



O&G Electrification A Pathway for Floating Wind
Floating Energy Research Forum
Tim Hunter 05 June 2024

Partnering for Success



- Strategic partnership with TEPCO RP
- Flotation Energy created after founders' experience developing Kincardine
- Actively developing its INTOG projects from Day 1
- Clear understanding of the drivers for O&G decarbonisation



- Vårgrønn owned by Plenitude (Eni) and energy investor HitecVision
- Brings specialist offshore wind expertise
- Has a share in the world's largest wind farm under construction, Dogger Bank

Pioneering a new era of floating wind

Commercial scale floating wind reaching maturity



The world's largest
operational floating wind
farm is 88MW (11 turbines)



Up to 560 MW



Up to 1.4 GW



~35 turbines



~90 turbines

Demand for oil & gas electrification

Net Zero targets reinforce the need for floating wind



Crown Estate Scotland's leasing round for '**Innovation and Targeted Oil and Gas**' (**INTOG**) projects in Scotland – Green Volt and Cenos awarded exclusivity



Significant contributor to the **North Sea Transition Deal's** goal of halving offshore emissions **by 2030**



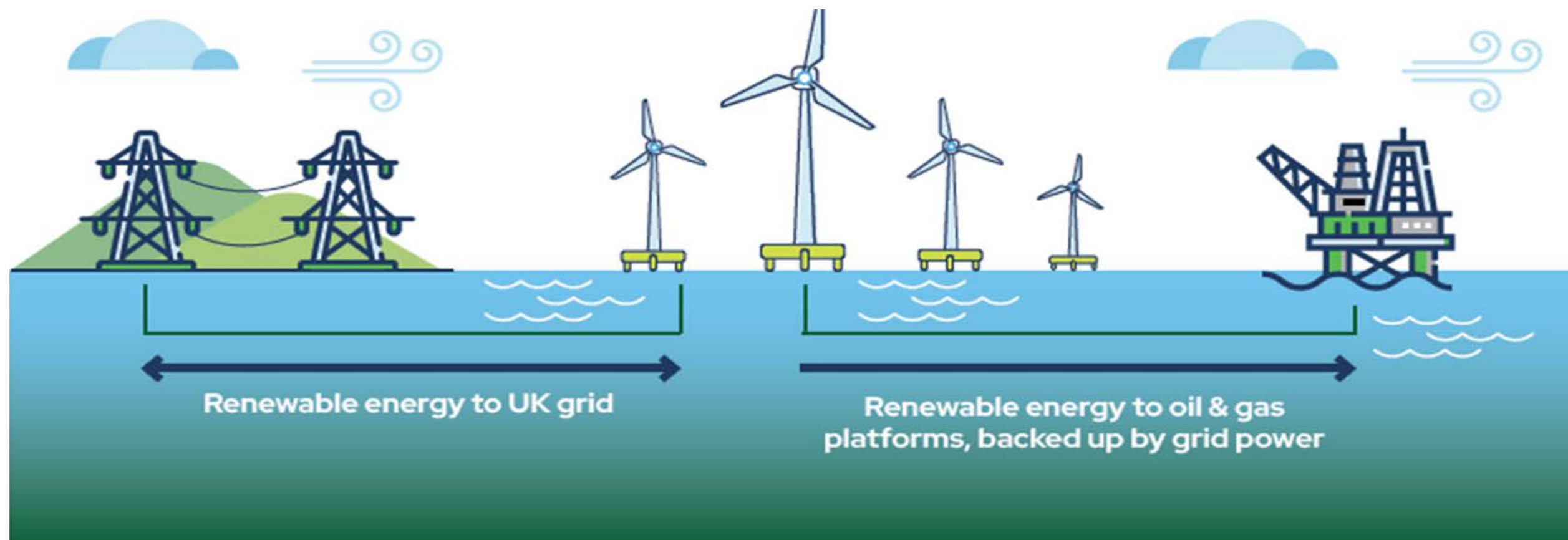
Participating oil and gas platforms **reduce emissions from electricity up to 85%**

Platform electrification

How does it work?

Renewable power, with grid security

- Displace existing, open cycle gas turbine power generation
- Provide security of grid supply to O&G operations
- Export surplus power to shore, enabling further decarbonisation of UK grid
- Floating wind, further offshore with excellent wind resource



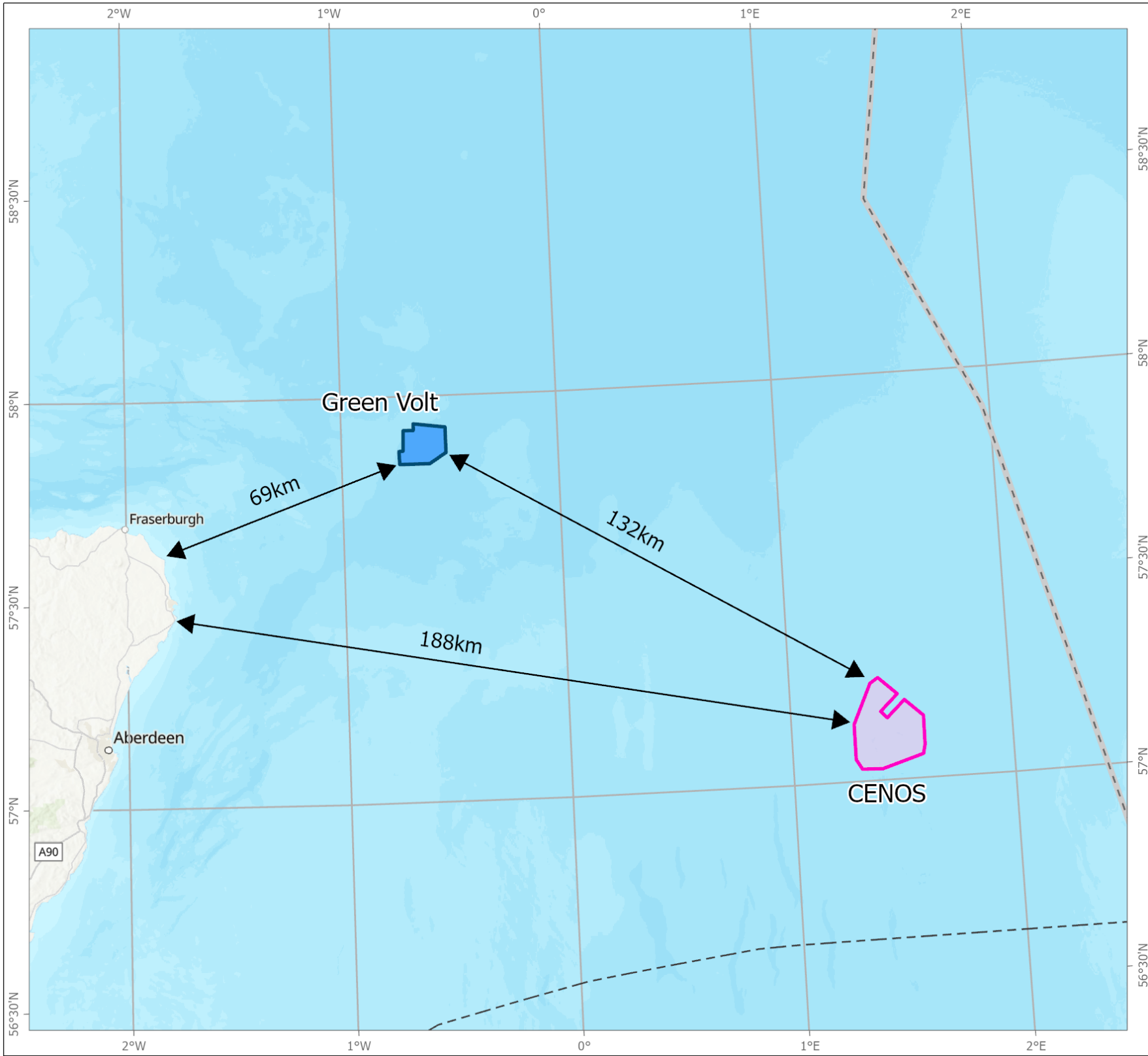
- ✓ 100% electrification
- ✓ Rapid deployment
- ✓ Maximum decarbonisation
- ✓ Grid availability / reliability to meet O&G requirements
- ✓ Optimal CapEx – retained by the wind farm
- ✓ UK offshore wind growth targets

Project Summary

Two offshore windfarms in the heart of the UKCS

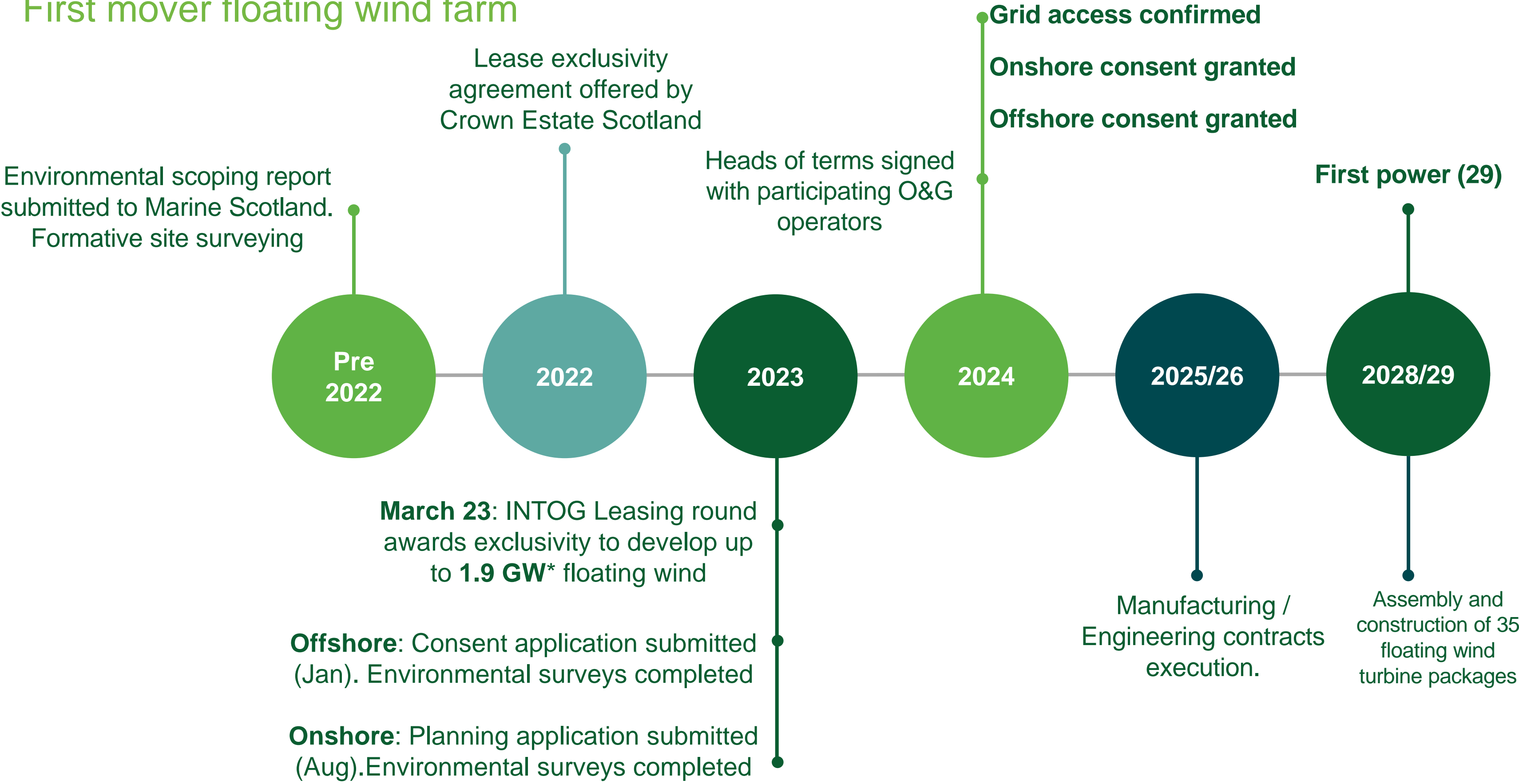
Green Volt	
Windfarm area	Approx 110 km ²
Water depth	100-115 m
Windfarm Rating	330-560MW
Distance to shore	70 km
No. of WTG	Up to 35 turbines
WTG capacity	Up to 15 MW each
Substructure	Semi-submersible
Export	HVAC – Jacket mounted OSS

CENOS	
Windfarm area	Approx 333 km ²
Water depth	100-115 m
Windfarm Rating	1.4GW
Distance to shore	190 km
No. of WTG	Up to 95 turbines
WTG capacity	15 -22 MW each
Substructure	Semi-submersible or tension leg platform
Export	HVDC – Jacket mounted OSS



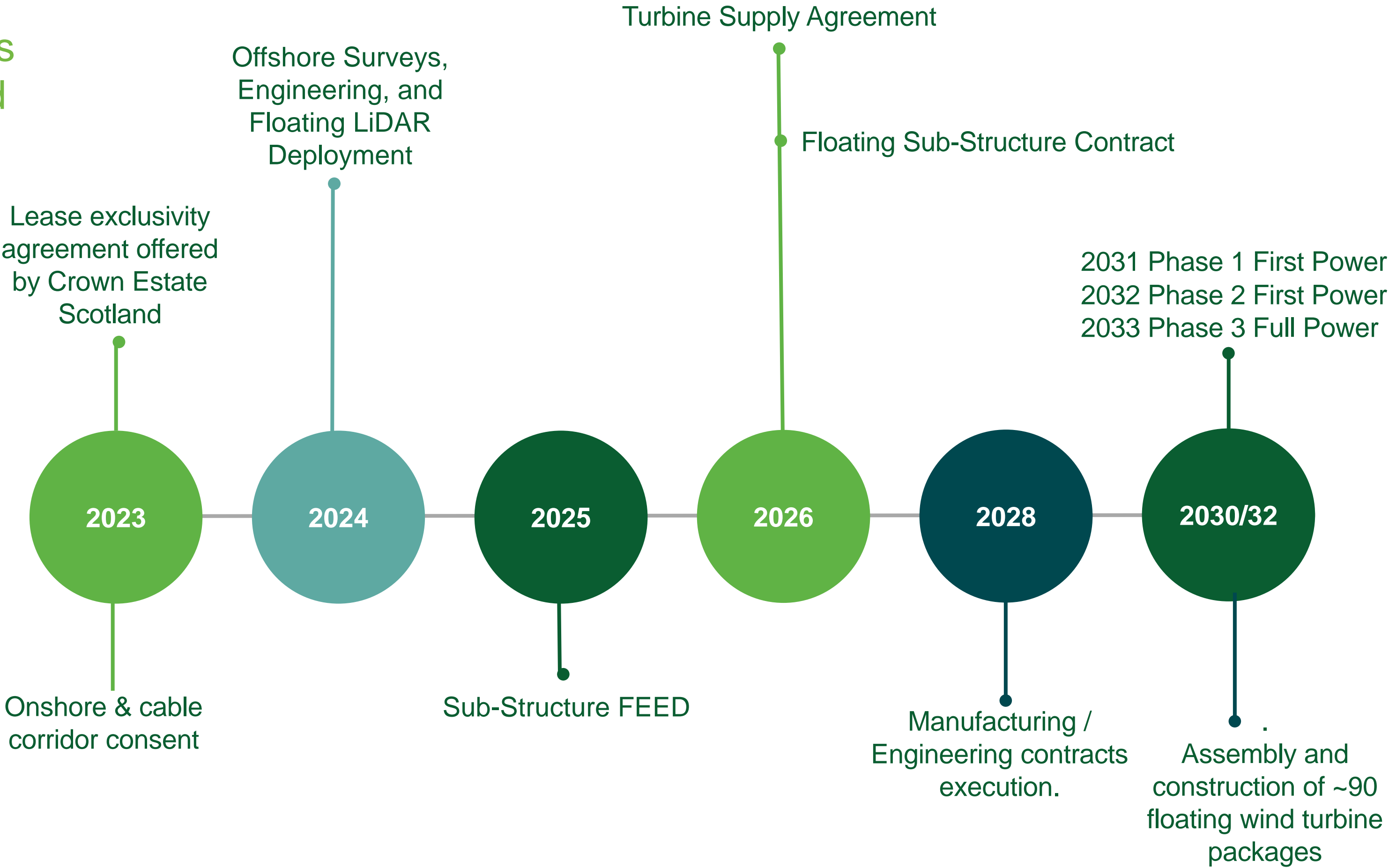
Green Volt

First mover floating wind farm



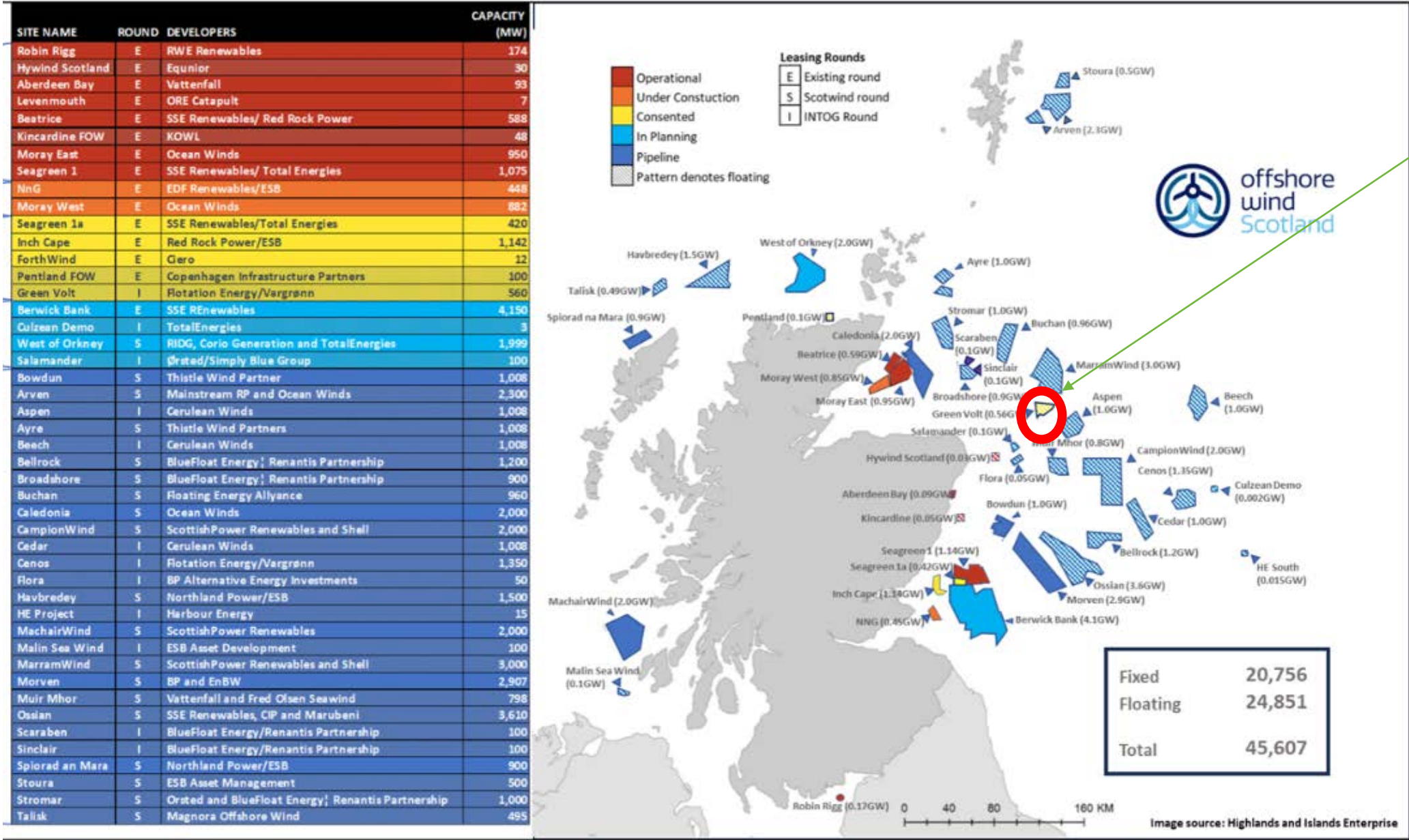
Cenos

Set to be the world's largest floating wind farm



UK OSW Market Context

O&G Electrification, paving the way for industrialization



No. FWTS – Pipeline vs WTG size			
	15MW	20MW	25MW
10 GW	666	500	400
20 GW	1333	1000	800
30 GW	2000	1500	1200

Between 2 & 8 FWTs per month between 2030 & 2050

Steppingstone projects like Green Volt and CENOS - critical to the delivery of the UK's FOW pipeline

Industrial Opportunity - Construction

Sufficient scale for serialization



Generation 1 Shipyard Construction

- Mature methods
- +4 months / unit



Generation 2 Modular Assembly

- Mature methods, immature logistics
- 1-3 months / unit

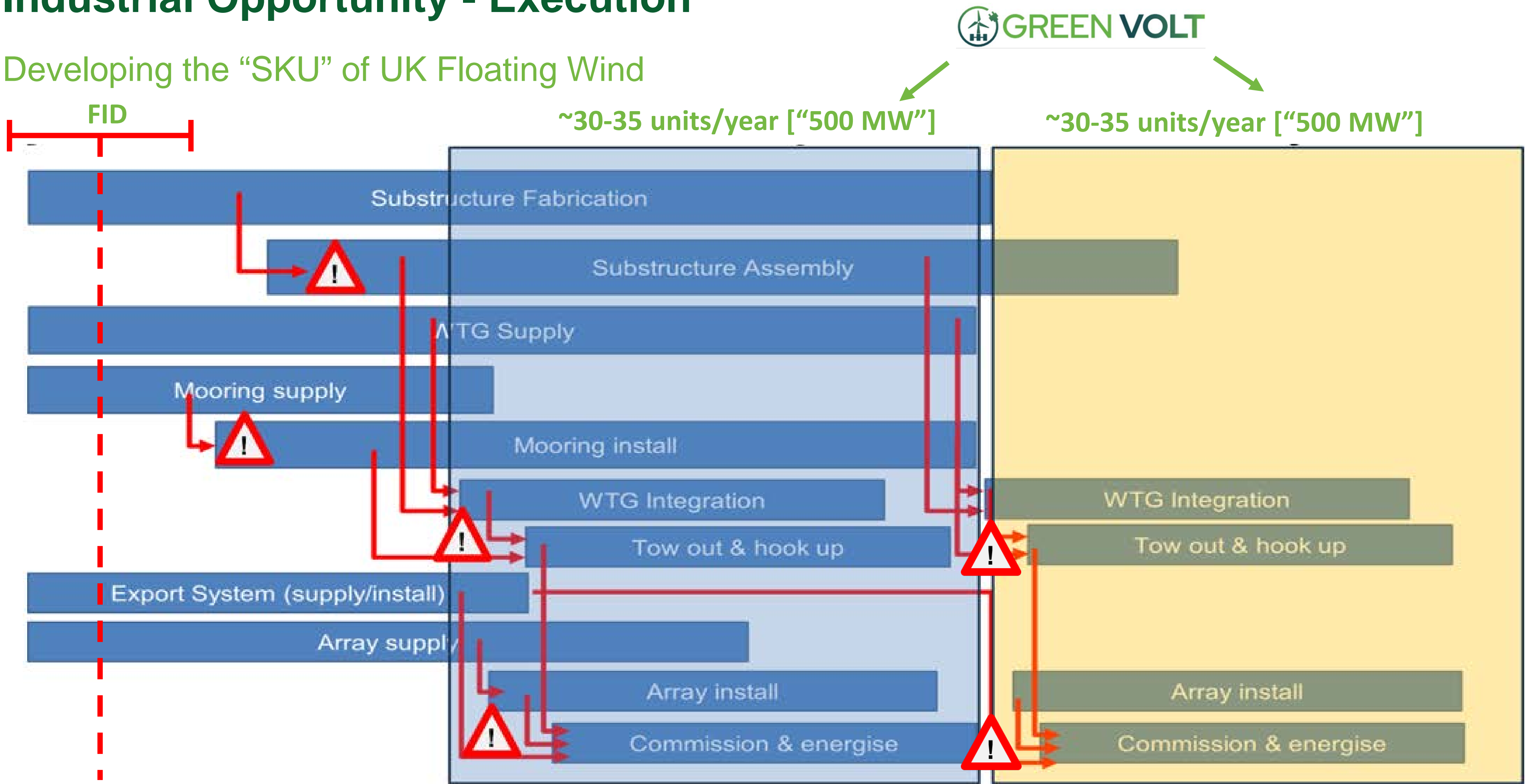


Generation 3 Modular Rapid Assembly

- High novelty (design & process)
- <1 month / unit

Industrial Opportunity - Execution

Developing the “SKU” of UK Floating Wind



THANK YOU
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Questions?