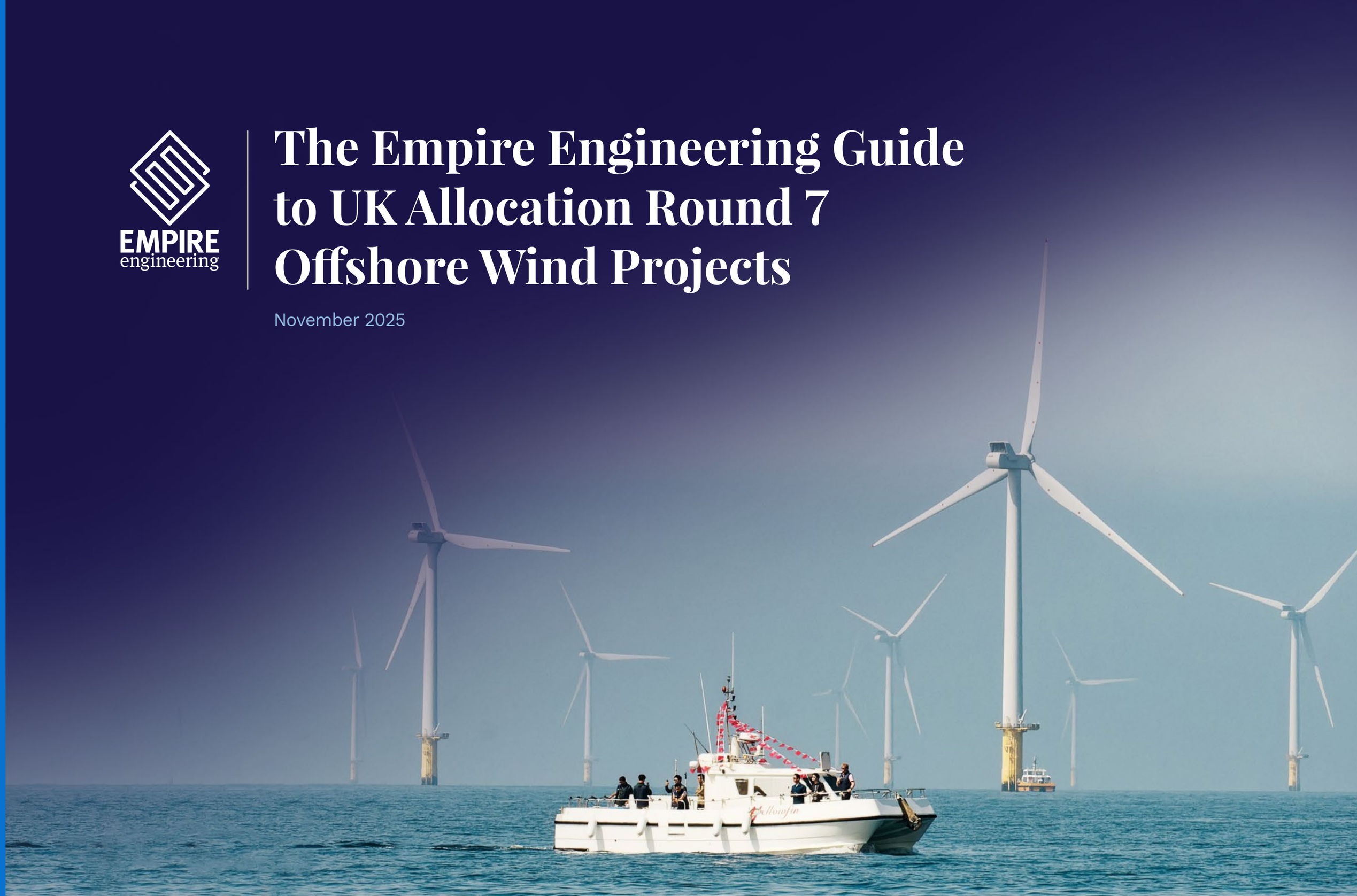
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The Empire Engineering Guide to UK Allocation Round 7 Offshore Wind Projects

November 2025



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"AR7 represents a pivotal moment for the UK's net zero ambitions and the offshore wind industry as a whole."

Karl Davis, MD of Empire Engineering

Introduction from Karl Davis

Founder and Managing Director, Empire Engineering

AR7 is a critical test for the UK's offshore wind sector at a time when the industry needs a demonstrable success story.

It's broadly held that the Contract for Difference / Allocation Round process is an imperfect system that we're stuck with. It emerged out of a desire to create competition to drive down the price of renewable energy, to that end it has been incredibly successful, however lately its been showing its age.

The idea that major pieces of infrastructure are built on an auction system is quite extraordinary. Could we imagine doing this with hospitals, railways, bridges and airports? So I think it's important to acknowledge that these auction processes are a bit odd, and need to be treated carefully to ensure all around success.

The setting of the budgets for the allocation rounds, and specifically for AR7 has been seen as a sticky political football. But I would argue that the current budget for offshore wind in AR7 is woefully undercooked.

The fundamentals of renewable energy in the UK are now clear. Renewable energy has been demonstrated to have saved UK consumers over £100Bn from 2010 to 2023, (that figure includes CfD and similar payments). Renewable energy provides excellent energy security in the increasingly uncertain geo-political climate we find ourselves in. And renewable energy provides massive environmental benefits by reducing CO_2 emissions, as well as significant health benefits by reducing air pollution. What's not to like?

The budget allocation for offshore wind in AR7 is £950M for fixed, and £180M for floating. This is estimated to be sufficient for 5-6GW of projects. Our analysis indicates in excess of 20GW of offshore wind are eligible to bid into AR7. That makes for a lot of losers. But it's an auction I hear people say, there are always losers. The problem is, if we're not seeing around 50% of offshore wind bidders winning, you can expect the following auctions to start looking pretty stark.

The price of admission for offshore wind projects to bid into AR7 is huge. These projects are spending perhaps £50M/year on devex, and a lot more if they're committing to build offshore substations at risk, which some projects are now having to do. The risks of unsuccessful auction outcomes rapidly become too big. If this continues, we can expect to see developers withdrawing from UK offshore wind all together.

At a minimum, we need to see the UK government putting enough budget in to meet the target of achieving 50GW of offshore wind by 2030. Walking away from this goal creates some pretty big trust issues with government commitments in general. But we would go further than this, for developers and the wider supply chain to continue to commit to UK offshore wind, a realistic aim is for around 50% of projects bidding into auctions to be successful. Without this level of success rate, the auction system quickly becomes dysfunctional, and developers and the supply chain can be expected to walk away, leaving future AR's a wasteland of missed opportunity for the UK consumer.

A new rule introduced at AR7 allows DESNZ to take a 'sneaky peek' at the bids, and if they want to, the Secretary of State can increase the budget pot to let a few more projects out of the gates. It's been suggested that the low budget has been set based on the premise that a small pot will encourage more competitive bidding, and then the budget can be bumped up late in the day. Whilst I think this needs to happen in AR7, I'm concerned that if this is indeed the strategy, it is a very short-sighted play. You can get away with this type of thing once, but it will then become an expected behaviour for the following auctions.

If the UK government is serious about getting even close to the 2030 target, and reaping myriad benefits to the UK people, they need to be committing a lot more budget in this and future rounds.



Karl Davis
Managing Director of Empire Engineering



1 2 3

Overview

AR7: The Context

KEY DATES

- Application opening: August 7, 2025
- Application deadline: August 27, 2025
- Bidding Window Opened: November 11 2025
- Bidding Window Closed: November 17, 2025
- Results announcement: January 14, 2026

BUDGET ALLOCATION

- Pot 3 (Fixed-bottom offshore wind): £900 million per year (2024 prices)
- Pot 4 (Floating offshore wind): £180 million per year (2024 prices)

STRIKE PRICES

- Fixed-bottom (Pot 3): £113/MWh administrative strike price
- Floating (Pot 4): £271/MWh administrative strike price
- Delivery years: 2028/29 or 2029/30
- Contract duration: 20 years

Why AR7 Matters

Following AR5's zero-capacity outcome in 2024, AR7 represents the offshore wind industry's opportunity to demonstrate that the revised CfD mechanism can deliver. The government increased strike prices by 70-85% compared to AR5, reflecting recognition that earlier rounds undervalued the true costs facing developers amid inflation, supply chain pressures, and rising financing costs.

Approximately 25 GW of offshore wind capacity became eligible for AR7 under relaxed consent requirements, including projects that secured planning approval after the traditional eligibility cutoff. This policy change aimed to maximise competition and ensure sufficient project participation to avoid repeating AR5's failure.

However, AR7 faces significant challenges:

- Supply chain constraints remain acute, with limited manufacturing capacity for foundations, cables, and turbines
- Port infrastructure requires substantial investment to support the scale of deployment required
- Grid connection timelines extend years into the future, creating delivery risk
- Inflation continues to pressure project economics despite higher strike prices
- Financing costs have increased substantially compared to projects reaching FID in 2020-2022

The AR7 outcome will determine:

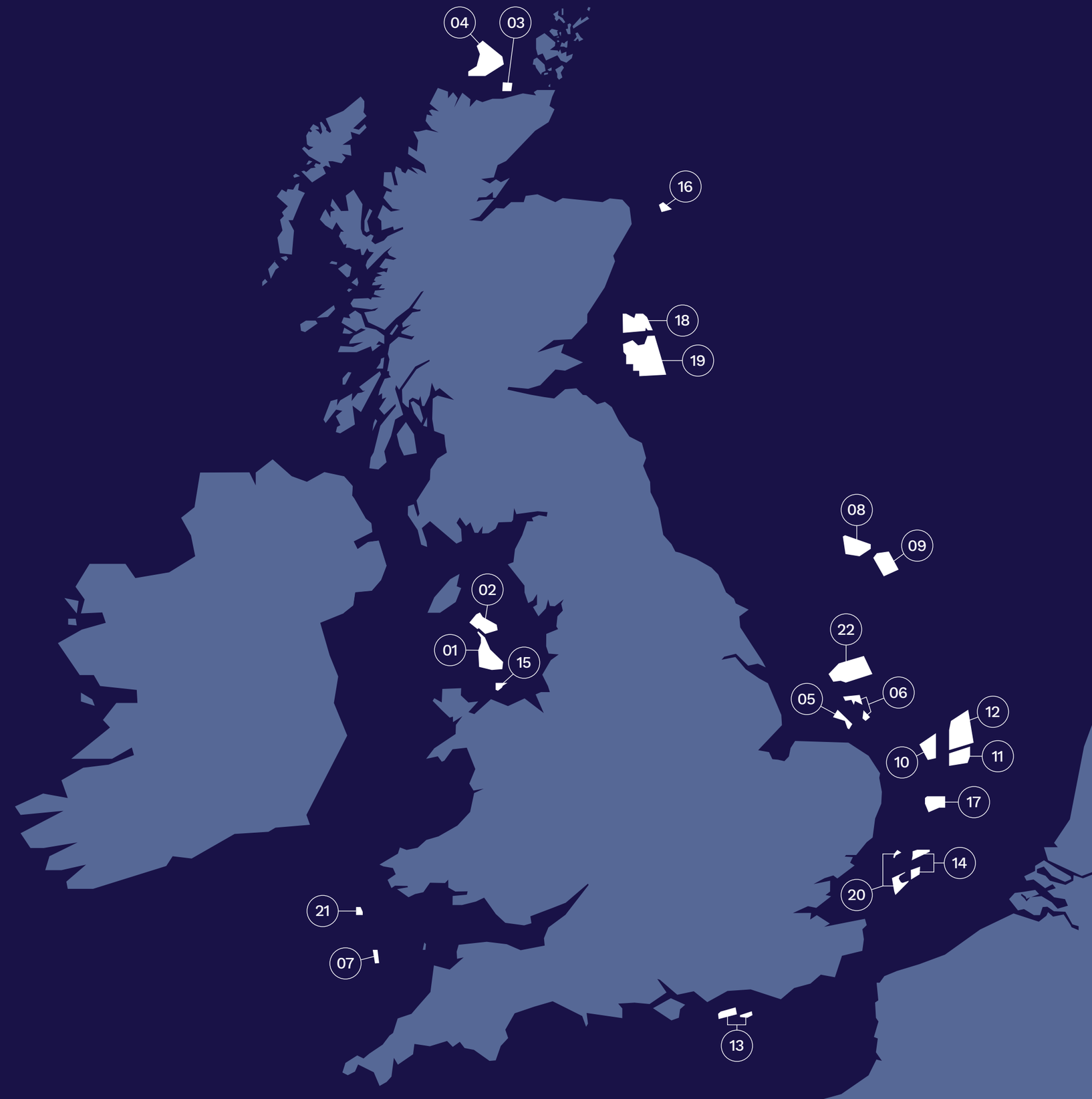
1. Whether the UK can credibly maintain its 2030 offshore wind targets
2. If the CfD mechanism remains viable as the primary route to market
3. Whether international developers will continue investing in UK waters
4. The future pipeline of offshore wind projects beyond AR7

At stake is not just the immediate capacity allocation, but the long-term trajectory of the UK's offshore wind sector and its contribution to net zero by 2050.

AR7 Project Sites

Geographic Distribution of 22 Potential AR7 Projects

1. Mona
2. Morgan
3. Pentland
4. West of Orkney
5. Sheringham Shoal Extension
6. Dudgeon Extension
7. White Cross
8. Dogger Bank South - West
9. Dogger Bank South - East
10. Norfolk Vanguard West
11. Norfolk Vanguard East
12. Norfolk Boreas
13. Rampion 2
14. Five Estuaries
15. Awel y Môr
16. Salamander
17. East Anglia ONE North
18. Seagreen 1A
19. Berwick Bank
20. North Falls
21. Erebus
22. Outer Dowsing



Site specifics

22 Potential AR7 Projects: Development Status and Strategic Analysis

Consent status — Pending — Granted

Technology — Fixed — Floating

Site	1 Mona	2 Morgan	3 Pentland	4 West of Orkney	5 Sheringham Shoal Ext.	6 Dudgeon Ext.	7 White Cross	8 Dogger Bank South W	9 Dogger Bank South E	10 Norfolk Vanguard W	11 Norfolk Vanguard E	12 Norfolk Boreas	13 Rampion 2	14 Five Estuaries	15 Awel y Môr	16 Salamander	17 East Anglia ONE N	18 Seagreen 1A	19 Berwick Bank	20 North Falls	21 Erebus	22 Outer Dowsing
Main Developer partners	JERA Nex bp , EnBW	JERA Nex bp, EnBW	Copen-hagen Offshore Partners	Corio, Gener-ation TotalEn-ergies, RIDG	Equinor[1]	Equinor, Masdar, China Resourc-es	Flotation Energy, Cobra[2]	RWE, Masdar[3]	RWE, Masdar[3]	RWE	RWE	RWE	RWE[4]	RWE, ESB[5]	RWE[6]	Odfjell Ocean-wind, Simply Blue Group, Subsea 7	Scottish-Power Renewa-bles	SSE Renew-ables, TotalEn-ergies[7]	SSE Renewa-bles	SSE Renew-ables, RWE	TotalEn-ergies, Simply Blue Group	Corio, TotalEn-ergies and Gulf Energy Develop-ment
Capacity	1.5 GW	1.5 GW	100 MW	2.0 GW	317 MW[8]	402 MW[9]	100 MW	1.5 GW	1.5 GW	1.4 GW	1.4 GW	1.4 GW	1.2 GW	353 MW	576 MW	100 MW	800 MW	Up to 500 MW	Up to 4.1 GW	504 MW	96 MW	1.5 GW
Tech	Fixed	Fixed	Floating	Fixed	Fixed	Fixed	Floating	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Floating	Fixed	Fixed	Fixed	Fixed	Floating *	Fixed
Turbines	Up to 96	Up to 96	Up to 10	Up to 125	Up to 22	Up to 30	Up to 8	Up to 100	Up to 100	Up to 92[10]	Up to 92	Up to 158	Up to 90	Up to 79	34–50	Up to 7	Up to 67	Up to 36	Up to 307	Up to 57	Up to 7	Up to 100
Distance Offshore	22-37 km	22-37 km	~6–12 km	30–45 km	17–23 km	32 km	40–55 km	130–160 km	130–160 km	47–80 km	47–80 km	47–80 km (~94 km NE of Great Yar-mouth)	13–26 km	37 km	10.5 km	35 km	36 km	27 km	38–78 km	40 km	45 km	54 km
Water Depth	~35m	~35m	60–100m	65–105m	17–22m	18–25m	~70m	30–60m	30–60m	25–55m	25–55m	22–41m	15–65m[11]	Up to 55m	Up to 37m	100–150m	30–45m	42–58m	35–65m	25–45m	70m average	30–50m
Grid Con-nection	Bodel-wyddan	Bodel-wyddan	Caith-ness	Orkney/ Caith-ness	Norwich	Norwich	East Yelland substa-tion	York-shire	York-shire	Necton	Necton	Necton	Bolney	Essex[12]	St. Asaph	Peter-head	Bram-ford	Tealing	East Lothian	North Essex	Pem-brokesh-ire	Lincoln-shire
Consent Status	Granted	Granted	Pending	Granted	Granted	Granted	Pending	Pending	Pending	Granted	Granted	Granted	Granted	Pending	Granted	Granted	Granted	Granted	Granted	Pending	Granted	Pending

* WindFloat semi-submersible

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AR7 Recent Developments & Commentary



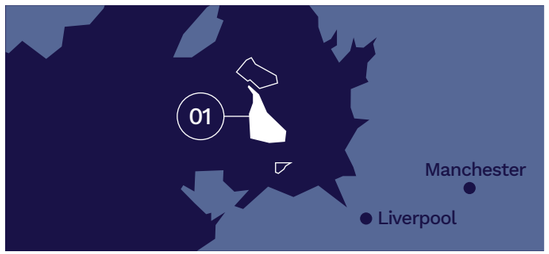
Development Status and Strategic Analysis

An overview of 22 offshore wind projects eligible for AR7, outlining the current stage of development and key characteristics of the project as it enters the allocation round.

1.

MONA - JERA Nex bp , EnBW

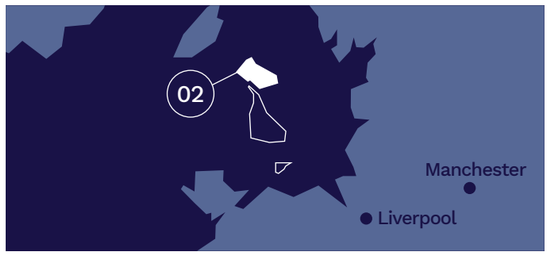
Mona made history as the first UK Round 4 project to secure development consent on July 4, 2025. The project underwent a significant ownership transformation in August 2025 when BP's offshore wind assets were transferred into JERA Nex bp, a new 50:50 joint venture between BP and Japan's JERA Co. Since AR7's announcement, the project has advanced systematic readiness activities including extensive geotechnical surveys, the award of multi-year marine vetting contracts to Interocean Marine Services in February 2025, and progression of foundation design work with Kent designing jacket foundations for 17-24 MW turbines. Fugro was awarded geotechnical survey contracts in May 2025. The project targets operational status around 2029.



2.

MORGAN - JERA Nex bp , EnBW

Morgan followed Mona as the second UK Round 4 project to receive development consent on August 29, 2025. The project benefits from the same August 2025 transformation when BP's offshore wind portfolio was transferred to JERA Nex bp. Since AR7's announcement, Morgan has advanced in parallel with Mona: geotechnical surveys continuing through 2025 with Fugro contracts awarded in May, Interocean Marine Services securing a three-year marine vetting contract in February 2025, and Kent progressing foundation design. The project's transmission assets are progressing through a separate DCO process under examination, with a decision anticipated in 2026. Morgan targets late 2029 for operational status.



3.

PENTLAND - Copenhagen Offshore Partners

Pentland represents a pioneering floating wind demonstration project in the Pentland Firth, one of Europe's most challenging marine environments. Copenhagen Offshore Partners submitted the consent application to Marine Scotland in 2024, with the project designed as a technology testing platform. Since AR7's announcement, the consortium has been finalising Environmental Impact Assessment work and engaging with local fishing communities and navigation authorities given the site's proximity to major shipping routes. The project benefits from ScotWind experience and aims to leverage lessons from earlier floating demonstrations. Despite its small scale, Pentland's location in high-resource waters and its technology demonstration mission make it strategically important for Scotland's floating wind ambitions. Target first power late 2020s.

4.

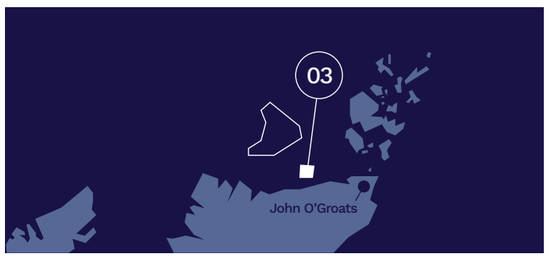
WEST OF ORKNEY - Corio Generation, TotalEnergies, RIDG

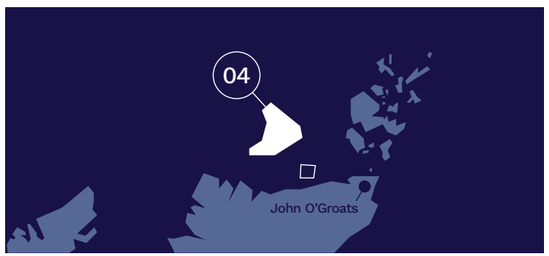
West of Orkney achieved a major milestone by receiving full offshore consent from Scottish Ministers in June 2025, making it the first ScotWind project to secure both onshore planning permission and offshore consent. The project will deploy up to 125 wind turbines on fixed-bottom foundations across a site located approximately 30 kilometres west of the Orkney Mainland and 25 kilometres north of the Sutherland coast. Since AR7's announcement, the consortium of Corio Generation and TotalEnergies has completed extensive site characterisation including two years of floating LiDAR deployments measuring wind resources at multiple heights, comprehensive geotechnical investigations across the 600+ square kilometre site, and detailed environmental baseline studies. The project represents one of the largest fixed-bottom developments in Scottish waters and has attracted significant industry attention for its foundation technology selection process. The project targets first power by 2030.

5.

SHERINGHAM SHOAL EXTENSION - Equinor

Sheringham Shoal Extension achieved development consent in April 2024 and represents an offshore wind extension project adjacent to the operational 317 MW Sheringham Shoal wind farm (commissioned 2012). Since AR7's announcement, Equinor has been progressing detailed design work and supply chain engagement, though the project has faced delays compared to its sister Dudgeon Extension. The project benefits from proximity to existing grid infrastructure and extensive operational knowledge from the adjacent Sheringham Shoal site. Recent activity has been limited, with the focus appearing to be on securing favourable AR7 terms before committing to Final Investment Decision. The extension would utilise modern large-scale turbines significantly more powerful than the 3.6 MW Siemens units deployed in the original Sheringham Shoal. Target operational date late 2020s, dependent on AR7 success.







6.

DUDGEON EXTENSION - Equinor, Masdar, China Resources

Dudgeon Extension received development consent in April 2024 and represents the extension of the operational 402 MW Dudgeon wind farm (commissioned 2017). Since AR7's announcement, development activity has been measured, with the partnership focusing on commercial structure optimisation and supply chain engagement. The four-partner consortium structure adds complexity to decision-making compared to simpler partnership arrangements seen in other projects. The extension benefits from shared transmission infrastructure with the existing Dudgeon site and extensive local knowledge from operations since 2017. Like Sheringham Shoal Extension, the project appears to be awaiting AR7 outcomes before committing to major construction contracts. Modern turbine technology would deliver significantly higher capacity factors than the 6.0 MW Siemens turbines deployed in the original development. Target commissioning late 2020s, contingent on AR7 award.



7.

WHITECROSS - Flotation Energy, Cobra

Whitecross represents Flotation Energy's Celtic Sea floating wind development, located in deeper waters off the Pembrokeshire coast. The project is advancing through the Crown Estate's Celtic Sea leasing process and represents one of Wales' most significant floating wind opportunities. Since AR7's announcement, Flotation Energy has been conducting environmental baseline studies including marine mammal surveys, seabird observations, and benthic habitat characterisation. The company is working with the Welsh supply chain and exploring port development opportunities in Milford Haven for construction and operations support. Whitecross faces the challenge of limited floating wind supply chain infrastructure in the Celtic Sea compared to Scotland's more mature ecosystem. The project received its final consent in 2025, with first power potentially in the early 2030s subject to AR7 or subsequent CfD success.





8.

DOGGER BANK SOUTH - WEST - RWE, Masdar

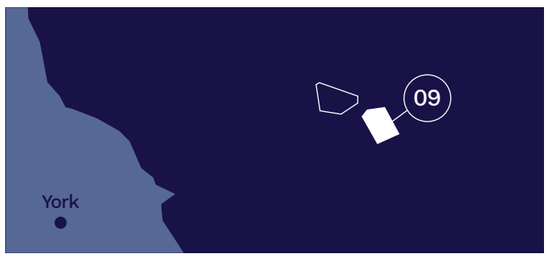
Dogger Bank South West represents one of RWE's[13] most significant UK offshore wind development opportunities, part of the broader Dogger Bank South zone. The project submitted its Development Consent Order application in late 2024, with examination ongoing as of October 2025.[14] Since AR7's announcement, RWE has been conducting extensive site investigations including geophysical surveys, geotechnical sampling, and environmental baseline studies across the vast Dogger Bank South area. The project's extreme distance from shore (130-160 km) creates unique logistical challenges but also positions turbines in some of the UK's highest wind resource areas. RWE is evaluating both monopile and jacket foundations depending on site-specific soil conditions. The company has been engaging with Teesside ports for construction staging and exploring opportunities for local content delivery. Consent decision expected 2026, with first power targeted for early 2030s.



9.

DOGGER BANK SOUTH - EAST - RWE, Masdar

Dogger Bank South East mirrors its West counterpart as part of RWE's[13] comprehensive Dogger Bank South development strategy. The project submitted its DCO application in late 2024 alongside Dogger Bank South West, with coordinated examination processes. Since AR7's announcement, development activities have paralleled the West project including site investigations, environmental studies, and supply chain engagement. The two projects share grid infrastructure planning to Lackenby substation, creating development synergies and cost efficiencies. RWE's strategy appears to be developing both projects in coordination, though construction sequencing may be phased depending on AR7 outcomes and supply chain availability. The extreme offshore location positions these projects among the furthest from shore in UK waters, requiring specialised installation vessels and logistics planning. Target operational date early 2030s, subject to consent and CfD success.



10.

NORFOLK VANGUARD WEST - RWE

Norfolk Vanguard West achieved development consent in February 2022 and represents the western component of RWE's[15] Norfolk Vanguard development following the company's acquisition from Vattenfall in March 2024. Since AR7's announcement, the project has achieved major commercial progress including full Notice to Proceed issued to Aker Solutions and Siemens Energy in January 2025 for HVDC offshore converter platform fabrication. Platform construction commenced in April 2024 at Drydocks World in Dubai, with installation planned for 2027-2028. RWE has been advancing onshore transmission infrastructure construction at Necton substation and progressing the westernmost 20 km cable route section. The project secured Vestas V236-15 MW turbine exclusivity in December 2023. Norfolk Vanguard West is among the most advanced AR7-eligible projects commercially, with RWE targeting operational status before 2030.



11.

NORFOLK VANGUARD EAST - RWE

Norfolk Vanguard East received development consent alongside its West counterpart in February 2022 and similarly transitioned to RWE[15] ownership in March 2024. Since AR7's announcement, the project has progressed in parallel with Vanguard West including full NTP in January 2025 for HVDC platforms, with fabrication scheduled for Q2 2025 at Drydocks World. Both Vanguard projects share transmission infrastructure to Necton substation, creating development efficiencies. The project holds Vestas V236-15 MW turbine exclusivity from December 2023. Norfolk Vanguard East represents one of the most commercially advanced AR7-eligible projects with major supply chain commitments already in place. RWE is targeting before-2030 operational status, making it one of the nearer-term projects in the AR7 pipeline.



12.

NORFOLK BOREAS - RWE

Achieved full development consent in December 2021 but experienced significant ownership and commercial turbulence before RWE's £963 million acquisition in March 2024 reversed the project's trajectory. Original developer Vattenfall won an AR4 CfD but paused the project in July 2023 after determining the strike price uneconomic.

RWE's acquisition of the entire 4.2 GW Norfolk Zone restarted development activities, though Norfolk Boreas trails its sister projects in commercial advancement. Since AR7's announcement, RWE conducted extensive geophysical and geotechnical site investigations. The project secured exclusivity arrangements with Vestas for turbines, though this remains conditional pending CfD award and FID.

Aker Solutions and Siemens Energy hold the HVDC offshore converter platform EPCI contract awarded in October 2022, but critically, Norfolk Boreas platforms have not received full Notice to Proceed. This development stage gap indicates Norfolk Boreas trails significantly. Allseas was awarded the Transport & Installation contract for Norfolk Boreas HVDC converter stations in December 2024[16], but deployment timing depends on FID.

RWE announced in late 2024 plans to sell a 50% stake in the entire Norfolk Zone as part of portfolio management, with completion expected in 2025. Norfolk Boreas is confirmed eligible for AR7 with substantially improved economics compared to the abandoned AR4 allocation.





13.

RAMPION 2 - RWE

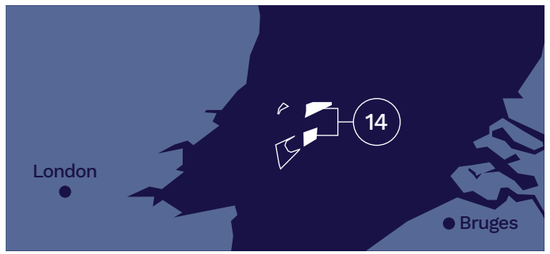
Rampion 2 achieved a critical milestone with development consent granted in April 2025, making it one of the most recently consented AR7-eligible projects. Located off the Sussex coast, the project represents RWE's expansion of the operational 400 MW Rampion 1 wind farm (commissioned 2018). Since AR7's announcement and following consent approval, RWE has accelerated development activities including detailed design work, foundation engineering, and supply chain engagement. The project benefits from proximity to the existing Rampion 1 operations and grid connection at Bolney substation, though the transmission infrastructure requires significant upgrades for the additional 1.2 GW capacity. Site investigations have been comprehensive, with environmental monitoring ongoing to satisfy consent conditions. Rampion 2's location in southern UK waters positions it well for meeting electricity demand in the South East. RWE has been engaging with Newhaven and Shoreham ports for construction support. Target operational date late 2020s to early 2030s.



14.

FIVE ESTUARIES - RWE, ESB

Five Estuaries[17] represents RWE's development in the Thames Estuary region off the Essex and Suffolk coasts. The project submitted its Development Consent Order application in March 2024, with examination now complete and decision expected by Dec 2025[18]. Since AR7's announcement, Five Estuaries has been conducting comprehensive environmental assessments including ornithological studies crucial for navigation in this busy maritime area. The project's relatively close proximity to shore creates unique challenges around visual impact and navigation but reduces infrastructure costs compared to projects further offshore. RWE is evaluating both monopile and jacket foundations depending on local soil conditions and water depths. The Thames Estuary's strategic location near London demand centres makes Five Estuaries commercially attractive despite its moderate capacity of 353MW. Operational date potentially late 2020s subject to AR7 success.



15.

AWEL Y MÔR - RWE

Awel y Môr ("Sea Wind" in Welsh) represents one of the most advanced projects in the AR7 pipeline, having achieved development consent in September 2023. It is Wales' largest consented renewable energy project, developed as an extension to the operational 576 MW Gwynt y Môr.[19]

In 2024, the project conducted comprehensive surveys to assess ground conditions both offshore and along the planned cable route. At the proposed substation site, archaeological assessments were completed, and conservation measures for great crested newts were implemented, including the creation of a dedicated habitat for this protected species.

The project is now preparing for its final investment decision (FID). Key elements, such as the offshore and onshore cable corridors, cable landfall, temporary construction compound locations, and the substation site, have been confirmed.

Some details, including the onshore substation design and turbine specifications, are still being finalised.[20]

Winter 2023-2024 geotechnical investigations by Fugro involved drilling 53 boreholes over 130 days in water depths up to 37 meters, revealing complex Mercia Mudstone geology.[21]

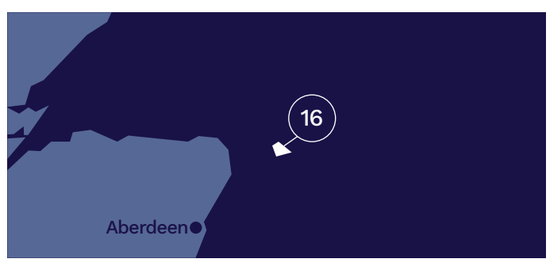
The project's proximity to the North Wales coast and relatively shallow water depths (16-37m) provide advantages. First power generation is expected in 2030.



16.

SALAMANDER - Odfjell Oceanwind, Simply Blue Group, Subsea 7

Salamander represents Simply Blue Group's[22] pioneering floating wind development off the Aberdeenshire coast. The project secured rights through Crown Estate Scotland's Innovation and Targeted Oil & Gas (INTOG) leasing round, positioning it as a demonstration-scale floating wind project with potential for significant scale-up. Since AR7's announcement, Simply Blue has been advancing environmental baseline studies and engaging with the Scottish supply chain for floating wind delivery. The project is notable for its targeted approach to industrial decarbonisation, with potential to supply power to offshore oil and gas installations or energy-intensive onshore facilities in the Peterhead area. Salamander faces the challenge of limited Celtic Sea floating wind supply chain development but benefits from Scotland's more mature floating wind ecosystem. Consent granted in 2025, with first power potentially in late 2020s subject to successful INTOG consenting and CfD outcomes.

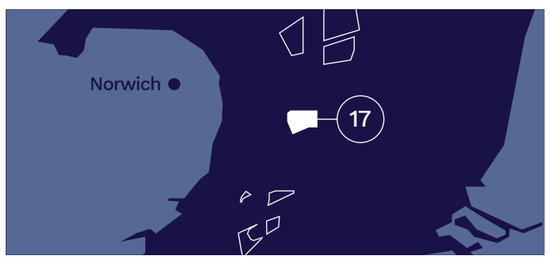


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17.

EAST ANGLIA ONE NORTH - ScottishPower Renewables

East Anglia ONE North achieved development consent in March 2022, representing ScottishPower Renewables' expansion of the operational 714 MW East Anglia ONE wind farm (commissioned 2020). Since AR7's announcement, the project has been progressing systematic development activities including detailed design work and foundation engineering. The project benefits from proximity to the existing East Anglia ONE operations and shared grid infrastructure planning to Bramford substation with East Anglia TWO. ScottishPower Renewables has extensive operational experience in these waters, providing valuable site-specific knowledge for the ONE North extension. However, the project has faced some development delays compared to initial timelines, likely reflecting strategic decisions around CfD timing. Recent activity suggests the company is positioning East Anglia ONE North for AR7 participation, with detailed supply chain engagement expected following CfD success. Target operational date early 2030s, contingent on AR7 outcomes.



18.

SEAGREEN 1A - SSE Renewables, TotalEnergies

Seagreen 1A represents the expansion phase of the operational 1,075 MW Seagreen 1 wind farm off the Angus coast, which achieved full commissioning in October 2023 as Scotland's largest offshore wind farm. Since AR7's announcement, SSE Renewables and TotalEnergies have been evaluating the optimal development pathway for the 1A extension, benefiting from extensive operational data from Seagreen 1.

Site conditions are well-understood following the jacket foundation deployment for Seagreen 1, which utilised 114 Vestas V164-10 MW turbines—the largest ever installed at the time. Seagreen 1A would employ next-generation turbine technology significantly more powerful than the 10 MW units in Seagreen 1. SSE has been engaging with Dundee and Montrose ports for potential construction support. Target operational date early 2030s, subject to AR7 success.[23]



19.

BERWICK BANK - SSE Renewables

Berwick Bank represents the UK's largest consented offshore wind project and one of the world's most significant renewable energy developments. SSE Renewables submitted the Section 36 consent application to Marine Scotland in December 2022,

The project has been conducting extensive environmental monitoring including two-year ornithological surveys and marine mammal studies across the vast 850 square kilometre site. SSE has been engaging intensively with East Lothian communities on transmission infrastructure planning and exploring port development opportunities for construction support. Berwick Bank's scale creates significant supply chain opportunities but also complex grid infrastructure requirements.



20.

NORTH FALLS - SSE Renewables, RWE

North Falls represents a 50:50 joint venture between SSE Renewables and RWE, combining two major offshore wind developers' expertise. Since AR7's announcement, the joint venture has been progressing toward DCO application submission, with environmental studies ongoing through 2024. The project conducted a statutory consultation in 2023 with revised proposals reflecting stakeholder feedback. North Falls benefits from proximity to the operational Galloper wind farm (which RWE operates through its subsidiary Innogy) and planned grid infrastructure to Bramford substation in Suffolk. The 50:50 partnership structure is designed to share development risks and capital requirements while combining operational expertise. DCO application is in with consent decision anticipated in 2026. Target operational date early 2030s, subject to consenting and AR7 or subsequent CfD success.

21.

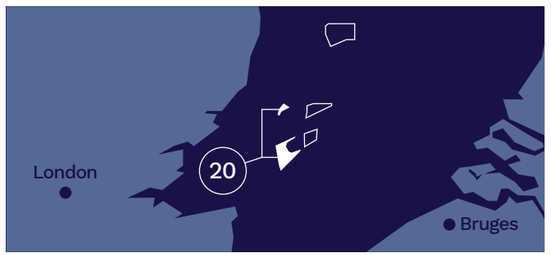
EREBUS - TotalEnergies, Simply Blue Group

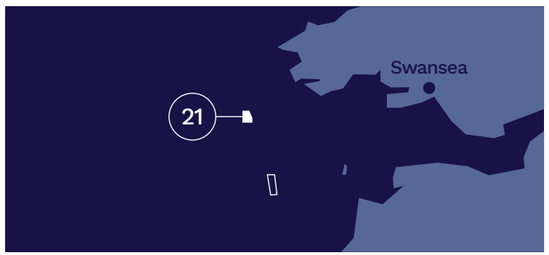
Erebus achieved a critical milestone as the first floating offshore wind project in Wales to receive full consent from the Welsh Government in March 2023. The project represents a joint venture between TotalEnergies and Simply Blue Group, utilising Principle Power's proven WindFloat semi-submersible technology. Since AR7's announcement and following consent approval, the partnership has been advancing detailed engineering and supply chain engagement. The project secured a marine licence in February 2023, clearing a critical regulatory pathway. TotalEnergies and Simply Blue have been engaging with Pembrokeshire ports and the Celtic Sea supply chain for construction and operations support. Erebus serves as a pathfinder for larger-scale Celtic Sea floating wind developments. Target first power late 2020's, representing Wales' first operational floating offshore wind farm.

22.

OUTER DOWSING - Corio, TotalEnergies and Gulf Energy Development

Outer Dowsing represents TotalEnergies' major UK offshore wind development in the Southern North Sea off the Lincolnshire coast. The project secured an Agreement for Lease from The Crown Estate in January 2023, advancing through the development pipeline toward consent application. Outer Dowsing is located in an area with proven offshore wind development experience, with the operational Race Bank (573 MW) and Triton Knoll (857 MW) wind farms in proximity. TotalEnergies has been engaging with East Coast ports for potential construction staging. Consent decision has been delayed with a decision now expected in early 2026. Target operational date early 2030s, subject to consenting and CfD success.







1 — 2 — 3

An experts' point of view

How Empire Engineering Can Support Your AR7 Projects



Supporting Your AR7 Projects

At Empire Engineering, we specialise in offshore wind engineering with deep expertise across both fixed and floating foundations. As AR7 projects transition from consent to construction, developers face increasingly complex technical challenges requiring specialist input.

Empire Engineering is a specialist offshore wind foundation consultancy with over a decade of proven project experience across more than 100 global developments. We provide expert engineering support throughout the project lifecycle, from early concept through to detailed design and construction oversight.

EARLY STAGE DESIGN

We deliver front-end engineering and foundation concept development for offshore wind projects. Our engineers assess site conditions, optimise foundation configurations, and provide technical feasibility analysis that enables developers to make informed investment decisions. Our work at this stage establishes the technical and commercial foundations for project success.

OWNER'S ENGINEER

Acting as an extension of your team, we provide independent technical oversight throughout design, procurement, fabrication, and installation phases. Our Owner's Engineer service ensures that contractor deliverables meet specification, identifies and mitigates technical risks early, and protects your commercial interests. We integrate seamlessly with project teams while maintaining the independence needed to challenge thinking and drive optimal outcomes.

SPECIALIST ENGINEERING

Our team tackles the complex engineering challenges that demand deep technical expertise. This includes integrated structural analysis, transport and installation (T&I) engineering, geotechnical assessments, and bespoke foundation design optimisation. We're recognised globally as leaders in T&I design engineering, bringing real-world construction knowledge to theoretical design problems.

FATHOM
offshore deep thinking

FATHOM®

Foundation Design Optimisation Software

FATHOM is our proprietary offshore wind foundation design and optimisation suite. This state-of-the-art software enables rapid evaluation of multiple foundation configurations across entire wind farm arrays, optimising for mass minimisation, fabrication cost reduction, and installed cost efficiency. FATHOM's automation capabilities allow parallel testing of design options while maintaining compliance with industry standards—delivering insights that generalist commercial software simply cannot achieve.

Our Approach

What sets Empire Engineering apart is not just technical capability, but how we work. We're professional, approachable, and pragmatic—brilliant engineers who are genuinely easy to work with. Our team members bring real-world project experience across multiple regions and technologies, combining technical excellence with commercial awareness. We occupy a specialist niche that larger consultancies often subcontract to us, positioning Empire as the go-to experts for foundation engineering challenges.

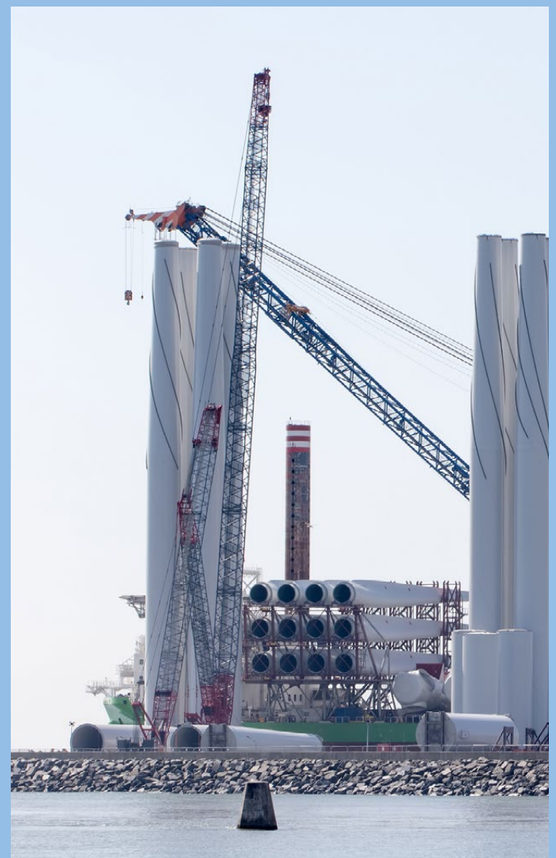
With 30 employees across five international offices and deep expertise spanning both fixed-bottom and floating foundation technologies, Empire Engineering delivers the specialist knowledge and collaborative approach that complex offshore wind projects demand.

Every project needs a strong foundation.

EMPIRE
engineering









Why Empire Engineering?

SPECIALIST EXPERTISE:

Our team has decades of combined experience in offshore wind engineering, specifically addressing the unique challenges of marine renewable energy. We understand the technical, commercial, and regulatory landscape.

GLOBAL PROJECT EXPERIENCE:

Empire Engineering has supported offshore wind projects across Europe, Asia, and North America. We've worked on both fixed and floating developments ranging from demonstration scale to multi-gigawatt commercial projects.

TRUSTED PARTNER APPROACH:

We take a collaborative approach with clients, acting as an extension of your team rather than a distant consultant. Our engineers integrate seamlessly into project workflows.

SPEED AND RESPONSIVENESS:

Offshore wind moves fast. We pride ourselves on rapid mobilisation—we can deploy engineers within days when urgent technical input is required.

COMPREHENSIVE CAPABILITIES:

Beyond our core specialisms, Empire Engineering can access wider engineering disciplines through our network, providing complete project support when needed.

AR7 READINESS

With results expected January 14, 2026, successful AR7 projects will immediately accelerate toward FID. This creates a concentrated demand for specialist engineering support across multiple projects simultaneously.

If your project is positioned for AR7 participation (or if you're planning for AR8 and beyond) we encourage early engagement to discuss how Empire Engineering can support your success.



EMPIRE engineering

Contact Us

This is an exciting time for the offshore wind industry, as both the public and political support as well as the commercial appetite for alternatives to fossil fuels accelerate. There are most definitely challenges, and they shouldn't be underestimated. Getting it right is critical for all of us.

Fortunately, there are many opportunities to do so. There are countless dedicated and skilled professionals stretching the boundaries of our technical knowledge, adapting and extending the possibilities of existing technologies and developing new ones. The next decade promises to be a very interesting and fast-moving one for the offshore wind industry.

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References and sources

The contents of this guide are derived solely from authoritative publicly available information. The guide does not incorporate, disclose, or rely upon any commercially sensitive, proprietary, confidential, or restricted data.

Primary Sources

UK Government and Regulatory Bodies:

Department for Energy Security and Net Zero (DESNZ) - AR7 statutory notices and allocation round documentation

1. **Planning Inspectorate** - Development Consent Order records and examination documents
2. **Marine Management Organisation** - Marine licence records and variations
3. **Crown Estate** - Round 4 leasing documentation and project awards
4. **Crown Estate Scotland** - ScotWind leasing round results and project documentation
5. **Scottish Government Marine Directorate** - Section 36 consent applications and decisions
6. **OFGEM** - Contracts for Difference registers and AR5/AR7 parameters

Developer and Owner Sources:

8. RWE Renewables - Official project websites for Norfolk Zone, Dogger Bank South, Rampion 2, Five Estuaries, Awel y Môr 9. SSE Renewables - Project documentation for Seagreen 1A, Berwick Bank, North Falls 10. ScottishPower Renewables (Iberdrola) - East Anglia ONE North documentation 11. BP/EnBW - Mona and Morgan project information (pre-JERA Nex bp transition) 12. JERA Nex bp - Post-August 2025 project ownership documentation 13. Equinor - Sheringham Shoal Extension and Dudgeon Extension documentation 14. TotalEnergies - Erebus and Outer Dowsing project information, West of Orkney partnership documentation 15. Corio Generation - West of Orkney project documentation and consent announcements 16. Copenhagen Infrastructure Partners - West of Orkney partnership information, Pentland project details 17. Simply Blue Group - Salamander and Erebus partnership documentation 18. Flotation Energy - Whitecross Celtic Sea project information 19. Cierco Energy - Forthwind project documentation 20. Renewable Infrastructure Development Group (RIDG) - West of Orkney partnership details

Equipment Suppliers and Contractors:

21. Vestas - V236-15 MW turbine specifications and supply agreements 22. Aker Solutions - HVDC offshore converter platform contracts for Norfolk projects 23. Siemens Energy - HVDC electrical equipment supply for Norfolk projects 24. Seaway 7 - EPCI contractor announcements (Awel y Môr, Berwick Bank) 25. Fugro - Geotechnical survey contract announcements 26. Cadeler - Installation vessel deployment information (Awel y Môr) 27. Allseas - Transport & Installation contracts (Norfolk Boreas) 28. Interocean Marine Services - Marine vetting contracts (Mona, Morgan) 29. Kent (foundation designer) - Jacket foundation design work (Mona, Morgan) 30. Principle Power - WindFloat technology for Erebus 31. Subsea 7 - Mooring and anchor FEED contract (West of Orkney)

Industry News and Analysis:

32. Offshore Wind Biz - Project news and development updates (2024-2025) 33. reNews - Renewable energy industry news and analysis 34. Energy Voice - Offshore wind sector reporting 35. 4C Offshore - Offshore wind project database and market intelligence 36. Windpower Monthly - Industry developments and technical analysis 37. RenewableUK - UK offshore wind market reports and policy analysis 38. Offshore Energies UK - Industry position papers on AR7 39. ORE Catapult - AR7 parameters analysis and industry research 40. Energy Global - ScotWind project updates and consent news

Technical and Environmental Documentation:

41. Environmental Impact Assessments - For projects in consent application phase 42. Environmental Statements - Supporting DCO applications 43. Marine Scotland scoping opinions and consultation responses 44. Navigation Risk Assessments and shipping consultation responses 45. Ornithological survey reports 46. Geotechnical investigation reports (Fugro, Ocean Infinity) 47. Metocean data collection reports 48. Foundation design documentation (where publicly available) 49. Grid connection studies and National Grid Holistic Network Design documents 50. Port infrastructure feasibility studies

Financial and Market Analysis:

51. UK CfD Strike Price announcements (AR5, AR7) 52. Budget allocation notices from DESNZ 53. Offshore wind LCOE analysis reports 54. Supply chain capacity assessments 55. Installation vessel market reports 56. Turbine manufacturing capacity analysis 57. Foundation manufacturing market intelligence

Data Verification Methodology

All project information in this guide underwent multi-source verification:

- **Technical specifications** (capacity, turbine count, water depth, distance offshore): Verified against official developer websites, DCO documents, and Crown Estate records
- **Partnership structures:** Confirmed through company announcements, press releases, and regulatory filings
- **Consent status and dates:** Cross-referenced against Planning Inspectorate records, Scottish Government databases, and MMO licensing records
- **Recent developments:** Verified through multiple independent industry news sources, with preference for primary sources (developer announcements, equipment supplier press releases)
- **Contract awards:** Confirmed through official announcements from both project owners and contractors
- **Timeline estimates:** Based on official project documentation where available, or derived from industry standard development timelines where not explicitly stated

No speculative information has been included. Where information conflicts between sources, the most recent and authoritative source was prioritised (e.g., official government records over industry news reports).

Where information is genuinely uncertain (e.g., turbine model selection for projects at early development stage), this is clearly indicated in the project commentary.

Further Reading

For readers seeking additional context on UK offshore wind policy and AR7:

- **DESNZ AR7 Collection:** https://www.gov.uk/government/collections/contracts-for-difference-cfd-allocation-round-7
- **CfD Allocation Round Website:** https://www.cfdallocationround.uk/
- **Planning Inspectorate National Infrastructure Projects:** https://infrastructure.planninginspectorate.gov.uk/
- **Crown Estate Offshore Wind:** https://www.thecrownestate.co.uk/our-business/marine/offshore-wind/
- **Crown Estate Scotland:** https://www.crownestatescotland.com/
- **RenewableUK Reports:** https://www.renewableuk.com/

Report Prepared: November 2025
Based on information current as of: November 4, 2025

Disclaimer: This guide represents Empire Engineering's analysis of publicly available information regarding potential AR7 participating projects. Project selection, bid prices, and AR7 outcomes remain confidential to participants and the UK government. Empire Engineering makes no warranty regarding AR7 results and this guide should not be interpreted as investment advice. Technical specifications and development status will change as projects progress.

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Endnotes

1. Sheringham Shoal Extension Project is currently 100% owned by Equinor, with Equitix Offshore 3 Limited (co-owned by funds managed by Equitix and The Renewables Infrastructure Group (TRIG)) and Macquarie Asset Management (via Macquarie GIG Renewable Energy Fund 1) having options to acquire a total of 60% interests at Final Investment Decision (FID). Source: https://dudgeonoffshorewind.co.uk/extensionproject/unification

2. Cobra and Flotation Energy are proud partners of the White Cross offshore windfarm. Source: https://whitecrossoffshorewind.com/who-we-are/

3. RWE leading development, construction and operation on behalf of the project partners RWE (51% share) and Masdar (49% share). Source: https://uk.rwe.com/project-proposals/dogger-bank-south/

4. Rampion 2 is a joint venture between RWE, the major shareholder (50.1%), and its partners, a Macquarie-led consortium (25%) and Enbridge (24.9%). Source: https://www.rwe.com/-/media/RWE/RWE-UK/downloads/press/2025/2025-04-03-uk-government-gives-green-light-to-rampion.pdf

5. Five Estuaries' project partners are RWE (33.33%), a Macquarie-led consortium (25%), ESB (20.83%) and Sumitomo Corporation (20.83%). Source: https://uk.rwe.com/project-proposals/five-estuaries/

6. Awel y Môr Offshore Wind Farm is owned by RWE Renewables (60%), Stadtwerke München (30%) and Siemens' financing arm, Siemens Financial Services (10%). Source: https://uk.rwe.com/project-proposals/awel-y-mor/

7. Seagreen is an offshore windfarm owned by SSE Renewables (49%), TotalEnergies (25.5%) and PTTEP (25.5%). Source: https://www.seagreenwindenergy.com/about-us

8. Existing capacity. Proposed to double. Source: https://dudgeonoffshorewind.co.uk/extensionproject/overview

9. These are the existing capacity. Proposed is to double the capacity. Source: https://dudgeonoffshorewind.co.uk/extensionproject/overview

10. Vestas will notably supply 92 of its V236-15 MW offshore wind turbines. Source: https://www.enerdata.net/publications/daily-energy-news/vestas-signs-deals-supply-42-gw-offshore-wind-turbines-uk.html

11. Source: Table 4-1, https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010117-000384-6.2.4%20Rampion%202%20ES%20Volume%202%20Chapter%204%20The%20Proposed%20Development.pdf

12. The project is planned to have a grid connection at the National Grid's East Anglia Connection Node, near Lawford in Essex. Source: https://www.offshorewind.biz/2024/04/24/rwes-uk-offshore-wind-farm-extension-project-moves-forward/
https://fiveestuaries.co.uk/about/

13. In May 2025, RWE and Masdar contracted TGS and Fugro to conduct geophysical and geotechnical surveys. Source: https://www.offshorewind.biz/2025/07/15/rwe-masdar-move-forward-with-3-gw-dogger-bank-south-offshore-wind-farms/

14. In July 2024, a Development Consent Order application was accepted by the Planning Inspectorate for examination. In July 2025, the Examination formally closed and a consent decision is anticipated within six months. Source: https://uk.rwe.com/project-proposals/dogger-bank-south/

15. SeAH Wind has been contracted to supply XXL monopiles with production from its Teesside facility starting in 2026. Source: https://renews.biz/90085/seah-lands-28gw-vanguard-foundations-deal/

16. On December 15, 2022, Aker Solutions awarded Allseas with the transport and installation contract for the Boreas high voltage direct current (HVDC) converter station. Source: https://www.oedigital.com/news/502119-offshore-wind-allseas-wins-deal-to-install-hvdc-converter-station-in-uk-north-sea
The platform installation vessel Pioneering Spirit will install the substation in 2026. Source: https://www.offshorewind.biz/2023/01/12/allseas-to-install-norfolk-boreas-substation

17. Five Estuaries is the proposed extension to the operational £1.5 billion, 353 MW Galloper Offshore Wind Farm. Source: https://fiveestuaries.co.uk/about/
The project has been closely coordinated with the neighbouring North Falls Offshore Wind Farm to minimize onshore infrastructure impacts. Source: https://fiveestuaries.co.uk/frequently-asked-questions/

18. Source: https://fiveestuaries.co.uk/about/

19. Source: https://awelymor.cymru/

20. Source: https://awelymor.cymru/awel-y-mor-current-status/

21. Source: https://www.fugro.com/expertise/case-studies/working-through-winter-bespoke-testing-unlocks-early-insights-for-awel-y-mor

22. Salamander underwent a significant ownership change in August 2025 when Norwegian floating wind specialist Odfjell Oceanwind acquired Ørsted's 80% majority stake, bringing new momentum with selection of its proprietary Deepsea Star™ semi-submersible steel foundation technology. Source: https://simplybluegroup.com/news/odfjell-oceanwind-acquires-orsteds-shares-in-the-salamander-offshore-wind-farm/
The project is explicitly designed to unlock the Scottish supply chain's capabilities ahead of the larger ScotWind buildout. Source: https://www.netzerotc.com/case-studies/the-salamander-offshore-floating-wind-project/
The project completed a metocean measurement campaign in January 2025 using floating LiDARs and wave buoys. Source: https://salamanderfloatingwind.com/wp-content/uploads/2025/01/250115-PR_FLiDAR-Retrieval-FINAL.pdf

23. Additional info: Seaway 7 has secured preferred supplier status for foundation EPCI. Source: https://www.offshore-energy.biz/seaway7-completes-epci-cables-scope-on-scotlands-largest-offshore-wind-farm/