NETZERO WATCH

THE ECONOMICS OF WIND POWER

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Introduction

Since 2017, the wind industry and its supporters in the media have pointed to the very low bids put into the Contracts for Difference (CfD) auctions as proof that a cost revolution has taken place. They have told public and politicians, incessantly, that wind power is now the cheapest form of generation.

However, in recent weeks, the wind industry and its supporters have changed tack, arguing that materials price rises and inflation mean that they can no longer make a profit without further subsidies and tax breaks, and that CfD Round 4 developments, such as Hornsea 3, will not come on line unless ministers assent.[1] Industry bodies that have insisted for the last six years that offshore wind can deliver power at less than £50/MWh now expect us to believe that they cannot make a profit. This doesn't so much strain belief as blow it to smithereens. Market prices have averaged over £130/MWh this year, so even if input prices had doubled, windfarms should still have operating margins of 25%, a extraordinary level of profitability.

What is going on?

Windfarm generation costs have not fallen

Firstly, we can be certain that there has been no revolution in costs. Wind lobbyists point to the increasing height and capacity of turbines as the source of falling costs. However, for physical and engineering reasons, the gains from relying on larger turbines have been falling while the costs of building and operating them have been increasing rapidly. They fail more frequently and are expensive to maintain, so their expected economic life is relatively short. At the same time the wider impacts of wind turbines, especially onshore, get much larger as turbine size increases

The financial accounts of all the offshore windfarms that were supposed to deliver power at less than £50 show unequivocally that their costs and operational performance are similar to earlier windfarms (Figure 1). Onshore windfarms have been becoming steadily more costly. These results have been widely reproduced.[2]

But claims that they are rising fast are false

Claims that inflation has caused difficulties are also false, however. All new capacity will operate under the Contracts for Difference regime, which offers guaranteed, *index-linked* prices to generators. In addition,

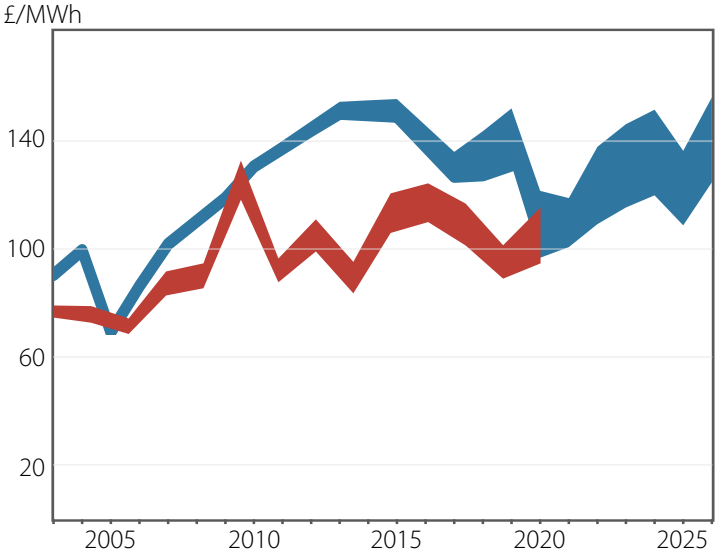

Figure 1. UK wind fleets – levelised cost by year of commission. Blue, offshore; red, onshore. Offshore costs projected into future based on announced capital costs. Sources: Updated from Montford 2021[3] and Montford 2022.[4]

there is little sign that key commodities used in windfarm construction are at higher prices now than when CfD bids were submitted at the start of 2022 (Figure 2). In fact only cement has seen price rises since that time.

This would suggest that if the industry's claims about a cost revolution were true, windfarms should be making 60% operating margins.

The cost data outlined above, and the fact that the industry is calling for further subsidies, shows that those claims were false. The renewables industry has been playing a game with government and the public, hoping that when their deception about their costs became clear, politicians would roll over and hand out further subsidies.

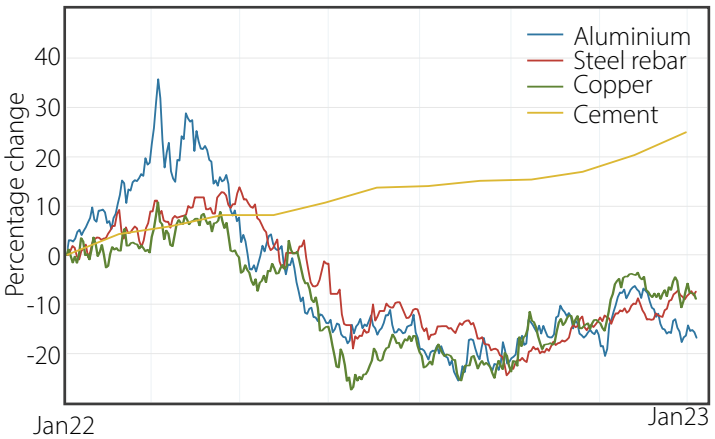

Figure 2. Commodity prices since January 2022. Source: Trading Economics,[5] except cement, from UK Government.[6]

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The wind industry is awash with subsidy

The wind industry has had tens of billions of pounds of subsidy over the last 20 years. Those subsidies, both direct and hidden, are now extraordinary in their scope and scale:

- Direct subsidies are now paid under the CfD scheme. While the energy crisis led to subsidies becoming negative for a time, that situation has reversed, and payments to generators under the scheme are running at £2m per day in 2023.
- CfD contracts are inflation linked. Because most of the lifetime cost of a windfarm is capital, this represents a huge hidden subsidy.
- The cost of upgrading the transmission grid to get windfarm electricity to market is socialised.
- New windfarms will be exempt from paying system balancing costs, which are soaring as a direct result of the expansion of renewables.
- Where power cannot be got to market via the transmission grid, windfarms receive 'constraint payments', although if they can deliver power through a private wire or the distribution grid they can receive the constraint payment *and* still sell the electricity.
- CfD contracts have a clause that effectively exempts windfarms from tax rises.

Conclusion

It is clear that claims of a cost revolution were designed to mislead public and Parliament. Wind power remains uneconomic, even with billions of pounds of subsidy, both direct and indirect. It also imposes costs on the rest of the energy system, and therefore on consumers.

Notes

1. https://www.reuters.com/business/energy/orsted-says-huge-uk-hornsea-3-wind-project-risk-without-government-action-2023-03-03/.

2. 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-wind-power-economics-rhetoric-and-reality. Porter, 'Addressing the high real cost of renewable generation', https://watt-logic.com/2022/04/11/cost-of-renewables/.

3. A Montford (2021). *Offshore wind: Cost predictions and cost outcomes*. GWPF Briefing 52. https://www.thegwpf.org/publications/cheap-offshore-wind-power-claims-are-false-data-reveals/.

4. A Montford (2022), *The Rising Cost of Onshore Wind*. GWPF Briefing 59. https://www.thegwpf.org/publications/cost-of-onshore-wind-has-been-rising-for-20-years/.

5. https://tradingeconomics.com/

6. https://www.data.gov.uk/dataset/75ee36ed-21f7-4d7b-9e7c-f5bf4546145d/monthly-statistics-of-building-materials-and-components.

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Net Zero Watch
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