot water from power stations. This loss (about 850 terawatt hours per year) is about ten times larger than the amount of energy produced by nuclear power (around 80 terawatt hours per year) [4].

Yet CHP or 'decentralised power' technologies can pipe much of the 'waste' hot water arising from power generation up to ten miles or more and put it to good use in buildings and industry. Very significant fuel and emission savings of around 30% for gas-fired schemes and up to 50% for coal-fired schemes are achievable [5].

Despite such benefits, only 7% of the UK's electricity is generated by CHP, one of the lowest percentages in the European Union. In comparison, the Netherlands now generates 30% of its electricity by CHP and Denmark has reached 50%. The UK government has an aspiration for CHP to generate around 33% by 2020. But policies 'not fit for purpose' have resulted in virtual stagnation around 7% after 10 years in office and much publicised expressions of concern by ministers about energy security and carbon emissions.

Government claims that new nuclear technology would be cheaper than most renewable sources, including CHP, are unconvincing. Nuclear power has proven to be very expensive, especially when waste costs, decommissioning costs, insurance risk and research is included. Billions of pounds of UK taxpayers' money have already been spent propping up the industry. Billions more are earmarked for dealing with radioactive waste, much of which will remain highly dangerous for generations to come.

The waste itself poses long term problems. Despite more than half a century of nuclear generation, it is still not known how to safely manage its toxic legacy. Surely current generations have a duty to avoid dumping more nuclear waste on future generations if reasonable alternatives exist, which they do.

Much of the know-how and technology used for nuclear power can also be used to make nuclear weapons. In a world where every country needs to be able take action to tackle climate change, nuclear power is a global liability. If we in the UK, with all our renewable resources, aim to use nuclear power in a bid to cut our emissions, on what authority or moral standing could we deny it to other countries? The taint of hypocrisy could compromise foreign policy and wouldn't help non-proliferation. The controversy over Iran having a nuclear programme is now causing widespread international alarm which could spark pre-emptive attacks by Israel or the USA within a few years. This would have very serious international implications and could exacerbate another problem of nuclear power, terrorism. The US president, George Bush, has admitted that plans for US nuclear reactors have been found in Al Qaeda training camps in Afghanistan. Nuclear facilities are political symbols and vulnerable targets.

The case for a new UK nuclear power programme is unconvincing in our view. Nuclear power makes a small but very dangerous contribution and there are better ways to reduce fuel imports and carbon emissions. Globally too, nuclear power poses unnecessary problems. Earth has abundant renewable energy resources which can be used to power all future energy needs safely, securely and sustainably. For example, mirror schemes covering just 1% of the area of Earth's deserts could generate all current global electricity [6].

The people of the UK have a clear choice. At the moment the government is minded to promote nuclear power which would move us towards a more dangerous nuclear world and at a time on heightened international tension about nuclear proliferation and terrorism. Yet we can choose to become a global leader in tackling climate change by promoting safe, peaceful, and powerful renewable and non-nuclear low carbon technologies, both in the UK and abroad.

More detailed briefing available at:

http://www.foe.co.uk/resource/briefings/nuclear_power.pdf

[1] Calculated from figures from www.iea.org/textbase/nppdf/free/2007/key_stats_2007.pdf

[2] For details of how this could be achieved see Friends of the Earth. 2006. A Bright Future www.foe.co.uk/resource/reports/bright_future.pdf

[3] www.ukace.org/

[4] www.dti.gov.uk/energy/statistics/publications/dukes/

[5] www.cleanheat.org

[6] www.TRECers.net