

## No New Nuclear

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Climate activists across the world are uniting to protect the planet from continuing fossil fuel use. There is much talk of a green industrial revolution and a Green New Deal. This sounds good, but what does it mean?

**Kevin Frea**, <u>co-chair of the Climate Emergency Network</u> and deputy leader of Lancaster City Council has worked hard to sign local councils up declaring a climate emergency. He said: "This movement is being led by every political group and is involving local people in planning the actions needed to cut carbon."

But there's an important thing missing here. <u>Last September members of Radiation Free Lakeland lobbied Lancaster City Council</u> asking the council to include a <u>No New Nuclear</u> clause in their climate emergency planning.

#### Renewables

The council agreed that renewables are the way forward and it is brilliant that council members are <u>actively involved in local community renewable</u> schemes.

However, they thought that including a no new nuclear clause in their climate emergency planning was not necessary. Frea said: "Heysham, is number eight on the new nuclear plant list and it is not likely to go ahead".

This new nuclear nonchalence rather misses the point. The continued push for new nuclear is decimating urgent steps towards renewables and energy efficiency.

The nuclear industry has been suppressing renewables for decades (<u>remember Salters Duck?</u>) and shows no sign of slowing down.

It is somewhat ironic that the biggest pour of carbon emitting <u>concrete in the UK ever</u> has taken place at Hinkley C near Bristol. Yet <u>Bristol City Council</u> became the first UK council, on 13 November 2018, to declare a climate emergency.

#### **Fossil fuels**

The nuclear and fossil fuel industry are mutually intertwined. The <u>biggest gas plant being</u> <u>constructed in the UK right now is at Sellafield</u>, home to 80 percent of the UK's nuclear waste.

The new gas plant will not be completed until 2025. As well as the gas plant there are diesel generators on the Sellafield site in case of emergency.

Sellafield's <u>Calder Hall reactor</u> stopped producing its nominal electricity in 2003. The main product of Calder Hall was <u>plutonium for nuclear weapons</u>.

Nuclear power is not green, is not new and is not low carbon. <u>Mark Z. Jacobson, director of Stanford University's Atmosphere and Energy Programme</u>, said: "There is no such thing as a zero or near-zero-emission nuclear power plant".

With construction taking anything up to ten to fifteen years longer than renewable projects, the emissions not saved over those years should be taken into account.

## **Emissions**

Jacobson's paper cites the Olkiluoto 3 reactor in Finland, the Hinkley Point nuclear plan in the UK and Vogtle 3 and 4 reactors in Georgia, among others, as examples of projects for which planning began in the past decade and whose entry into commercial operation is still far from complete.

Utility scale solar or wind schemes take from two to five years to begin commercial operations – nuclear effectively emits 64-102g of CO2 per kilowatt-hour of plant capacity just from grid emissions during the wait for projects to come online or be refurbished, compared to wind or solar farms.

Jacobson argues that even existing plants emit carbon dioxide due to the continuous mining and refining of uranium needed for the plant.

However, all plants also emit 4.4g-CO2e/kWh from the water vapour and heat they release. This contrasts with solar panels and wind turbines, which reduce heat or water vapour fluxes to the air by about 2.2 g-CO2e/kWh for a net difference from this factor alone of 6.6 g-CO2e/kWh.

## **Carbon footprint**

In our presentation to Lancaster City Council we quoted from The Edinburgh Energy and Environment Consultancy, which has pointed out that: "All energy sources produce some carbon emissions during their life cycle. There will be CO2 emissions generated to make the steel to build wind turbines for example.

"It can be quite complicated to work out the life cycle emissions for nuclear power. Professor Benjamin Sovacool, now at Sussex University, has looked at 103 different studies and concluded that the mean value is about 66 grams of carbon dioxide for every kWh produced by nuclear power. This compares to about 9g for wind, 32g for solar and 443 for gas.

"This puts nuclear as the third highest carbon emitter after coal-fired plants and natural gas. If a large programme of reactors were built around the globe, life-cycle emissions would increase as the quality of uranium used decreased, making it necessary to use more energy to get the uranium out of the ground."

Perhaps it is time for nuclear to be regarded almost as a fossil fuel by proxy in view of the vast amount of carbon dioxide released in the required processes before and immediately after nuclear fission takes place in the reactor core, and including later storage.

The full extent of the carbon footprint, nuclear fuel cycle and lifetime burden of carbon dioxide, toxic and radioactive emissions from the nuclear power industry and the negative impact on public health, the environment and the economy is not being adequately calculated and made available for public scrutiny and comparison with other energy sources.

### PR offensive

Further, the heating effect of discharges to the atmosphere and sea and also the use of water as a coolant for reactors and nuclear wastes are all contributing to ocean temperature rise and climate change.

We are increasingly concerned that the government is continuing with its nuclear new build programme virtually unopposed by mainstream NGOs.

Greenpeace and Friends of the Earth have not included the need to divest from nuclear in their Climate Action Plans. While people are vehemently encouraged and fully supported to stare down the Climate Change wolf at the front door – the full pack of Nuclear wolves are already climbing in the back door.

So-called "Small Modular Reactors" are being pushed in a <u>PR offensive by the nuclear industry and supported with £500M of taxpayers money.</u>

The proposal is for SMRs to run for a few years (they still need massive concrete containment which aims to stop radioactive emissions), and then be <u>dumped in the as yet to be built Geological Disposal Facility.</u>

#### Get involved

We can stop this. Please ask your council to include a No New Nuclear clause in their climate planning.

We will continue to lobby Lancaster City Council and other councils in the North West to sign up to a No New Nuclear clause. If you would like help in pushing for a No New Nuclear clause please do contact Radiation Free Lakeland.

Climate Planning which leaves the door wide open to nuclear is meaningless.

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