

## Is Botley West Solar the best option for our climate crisis?\*

What has been happening this summer makes previous discussions of the ‘threats’ of ‘global warming’ or ‘climate change’; and a net-zero targets for 2050 look as out of date as a pony and trap. We are experiencing ‘global boiling’. As the letter in the August edition of Woodstock & Bladon News from the Sustainable Woodstock steering group rightly pointed out ‘the climate crisis is the defining crisis of our time’. An article by Peter and Susanne Ditlevsen published this July modelled the threat of the gulf stream collapsing.<sup>1</sup> That would mean that our climate would be like Canada’s, and bring catastrophic consequences for India, South America and West Africa; and further endanger the Amazon rainforest and Antarctic ice sheets. The gloomiest prediction of the collapse of the gulf stream was just two years away. So, is the proposed development of the Botley West solar farm needed more than when we first learnt of that in the Autumn of last year? For me, that proposal, raises three questions.

First, is solar the best choice given the immediate impact of manufacturing the technology needed is to add greenhouse gases (GHGs) to the atmosphere? To answer that question, we need to know the GHG emissions generated per kilowatt-hour for each technology over its total life cycle – that includes production, installation, operation and de-commissioning. The National Renewable Energy Laboratory (of the US Department of Energy Office of Energy Efficiency and Renewable Energy) undertook a systematic review of 3,000 published life cycle assessment studies of various forms of electricity generation. They found ‘from cradle to grave, coal-fired electricity releases about 20 times more GHGs per than solar, wind, or nuclear electricity’. But they also found that land and off-shore wind produce much fewer GHGs than Photovoltaic per kilowatt-hour.<sup>2</sup>

Second, why develop one of the biggest solar farms in the world in one of the countries that is the least propitious for the generation of solar energy? The World Bank shows Britain’s relative lack of sunshine means that it is one of the worst places in the world for Solar Photovoltaic Power Potential.<sup>3</sup> Britain is a great place for generating green energy powered by wind.

Third, why is the government looking to private finance of green technology when the government can always borrow more cheaply than any private investor? Regulating privatised green energy generation looks more problematic than regulation of privatised water and sewage, and we know how that has turned out.

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\* This letter was published in the *Woodstock and Bladon News*, September 2023, pp. 5-6.

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<sup>1</sup> Ditlevsen, P., Ditlevsen, S. Warning of a forthcoming collapse of the Atlantic meridional overturning circulation. *Nature Communication* **14**, 4254 (2023). <https://doi.org/10.1038/s41467-023-39810-w>

<sup>2</sup> National Renewable Energy Laboratory Life Cycle Greenhouse Gas Emissions from Electricity Generation: Update. <https://www.nrel.gov/docs/fy21osti/80580.pdf>

<sup>3</sup> World Bank (2020) *Solar Photovoltaic Power Potential by Country*.

<https://www.worldbank.org/en/topic/energy/publication/solar-photovoltaic-power-potential-by-country>