Securing the benefits of offshore wind for the UK

Masdar

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Executive Summary

A budget of £900m for Offshore Wind is likely to clear around 3 GW less Offshore Wind than is needed to stay on track for the CP 2030 target

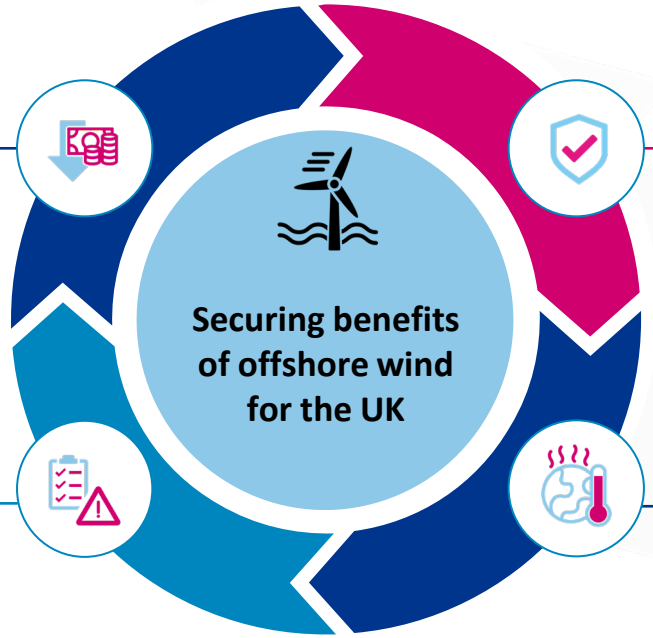
Reduces cost to consumers

Government could release c. £1,900m of budget in AR7, clearing c. 8GW of capacity at a strike price of around £94.5/MWh and remain cost neutral

This increases to above £110/MWh if a gas price shock persists over an extended period

Current budget, shortfall to CP2030

There remains an estimated gap of up to around 20GW in offshore wind against CP 2030 ambition, with significant pressure on AR8 and AR9 to allocate unprecedented levels of offshore wind to remain on track



Plays a key role in energy security

Delaying 3GW of Offshore Wind risks exposing GB to more geo-political risk and reducing energy security: a delay in a 2022 equivalent price shock could cost consumers up to £2bn per year

Drives significant economic benefits

Offshore Wind supports Net Zero, creates jobs, and strengthens UK industrial leadership

Offshore Wind is a crucial part of a balanced energy transition and can play a significant role in ensuring security of supply

Call to action – Government can send a strong policy signal in AR7 by using the SoS flexibility, and after this, by aligning policy to secure the UK's renewable future. Strong government leadership can unlock the next wave of growth and investment by key industry players.

Delaying 3GW Offshore Wind (OFW) delivery could increase total energy costs to consumers by £300m+[1,2] per year under normal market conditions

Delaying OFW increases the wholesale price and total energy costs for consumers, even accounting for decreased subsidy payments[1]

Source: Baringa Analysis

	Description	Wholesale Price in year **2030**
Wholesale price (£/MWh, real 2025)	**Baringa Reference** case OFW deployment	£75
	Minus 3GW of OFW deployment	**£78**

+£3/MWh

	Description	System Costs in year **2030**
Cost of energy[2] (£ per annum)	**Baringa Reference** case OFW deployment	29,122m
	Minus 3GW of OFW deployment	**29,485m**

+£362m

Consumer benefits of OFW create significant room to increase capacity cleared in AR7

Delay raises bills: Each year of delayed offshore wind adds **£362m** to consumer costs or **~£3 per MWh in 2030.**[3]

Why: With less offshore wind on the system, wholesale prices are **~£3/MWh** higher, which outweighs lower CfD support payments.

System cost: Additional wholesale electricity cost from delayed offshore wind deployment heavily outweighs potential savings in other system costs.[2]

AR7 implications: The consumer benefits are sufficient to clear around **8GW** of OFW capacity in **AR7** at **£94.5/MWh (real 2024)** using **~£1.9bn** of budget.[2,4]

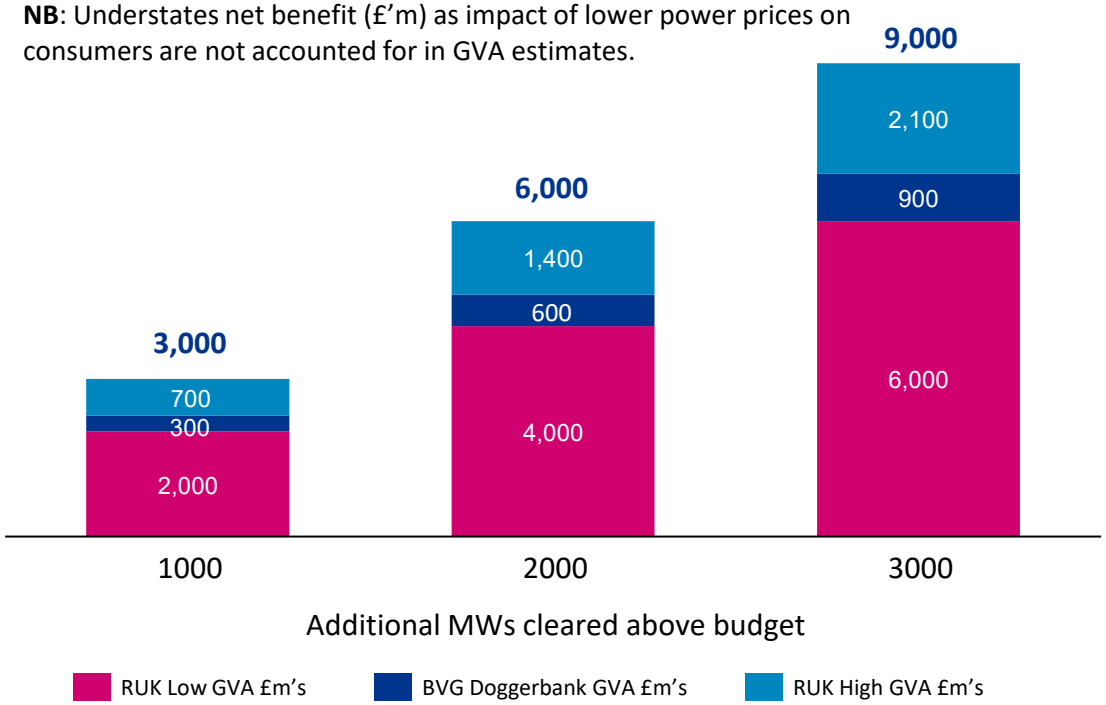
1. *Based on budget take effect of altered capture price on the wider CfD portfolio and total cost of wholesale power divided by Baringa forecast retail volumes for 2030 and 2035. CfD price assumptions based on AR6 values of 82/MWh real 2024*
2. *Estimates of consumer bill savings account for CfD cost changes. Delay to 3GW of OFW could also increase total capacity payment costs as thermal capacity retires later. We estimate that additional system balancing cost for OFW connecting in England would likely be below £10/MWh generated, which would add up to less than £130m of cost annually.*
3. *Assuming Baringa projections for CfD eligible demand volume in 2030*
4. *As well as the direct impact of the 3GW volume and price, This also accounts for the additional 3GW impact on the clearing price across the whole CfD stack of 7.8GW*

Later deployment of offshore wind could also have significant wider socio-economic impacts on the UK economy

Comparison of total nominal GVA over lifetime of project[1,2]

Source: RUK Offshore wind Industrial Growth Plan, BVG Associates - Economics impacts of Dogger Bank OFW

NB: Understates net benefit (£'m) as impact of lower power prices on consumers are not accounted for in GVA estimates.



Potential socio-economic loss of delaying 3GW is material[6]

- **£6 to 9 billion in Gross Value Added (GVA) to the UK[1]**
- **4,500 green jobs**[2,3]
- **12+ terawatt-hours of renewable electricity** annually[4]
- Additional annual emissions of approximately **1,950 kilotonnes of CO_2**[5]

1 Renewable UK, Offshore Wind Industrial Growth Plan, page 6. 'For each gigawatt of offshore wind installed, the sector contributes about £2-3bn of gross value add to the UK'
2. BVG Associates, Economics impacts of Dogger Bank OFW farm Oct 2025
3. Renewable UK total offshore wind workforce estimated at 30,000
4. Assuming 49% load factor as stated in DESNZ ASP AR7 CfD Methodology document
5. Assuming a grid intensity of 150 gCO_2/kWh (conservative)
6. Estimates assume that delay leads to knock-on delays, meaning that there is 3GW less OFW capacity on the system than there would have been without the delay for an extended period.

Delaying 3GW OFW risks reducing energy security: under a 2022 equivalent price shock, such a delay could cost consumers up to £2bn per price shock year

OFW offers excellent insulation to consumers against commodity price shocks (e.g. gas), which are a cyclical occurrence

Source: Baringa Analysis

	Description	Wholesale Price in year **2030**
Wholesale Price (£/MWh, real 2025)	**Baringa Reference** case OFW deployment	£162
	Minus 3GW of OFW deployment	**£169**

+£7/MWh

	Description	System Costs in year **2030**
Cost of energy[2] (£ per annum)	**Baringa Reference** case OFW deployment	50,840m
	Minus 3GW of OFW deployment	**52,868m**

+£2bn

Under gas shock market conditions[1,2], we find that:

Shock absorber for bills: Building 3GW of additional offshore wind saves consumers **~£2bn per year in which the price shock applies** and reduces bills by **~£22 per household.**[1,2,3,5]

Robustness of consumer benefits: Consumer benefits remain robust to higher CfD prices. Even at £110/MWh, 3GW **delivers ~£1.2bn/yr consumer benefit in 2030 with a price shock.**[2,4]

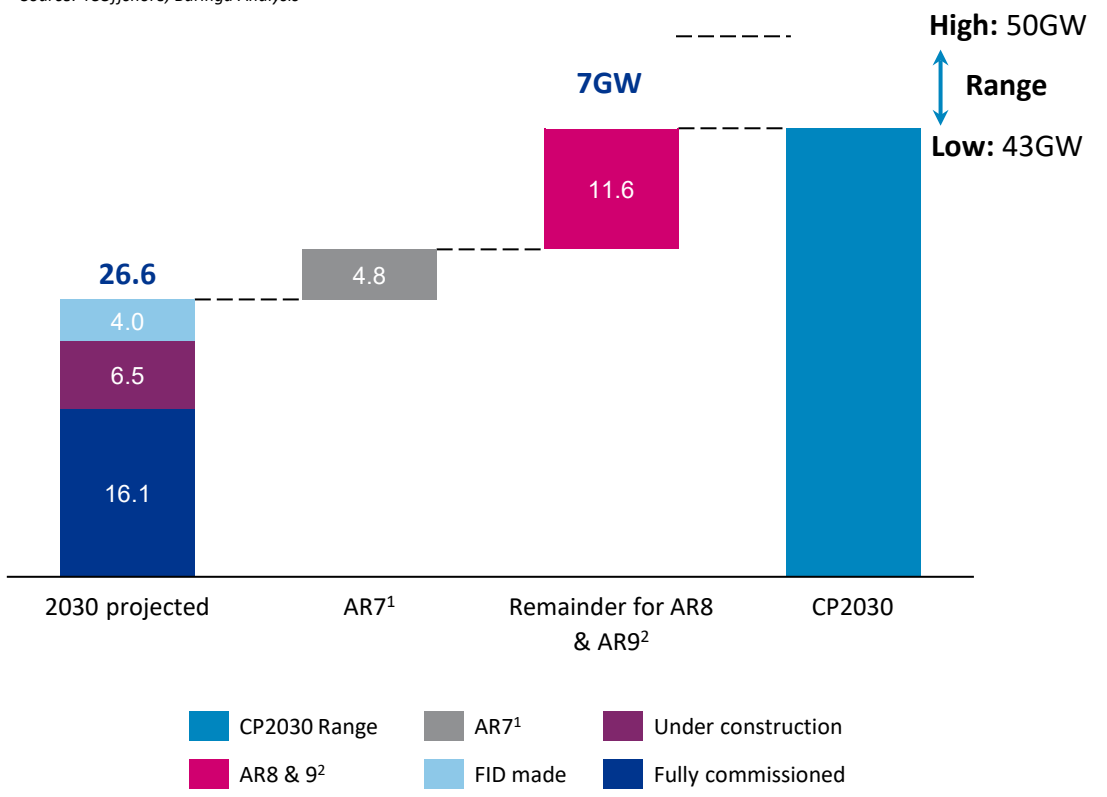
Strengthening supply security: Increasing domestic, diversified generation **reduces reliance on foreign gas imports**, driving more stable wholesale prices.[1,2]

1. Gas price shock scenario based on 2022 gas prices applied across the pan continental Plexos model and run for 2030 and 2035
2. Based on budget take effect of altered capture price on the wider CfD portfolio and total cost of wholesale power divided by Baringa forecast retail volumes for 2030 and 2035. CfD price assumptions basd on AR6 values of 82/MWh real 2024
3. Accounts for CfD cost effects due to capture price delta, wholesale power price reductions but does not account for network cost upgrades due to small scale of incremental capacity change, remaining system costs are expected to net to a negligible impact
4. Assuming Baringa projections for CfD eligible demand volume in 2030
5. Assuming 3MWh household average demand

Earlier allocation of offshore wind would reduce pressure on future CfD rounds to deliver on the UK's decarbonisation ambitions

Allocating c.5GW of capacity in AR7 would drive a significant gap to the CP2030 target…

Source: 4COffshore, Baringa Analysis



…placing significant pressure on future allocation rounds to allocate this capacity

Under the current AR7 allocation framework parameters and a budget of £900m, approximately **4,800 MW is likely to clear at AR6 clearing prices**

The **remaining gap to meet the CP2030 target range would then sit in the c. 12-19GW range**

Front-loading this capacity by clearing more projects in AR7 **can de-risk delivery** given uncertainty on the future policy outlook

More resilient supply chains can be built by supporting a consistent and de-risked pipeline of investment

1. Max theoretical cleared capacity in AR7 based on AR6 strike price of £82/MWh (real 2024) and budget of £900m (real 2024)
2. Total capacity delta between CP2030 target range and sum of capacity across total OFW deployment from 2030 projected and AR7 cleared volumes.