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As we simmer in the summer heat, we should bear in mind that the equivalent of 3 million kettles worth of boiling waste heat will be added to the Severn Estuary every second throughout the 60 year life of Hinkley Point C.

Today, as we think about climate change and global warming, industrial processes need to be closely scrutinised for their contribution and accountability.

The nuclear industry claims that Hinkley Point C, Sizewell C and Bradwell B will all be needed to play a part in fighting climate change.

When we look more deeply, we find that nuclear power generation constantly adds new heat energy to our environment, increasing the global warming problem.

The following points explain why:

- The fission of 1kg of Uranium produces more heat energy than 2 million kilograms of coal.
- Only one third of this heat is used to produce electricity using steam generation.
- Two thirds of the heat energy from the fission process is sent directly out into the sea.
- The equivalent of 3 million kettles of constantly boiling water, as waste heat energy, will be continuously added to the Severn Estuary every second throughout the 60 years of the proposed operational life of Hinkley Point C (1).
- Vast amounts of carbon dioxide are produced worldwide during the mining, milling, transporting and processing of Uranium for nuclear fuel. For every 1 kilo of Uranium 100 kilos of rock have to be extracted from mines and ground up to a fine dust and processed. This is done to the huge detriment of the environment and the health of the workers and local populations (2). This radioactive Uranium, Yellow Cake, is then transported to Springfields, Lancashire to be turned into fuel rods for nuclear reactors worldwide
- Building the reactors and the nuclear waste storage facilities, which will have to last for tens of thousands of years, also produces large quantities of carbon dioxide. Hinkley Point C is currently the largest construction site in Europe and likely to be the most expensive man made object on the Earth once completed (3). The final pour of the first reactor base of 9,000m3 was the largest concrete pour in the UK ever (4).
- The basic laws of science dictate that all the energy from the nuclear fission process ends up as heat energy in our environment held primarily in the sea.

• The energy released in nuclear fission is an additional source of energy / heat that was formed in Uranium atoms deep in supernovae 6.6 billion years ago (5) before our solar system was formed.

The nuclear industry, both military and power generation, is directly increasing global warming by releasing this heat that is locked in Uranium in the Earth into our atmosphere.

The energy released in nuclear fission in the worlds 450 nuclear power stations is an additional source of energy/heat that was formed in Uranium atoms deep in supernovae 6.6 billion years ago before our solar system was formed.

"Basic science has been used selectively by the nuclear industry to delude us into accepting that nuclear power can help us combat Global Warming when it is in fact a significant contributor," says Katy Attwater of the Stop Hinkley Campaign.

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## **Notes**

- (1) Thermal capacity of HPC is 9,048 MW; Two thirds = 5,788MW =5,788,000kW; 5,788,000 □ 2kw kettles=2.984,000
- (2) Australia's aboriginal communities clamour against Uranium mining, Guardian 9<sup>th</sup> August 2010 <a href="https://www.theguardian.com/environment/2010/aug/09/austrailia-aboriginal-uranium-mining">https://www.theguardian.com/environment/2010/aug/09/austrailia-aboriginal-uranium-mining</a>
- (3) BBC 29th April 2016 https://www.bbc.co.uk/news/magazine-36160368
- (4) EDF Energy 28<sup>th</sup> June 2018 <a href="https://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/news-views/hinkley-point-c-hits-biggest-milestone-yet">https://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c-hits-biggest-milestone-yet</a>
- (5) <a href="https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/uranium-resources/the-cosmic-origins-of-uranium.aspx">https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/uranium-resources/the-cosmic-origins-of-uranium.aspx</a>