GREEN VOLT

FLOTATION ENERGY | vårgrønn

The first commercial-scale floating wind farm in Europe

Supply Chain Development Statement Outlook

1.1 Introduction

Green Volt is a JV between Flotation Energy and Vårgrønn. Flotation Energy is a UK-based developer headquartered in Edinburgh and is a subsidiary of Japanese utility giant, TEPCO. Vårgrønn is a Norway-based offshore wind company owned by Plenitude (Eni) and HitecVision.

Flotation Energy and Vårgrønn were awarded exclusivity by Crown Estate Scotland for areas to develop up to 1.9 GW of floating offshore wind capacity from two projects, Green Volt and Cenos through the Innovation and Targeted Oil and Gas (INTOG) leasing round for projects that provide low-carbon electricity to oil and gas platforms. Green Volt and Cenos will also provide electricity to the grid.

1.2 A flagship project

- Green Volt will be the first commercial-scale floating offshore wind development in Europe, targeting first power in 2029. The Cenos project is targeting first power by 2030.

- By being execution-ready, Green Volt is uniquely positioned to kickstart a local supply chain Scotland and the UK unlocking first-mover advantage for global exports in the growing floating offshore wind industry.

- As a commercial scale project of up to 560 MW, Green Volt offers a vital stepping stone for suppliers, supporting the industry in developing capacity to support larger projects like Cenos (up to 1.4 GW).

- The two projects will drive standardisation and scaling of new technology, helping to bring down costs.

- As an early large-scale floating wind project, it will stimulate and support investment in new port infrastructure, vital for the UK's offshore wind ambitions.

- By creating opportunities in the projects and supporting supply chain deployment targets for offshore expertise from oil and gas, Green Volt can help to deliver a just transition for the oil and gas workforce around the North Sea.

1.3 Stimulating early investment

Green Volt will be delivered before the major ScotWind floating projects in Scotland. The project will make significant contribution to their success by developing a new supply chain and port capacity.

Green Volt's JV partners have joined the ScotWind developers in the Strategic Investment Model (SIM) collaboration. The JV partners' involvement will help to ensure necessary capacity can be developed in time for Green Volt execution. Bringing

forward key investment in locations such as the Cromarty Firth also reduces risk and uncertainty for ScotWind projects. Green Volt's operations base will bring long-term sustainable jobs to surrounding communities.

1.4 The supply chain opportunity

Floating wind sets the supply chain new challenges and opportunities. Significant parts of the supply chain are not yet established. In the next 30 years, 20,000 floating sub-structures could be needed globally.[1] The UK industry must look to its strengths and seize the opportunity to develop an export quality industry in leading areas such as dynamic power cables and mooring system production. This also includes increasing capacity in areas such as power cables, substructure fabrication and assembly, and mooring system and anchor production. Moreover, Green Volt also continues to seek opportunities to invest in UK turbine supply chain. It integrates local content assessment into procurement criteria, aiming to benefit suppliers across Scotland and the UK. Green Volt is estimated to create over 2,800 direct jobs during construction and around 100 jobs during the operational phase, delivering over £2.5 billion of gross-value added, with over £1.3 billion added in the UK.

These actions are reflected in Table 1 and Table 2 and are based on the current and potentially available Scottish and UK supply chain. Figures outlined in Table 1 and Table 2 are representative of respective commitments and ambitions; not total project costs.

Table 1 SCDS Commitment

	Scotland	Rest of UK	EU	Rest of world
Development	£110 million	£10 million	£40 million	£10 million
Manufacturing	£350 million	£90 million	£400 million	£500 million
Installation	£260 million	£40 million	£140 million	£100 million
Operation (six years)	£290 million	£40 million	£70 million	£30 million

Table 2 SCDS Ambition

	Scotland	Rest of UK	EU	Rest of world
Development	£130 million	£10 million	£30 million	£10 million
Manufacturing	£600 million	£100 million	£350 million	£340 million
Installation	£300 million	£50 million	£160 million	£70 million
Operation (six years)	£360 million	£40 million	£80 million	£30 million

[1] DNV (2023) Floating Wind: Turning Ambition into Action

1.5 Power cables

Scotland will have the potential to produce array and export cables for floating wind farms though Oceaneering's long-standing capability at Rosyth and Sumitomo's planned investment at Nigg. There is additional UK capability with JDR Cables and TechnipFMC. Green Volt places a high priority on securing UK cable supply.

Oceaneering is a key producer of offshore oil and gas umbilicals from Rosyth in Scotland. Umbilical production has synergies with dynamic power cable production, which places Oceaneering with an opportunity to diversify.

1.6 Substructure fabrication and assembly

Substructure production demands extensive space and labour. Green Volt sees rest-of-world fabrication of sub-components, shipped to the UK for assembly, as the most feasible approach. This strategy offers significant opportunities for the Scottish workforce and technology advancement. Green Volt is evaluating options through pre-FEED studies and is in close dialogue with key fabricators at Ardersier, the Cromarty Firth and Teesport.

1.7 Mooring lines and connector production

Green Volt is developing its mooring system to enhance local production opportunities. With Scotland and the wider UK renowned for mooring components, Green Volt aims to stimulate investment in Scottish anchor, rope, and connector production and is engaging with leading suppliers like Bridon-Bekaert and Mooreast to ensure product development and functional requirements align with Green Volt's timeline. Green Volt and its partners are also considering the relevance of innovative anchor designs such as those from Subsea Micropiles, Triton Anchor and the investigations being led by TechnipFMC and Tata Steel to incorporate UK steel into anchor design.

1.8 Just transition

Green Volt will facilitate a Just Transition in the energy sector.

Close to 30,000 people could be working in the UK floating wind industry by 2050 and 90% of employees in the UK oil and gas industry have the skills to transition to offshore wind.

Transferring this expertise requires a predictable pipeline of floating wind projects. Companies and individuals will only make the move into floating wind when there is a growing, and stable, amount of work in the industry.

Green Volt, and subsequently Cenos, aim to offer the beginnings of such a predictable pipeline of projects for the UK energy sector workforce, supporting supply chain and academic and industrial sector.

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