DPS0007

Written evidence submitted by Net Zero Watch

Net Zero Watch campaigns for rational climate and energy policies.

No cost-benefit analysis has been performed

The Net Zero project has never been subject to any form of cost-benefit analysis (nor indeed any engineering study worth the mention). Indeed, the Climate Change Committee published an auxiliary report to its original Net Zero Report that argued that the project should not be analysed in this way. Government policy is to compare the cost of measures against a "target consistent carbon price" which is meaningless. However, one independent assessment of the UK's electricity decarbonisation programme suggests that the costs are more than double the benefits.[1]

Wind power is 3-4 times the long-term cost of gas

Plans to decarbonise the power sector are based on a false premise, namely that wind power has seen dramatic cost reductions. Such claims are unequivocally false. The levelized cost of offshore wind remains at around £125/MWh, while onshore is around £100/MWh (Figure 1). In normal times, a modern gas-fired turbine running flat out would deliver power at around £40/MWh. The estimates in the figure are derived from audited financial accounts and official generation data.[2] The results have now been widely reproduced, including in the peer-reviewed literature.[3] There is therefore no doubt that wind power is extremely expensive.

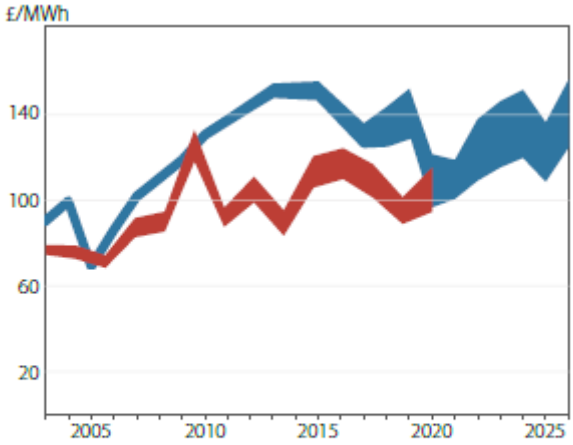

Figure 1. UK wind fleets – levelised cost by year of commission. Blue, offshore; red, onshore. Offshore costs projected into future based on announced capital costs. Sources: Updated from Montford 2021[3] and Montford 2022.[4]

[1] Rögnvaldur Hannesson, 'How much do European households pay for green energy?', *Energy Policy* 131 (2019), 235–239.

[2] A Montford, The Economics of Wind Power. https://www.netzerowatch.com/content/uploads/2023/03/True-cost-of-Wind-2023.pdf

[3] See Aldersey-Williams et al., *Energy Policy* 128 (2019) 25–35. Hughes, Wind Power Economics – Rhetoric and Reality, https://ref.org.uk/ref-blog/365-windpower-economics-rhetoric-and-reality. Porter, 'Addressing the high real cost of renewable generation', https://watt-logic.com/2022/04/11/cost-of-renewables/

Despite the availability of such reliable cost data, the Government appears to rely on estimates that work backwards from *price* data, namely CfD auction bids. The figures that result are much lower (ludicrously so). However, CfD contracts are non-binding, and indeed have been universally ignored since the start of the energy crisis – no new operational capacity has been added to the CfD system since October 2021. The lowest-priced operational unit in the CfD system is currently delivering power at £93/MWh.

The energy storage problem is being brushed under the carpet

Wind power is highly erratic (much more so than solar). The UK therefore needs to be able to store up to 20 days' of demand to guard against occasional dunkelflautes (wind lulls in winter, when solar is also not producing). It would need up to 35 days to see it through the summer, when wind speeds are low. It would need up to 50 days to guard against wind drought years. In a net zero grid, the UK might have demand of 3 TWh per day, which would cost £1 trillion for lithium ion batteries or £0.4 trillion for compressed air storage. To store 50 days' demand, the equivalent figures are £56 trillion and £19 trillion respectively.

Because these large quantities of storage are only used only rarely – for inter-annual storage, perhaps only once per decade - they are extraordinarily expensive. Wind power going into a hydrogen store at £125/MWh would come out again at over £1000/MWh. The alternative approach, of overbuilding generation capacity, makes little difference to the system cost because so much electricity is then wasted at times when the wind is blowing.

Modelling conducted by Net Zero Watch suggests that a system based on wind and solar and hydrogen storage would deliver consumer prices as high as anything seen during the recent energy crisis, but on a permanent basis.

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