

## Briefing #15: Why nuclear is not the answer to the climate crisis

*New nuclear power stations are central to the UK government's new energy strategy. Some influential environmentalists like George Monbiot support nuclear as part of tackling the climate crisis and the Intergovernmental Committee on Climate Change (IPCC) argue that globally by 2050 energy production should 70% renewables and 30% nuclear. So why do we say that there should be no role for nuclear? In this briefing we explore the arguments around nuclear and demolish some of the myths about nuclear power.*

### A military technology

The raw material for nuclear weapons is produced in nuclear reactors. In the US, the UK, Russia civil nuclear power was developed after the second world war to support nuclear weapons programmes. Researchers at the [University of Sussex Science Policy Research Unit](#) have shown that to this day the main role of nuclear power in the UK main has been to subsidise nuclear weapons. Electricity consumers have paid the price through higher costs, providing a hidden subsidy for the nuclear weapons programme.

### High cost

Nuclear power costs two to three times as much per unit of electrical energy than offshore wind. Onshore wind and solar is even cheaper. These comparisons don't include the cost of decommissioning old nuclear power stations (which takes many decades) or the cost of safely storing the radioactive waste that they generate (which is necessary for thousands of years). These additional costs are born by consumers and taxpayers.

### Long construction times

Since 2011 construction has started on 57 nuclear power plants around the world. Ten years later only 15 are operational, with many incurring long delays and massive overruns on predicted costs. Even advocates of nuclear power argue that it would take around 25 years for new nuclear to make a significant impact to global energy production.

### Carbon free? Not at all!

To widespread consternation, the European Commission recently declared nuclear a green technology. Clearly nuclear reactions don't generate greenhouse gases. However, it's a myth that nuclear is a carbon free resource. Uranium mining, plant construction, which requires large amounts of concrete, and decommissioning are all carbon intensive. A 2017 [report by WISE International](#) estimated nuclear lifecycle emissions at 88–146 grams of carbon dioxide per kilowatt hour. More than ten times higher than wind with lifecycle emissions power of about 5–12 grams. Uranium fuel is scarce and carbon emissions from mining will rise as the most easily recoverable ores are mined out.



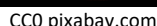
Chernobyl CC0 Pixabay.com

### Safety

The consequences of nuclear accidents are severe. Proponents of nuclear power downplay the impact of the Chernobyl disaster in 1986 and argue that the number of deaths was small. In a scrupulous investigation, Kate Brown author of 'Manual for Survival – A Chernobyl Guide to the Future' has researched the decades long efforts by the old Soviet Union, and then the US, to cover up the impact of Chernobyl. She estimates that the true figure for deaths is in the range 35 – 150,000. Many nuclear plants (like Fukushima) are built close to the sea to provide water for cooling. increasingly these reactors will be at risk as sea levels rise.

About 70% of uranium mining is carried out on the land of indigenous people. Mining and leaks of radiation have had a devastating effect on the environment in these areas. Building more nuclear power will result in **more leakage of radioactive materials** into the environment and more workers exposed to unsafe conditions and preventable deaths.

Rolls Royce is pushing for the development of small modular nuclear reactors as a response to the climate crisis. It's argued that they could be built more quickly although this is unproven. In addition to sharing all the negative features of larger reactors, new research at Stanford University suggests that smaller reactors are less efficient and produce up to 35 times the amount of low-level radioactive waste and 30 times the amount of long-lived waste compared with larger reactors.



While Westminster is planning huge investments, the Scottish Government is currently opposed to new nuclear generation. Nevertheless, Scotland has more licensed nuclear installations per head of population than anywhere else in the world. Only one of these, Torness, is currently generating electricity, and

Advocates of nuclear power argue that nuclear is essential to the energy transition we need because, unlike wind and solar, it is not dependent on the weather or the time of day and so can provide a reliable base load. There are alternatives – more investment in tidal generation could also support based load supply – and the development of a smart grid involving multiple types of storage – pumped hydro, local heat pumps and battery could ensure an energy supply system that is resilient. Developing these systems alongside wind and solar would enable the energy system to be transformed much more rapidly than is possible with nuclear. A nuclear strategy is just too slow to meet the urgent need to reduce carbon emissions over the next decade. And the big sums of money being channelled in to nuclear divert investment from renewables and prevent that rapid and necessary transition.

E3 is a group of rank-and-file trade unionists, activists, and environmental campaigners. In 2017 we made a submission to the Scottish Government's Consultation on a Scottish Energy Strategy. Since then, we have been busy producing and sharing leaflets and bulletins. We held well-attended conferences in 2018 and 2019 that produced a draft manifesto for a Just Transition in Scotland, and we have published a groundbreaking study on the North Sea Oil tax regime by Jean Carlos Boué

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## #14 Climate, Fuel Poverty, and the Cost of Living

