



The
Scottish
National
Investment
Bank



The Bank and
Offshore Wind

2025



Foreword

The Bank has been created to positively impact Scotland's people and communities through investing in businesses and projects.

Our offshore wind potential and the investment needed to harness it represent a transformational opportunity to re-industrialise and regenerate parts of Scotland – helping to deliver a just transition to net zero, for our society and economy.

We have not seen an economic opportunity on a comparable scale since the emergence of oil and gas exploration in the North Sea in the 1970s. Scotland 'over-indexes' on a global scale when it comes to floating wind, representing 10% of the global pipeline. We have the opportunity to deliver a pipeline of over 40GW of offshore wind, 60% of which is set to be floating.

It has been widely recognised that whilst the UK led the charge in fixed-bottom offshore wind deployment, it was based on an import-led supply chain model, resulting in a lost opportunity for Scotland. This time, we can lead the market on floating wind.

Delivering the offshore wind pipeline to its full potential will be contingent upon creating a globally competitive, sustainable supply chain located close to the planned developments. Our urgent task is to invest in infrastructure, chiefly ports, and to manufacture blades, anchors, cables and other critical components at scale. Capitalising upon our first mover advantage will enable Scotland to export its expertise globally as it has done for decades in oil and gas.

This is an enormous opportunity – capable of generating up to £1.5 billion in supply chain opportunity on average per project.

The challenge in delivering this at pace is the market-risk caused by a misalignment in timing – of the need for upfront investment in building infrastructure, and of wind developers' ability to meet critical milestones and sign contracts with the supply chain. This is where we have a critical role to play.

The Bank recognised offshore wind as a significant strategic priority in 2021. Our analysis and experience shows that, with an informed view of the market, we can make commercial, impactful investments ahead of Final Investment Decisions – including contractual commitments by developers to the supply chain. This is central to our development bank mandate – to deliver both commercial returns and mission-driven impacts in net zero, place and innovation.

With more than £4 billion needed to develop the critical infrastructure, we believe that a public sector approach to investment that is strategic, commercially focussed, and appropriately structured carries greatest potential to crowd in significant levels of private sector capital.

We are putting this into action, having invested just under £200 million to date, across seven offshore wind focussed opportunities, alongside around £700 million from third parties. This represents around 25% of the Bank's activity since its inception in November 2020, across all three of its missions.

The ultimate goal is delivering a just transition to net zero, enabling high-quality jobs, industries and a future in which Scotland is exporting its renowned expertise in offshore wind to a global market. The Bank will play its part in delivering this legacy.

Mark Munro
Chief Investment
Officer





Foreword continued

1. Early investment is critical.

Significant investment in the infrastructure and supply chain for floating offshore wind is needed as soon as possible, due to the time required to build infrastructure. If infrastructure bottlenecks can be resolved, there will be a huge economic opportunity to establish a globally competitive supply chain in Scotland which is capable of building out the project pipeline to its true potential.

2. The Bank has already made significant investments in offshore wind infrastructure and the supply chain.

We have been active in building solutions to tackle investment barriers, with a focus on critical infrastructure and supply chain companies that are seeking to transition skills from oil and gas into the renewable energy industry. We have identified a number of areas where we can invest now to ensure supply chain readiness and enable Scotland's project pipeline to progress.

3. We will continue to be a critical player in the investment ecosystem.

We are working with other investors to support the development of a domestic supply chain and essential infrastructure needed to maximise the impact of the economic potential of offshore wind – this includes working with National Wealth Fund and GB Energy around co-investment opportunities.





1. Offshore wind: How it can drive Scotland's energy transition

Scotland is home to one of the world's largest pipelines of offshore wind, with the potential for over 40GW to be deployed by 2035. This is in addition to the 3GW which is already operational. The UK government is targeting 43-50 gigawatts (GW) of offshore wind installed by 2030 – Scotland has a big role to play in delivering this ambition.

Where does Scotland fit into the global picture?

ScotWind consists of a 28GW pipeline. The subsequent Innovation and Targeted Oil and Gas (INTOG) leasing round brought an additional 5GW – targeting floating offshore wind projects focussed on advancing innovation and/or decarbonising oil and gas production facilities in the North Sea by providing them with renewable power. ScotWind/INTOG projects are anticipated to be operational between 2029 and 2035.

When other projects in development are included, Scotland has a pipeline of over 40GW.

As much as 60% of Scotland's offshore wind pipeline is set to be floating offshore wind. The global floating wind pipeline now stands at 266GW, with Scottish projects representing just under 10% of this.

The UK has long been a global leader in deploying fixed bottom offshore wind. Maintaining that lead, Scotland became host to the world's first and the world's largest floating offshore wind demonstrator projects with Hywind Scotland in 2017, and the 50 MW Kincardine project in 2021.

Development of floating wind has ramped up globally in recent years, notably in Europe (France, Poland, Finland and Malta), Asia (South Korea, Taiwan and Vietnam) and South America (Brazil and Colombia). Floating offshore wind has yet to be deployed anywhere at commercial scale.

Scotland therefore has a huge opportunity to lead the way in commercialising the technology, leveraging long-standing expertise in subsea engineering capabilities that have their roots in North Sea oil and gas.

Offshore wind in Scottish Waters



Source: Crown Estate Scotland

Europe's first commercial scale floating wind farm, Green Volt, was awarded a contract for difference (CfD) from the UK government in September 2024. It will be critical that we begin to see further floating projects obtaining CfDs in subsequent allocation rounds to drive the supply chain demand needed to catalyse investment.

Significant opportunities for the domestic supply chain

The distinguishing feature of floating wind technology versus fixed-bottom wind – is that given its scale, the floating supply chain will require much larger port space with deeper quayside and manufacturing capability in closer proximity to projects.

This means that there is a substantial opportunity to develop our ports and establish manufacturing facilities here in Scotland, reaping the wider supply chain benefits and significant export potential. The small existing supply chain for floating wind, the huge forthcoming domestic market, and the global export opportunities, make the floating offshore wind supply chain in Scotland a key target for the Bank.

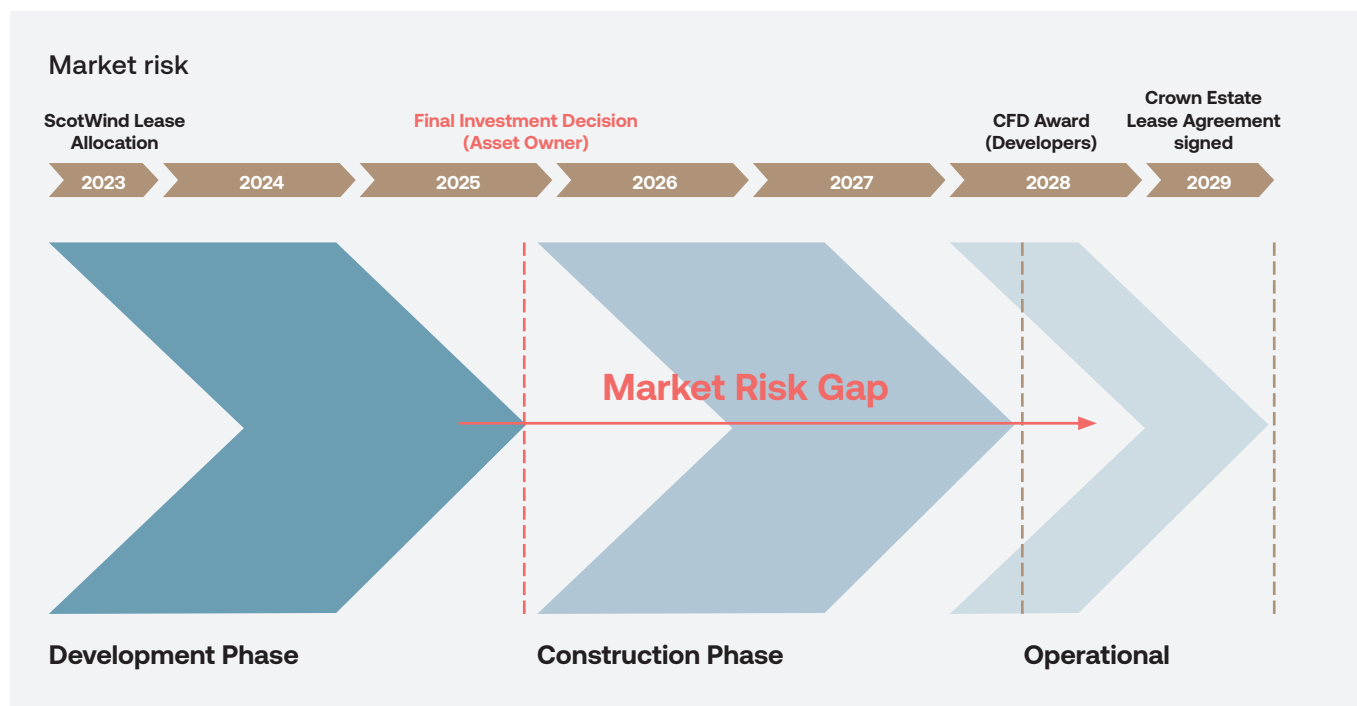


2. The investment opportunity

To develop the necessary critical infrastructure for floating wind, we have estimated an investment requirement in excess of £4 billion¹.

Timely, strategic investment in port infrastructure development is required to ensure ports are prepared to support deployment by 2028-2029 because there is a three to five year lead time on constructing the port enhancements. This makes the timeline tight with prompt action needed.

The dilemma faced by the industry is that there is a timing misalignment between the need for investment in critical infrastructure and the degree of certainty from floating offshore wind projects needed to attract the funding. For investors, this means that they need to invest before developers are in a position to give contracts to the supply chain – bringing with it ‘market risk’.

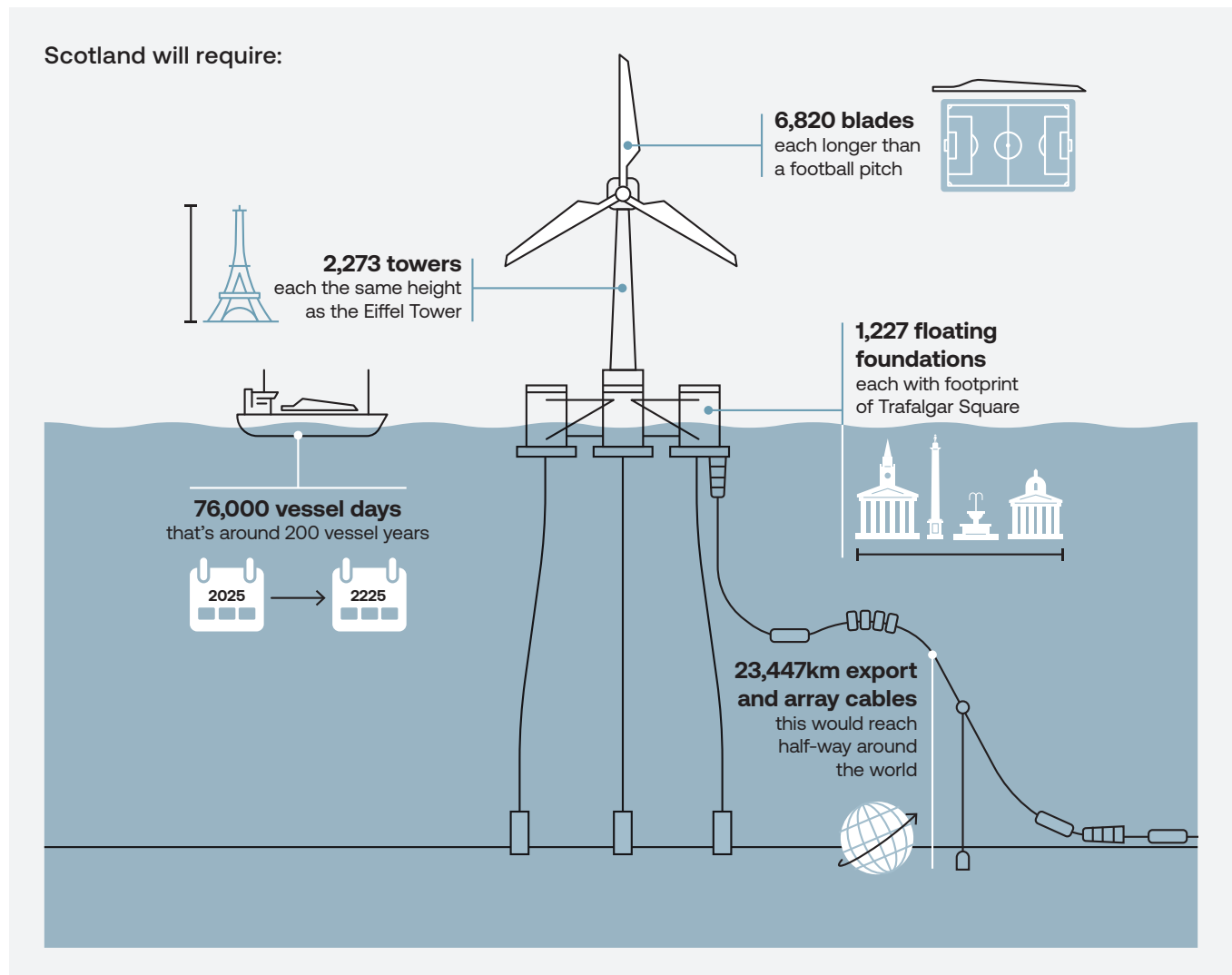


This is where we, as Scotland's development bank with a mandate to address market gaps, are acting as a catalyst by taking an informed view of market dynamics to structure investment enabling build-out of infrastructure and manufacturing.

¹ BVG associates analysis commissioned by the Bank.



2. The investment opportunity continued



Of the £200 million invested by the Bank to date as part of its offshore wind investment strategy, around £30 million has come from the Scottish Government as part of its commitment to invest up to £500 million over five years in Scotland's offshore wind supply chain.

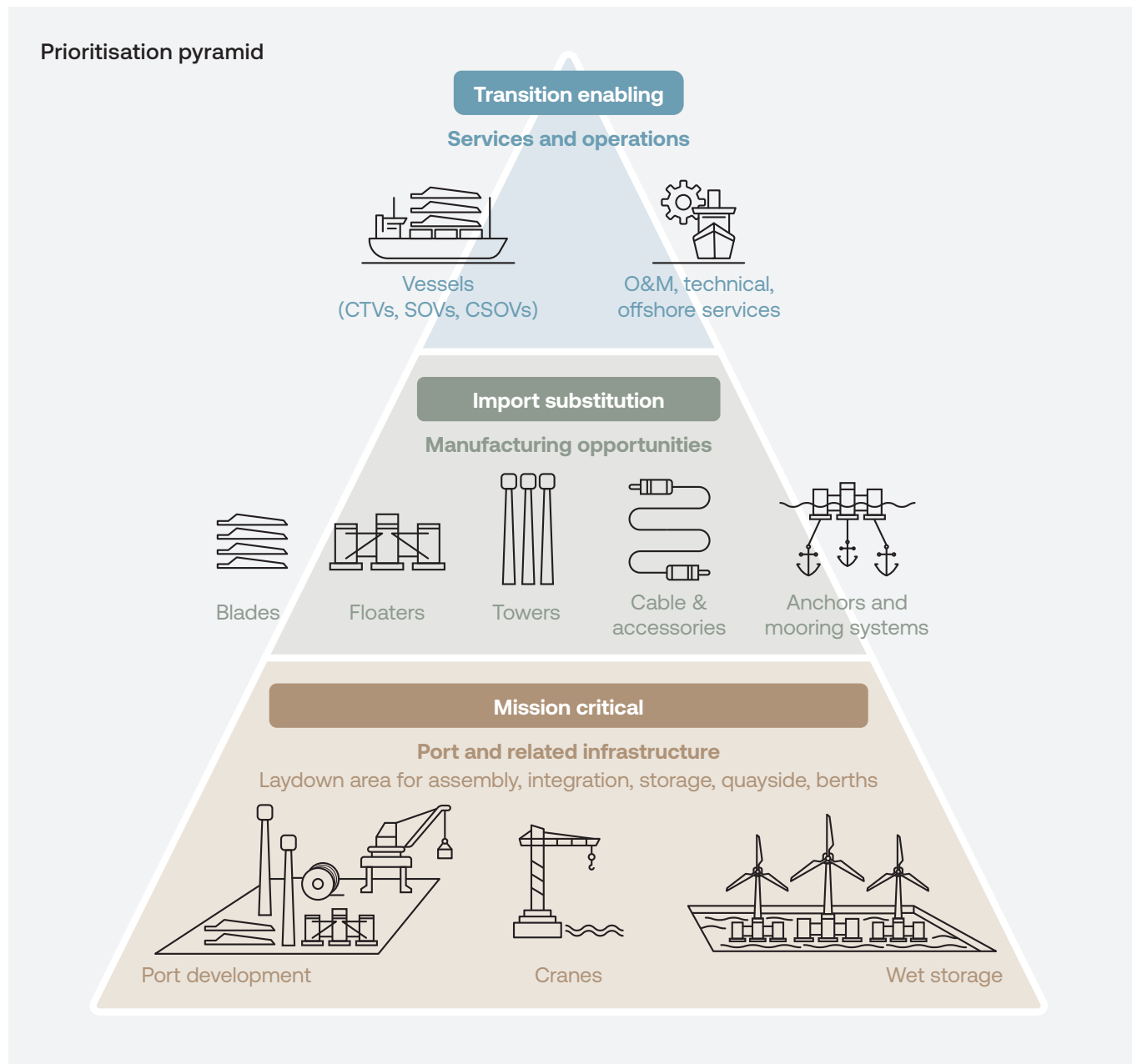
We believe in a 'commercial-first' approach; sharing risk with the private sector, but we also recognise the value in sub-commercial funding from Scottish and UK public sector entities. Working closely with Scottish Government, Scottish Enterprise, Highlands and Islands Enterprise, and our respective counterparts at a UK level, we are already putting this into practice.

The Bank has categorised investment requirements for successful delivery of offshore wind projects into those which are mission critical, those presenting an opportunity for import substitution, to benefit the Scottish ecosystem, and investments that hasten the transition.



2. The investment opportunity continued

These categorisations create a prioritisation pyramid to enable us to focus our resources and investment opportunities to those which have the greatest strategic value, commercial credibility and potential for positive social, economic and environmental impact.





2. The investment opportunity continued

Mission critical

Currently, neither Scotland or the wider UK, has the capacity or capability to deliver the Scottish and UK Governments' stated offshore wind ambitions. It is therefore essential that this capacity and capability is built out across Scotland.

Investment in these areas is vital for any meaningful deployment of floating offshore wind. Existing port facilities are capable of delivering some projects, albeit at a slower pace than required. Deployment of the floating offshore wind pipeline at scale requires major investment programmes in quays, dredging, laydown areas, and cranes.

A targeted programme of investment focussed on upgrading strategically located ports is required to unlock capacity for the growth of the supply chain and the build out of offshore wind. Without this, projects will be delayed and developers will likely choose other geographies for investment, and project delivery.

The Bank is closely engaged with several ports and harbour opportunities across Scotland and understands the complexity and commercial dynamics. The development of Green Freeports in the Cromarty Firth and Firth of Forth is welcome but the scale of ScotWind will mean the opportunity extends beyond these areas.

From survey to construction, installation to operations, the needs of the windfarms will shift and the ports best able to service those needs will similarly shift. The operations and maintenance phase of a project requires at least two decades of regular deployments from a port relatively close to the windfarm, these ports will require infrastructure upgrades to be capable of servicing the expanding pipeline of projects.

A targeted programme of investment focussed on upgrading strategically located ports is required to unlock capacity for the growth of the supply chain and the build out of offshore wind.





2. The investment opportunity continued

Mission critical case studies



Ardersier Port energy transition facility

£50 million Bank, £350 million co-investment

Ardersier Port secured a £50 million debt facility from the Bank alongside £50 million from the National Wealth Fund. The port was able to attract this finance on the strength of a £300 million private equity investment from Quantum Energy Partners.

The site is ideally located to support offshore wind developers and manufacturers of offshore wind components and equipment. It will be the largest

dedicated offshore wind deployment port facility in Scotland, capable of hosting and supporting gigawatt scale projects.

At 400 acres, once operational the facility will significantly increase the offshore wind port capacity to support the transition to net zero. As one of the largest industrial regeneration projects in the Highlands in decades, the development will re-establish the port as a major local employer. The site has potential to enable around 3,000 jobs and reskilling opportunities for the community.



Port of Aberdeen

£35 million Bank

Bank committed £35 million for the expansion of Aberdeen South Harbour. At the time, the largest marine infrastructure project in the UK.

The expanded South Harbour facility is complete and now provides greater land and water access for offshore wind developers and offshore wind supply chain providers.



2. The investment opportunity continued

Import substitution

The next most critical need for investment after infrastructure is to enable the growth of businesses which can manufacture critical components to reduce reliance on imports, including blades, floaters, towers, cables and accessories, anchors and mooring stations. The positioning of these facilities within expanded ports, strengthens the business case for investment in each.

Manufacturing and assembly of key floating wind components in Scotland will be critical to achieve greatest impact and value generation for the economy.

Getting this right, by investing in Scotland's offshore wind supply chain in the near-term, not only secures greater spend in Scotland, but also contributes to the future of the offshore wind sector as a whole, and on a global scale with future export potential.

Import substitution case studies



XLCC

£20 million Bank, £20 million co-investment

The Bank invested alongside National Wealth Fund, who has committed an initial £20 million with potential for a further £67 million.

XLCC's high-voltage direct current (HVDC) cable will efficiently transport electricity over long distances. The investment will support the company's development of a new manufacturing facility at the brownfield site of the former Hunterston Terminal in Ayrshire.

Once complete, the facility will support around 900 jobs, including more than 200 apprenticeships, and will be capable of producing thousands of kilometres of HVDC cable each year.



Subsea Micropiles

£6.7 million Bank, £3.6 million co-investment

The Bank's investment in Subsea Micropiles supports the development of their innovative marine anchor system, designed for industrialisation, allowing large offshore construction projects to be completed at lower cost with reduced environmental impact.

The micropiles are suitable for a wider range of load requirements and soil conditions, helping unlock opportunities in the floating offshore wind industry.

The technology is less carbon intensive due to the use of smaller vessels and is a low-noise and low-vibration alternative to driven piles, reducing the acoustic impacts and disturbances to marine ecosystems.



2. The investment opportunity continued

Transition enabling

The final investment category is the transition-enabling layer, predominantly services and operations, where there is potential for long-term skilled job creation at scale.

There is a significant opportunity for existing businesses active across the energy sector to scale-up or transition to offshore wind activities – including operations and maintenance capability, technical and offshore services.

The skills and expertise gained through the development of the floating offshore wind sector in Scotland will carry significant export potential as other geographies follow.

Import substitution case studies



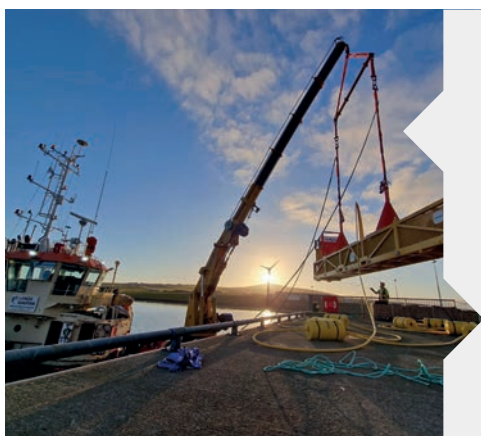
Aurora Energy Services

£28 million Bank, £6 million co-investment

Our investment supports the provision of a pipeline of reskilled workers and apprentices to drive forward Scotland's journey to net zero. The expansion of Aurora's regional training hubs and workshop facilities is vital to support the green energy supply chain. This includes the recently opened Renewable Energy Training Centre in Inverness, supported by Highlands and Islands Enterprise, which will allow aspiring technicians as well as industry professionals to train and retrain locally.

The Bank's backing will allow Aurora to service projects across renewable energy sectors, including wind, solar, hydrogen, carbon capture and storage (CCUS) and pumped hydro, as well as develop a globally recognised apprenticeship scheme.

The company will provide safety training, accreditation and advanced technical skills courses for more than 2,000 people a year, including inaugural and refresher courses needed to work in the onshore and offshore wind sector and other renewables industries.



Verlume

£8.6 million Bank, £0.5 million co-investment

Verlume's subsea energy storage technology uses intelligent energy management to store power in a marinated seabed battery system, and deliver power for remote, offshore uses. It can be charged from a variety of offshore sources including offshore wind and facilitates electrification and decarbonisation of oil and gas assets as well as reducing electricity loss from offshore wind in times of curtailment when paired with offshore wind farms.



2. The investment opportunity continued

Import substitution case studies



North Star

£50 million Bank, £317.5 million co-investment

Aberdeen-based North Star has been operating in the North Sea for 135 years. Its 1,300-strong workforce currently manage and operate 42 offshore support vessels (SOVs) providing critical safety services to over 50 UK Continental Shelf installations.

The firm entered the offshore wind market after winning all four long-term charter SOV awards for the highly competitive Dogger Bank wind farm – but had difficulty raising capital to enable the performance of these contracts. This was due to an unwillingness of lenders to engage given

the company's revenues were predominantly generated from oil and gas activity at the time.

Given the size of the capital and expertise required, the Bank took comfort investing in a business active in a similar industry to offshore wind, such as oil and gas. The Bank provided £50 million of funding to North Star, which formed the cornerstone of a £140 million funding package with other investors. Another funding round followed last year, with the company securing a further £227.5 million in debt. These funds are aimed towards accelerating North Star's ambition to add 40 hybrid SOVs to its fleet by 2040 – helping to alleviate anticipated bottlenecks in this sector.



3. The Bank's future role

Investment

Unlocking the potential of the Scottish offshore wind industry is a major challenge. In addition to addressing the near-term market gap noted above, these projects require patient commercial capital, at the right time, which is willing to take a long-term holistic view of the market.

There is a challenge in providing the volume of capital required and in ensuring the Scottish supply chain is ready to compete in the global market. The nascency of floating wind technology provides an opportunity for the skills and expertise developed in Scotland to be exported later this decade – but we have to grasp it.

As an active investor the Bank can be a conduit for public and private sector investment by structuring innovative, commercial solutions to unlock investment. We have established a strong track record, taking a portfolio approach, and working with commercial and public capital providers to drive progress. This is just the beginning.

Market risk is a reality, making it difficult for many types of commercial investors to come to the table just yet. We are taking an informed approach to market risk. This includes understanding and getting comfortable with a lack of contracted revenue in a measured and proportionate way and helping educate commercial investors of the risks and opportunities so that, as investment opportunities evolve, they will be ready to take more informed risks as well.

Investment on this basis carries with it the potential for generating positive, transformational impact, alongside a commercial return which is commensurate with the level of risk taken.

With 10% of the global floating pipeline, sufficient levels of capital will flow in Scotland once market certainty is provided – but if we wait, it will be too late.

We want to work with industry and with private sector investors to enable that investment now through sharing risk, and to secure the significant opportunities for the future.

Impact

The expansion of floating and fixed-offshore wind in Scotland and the UK at the scale envisaged represents an opportunity to re-industrialise and regenerate areas of Scotland where economic and social inequality exists. As an impact investor this is absolutely core to our investment thesis.

Taking a holistic, and place-based approach – the Bank recognises that the growth of the offshore wind sector in Scotland, and the wider energy transition, together provide the commercial driver needed to address the housing crisis in the Highlands and Islands of Scotland. Building more homes, of the right type in the right places, will be a critical enabler to unlock and maximise this opportunity.

From an innovation perspective – we will require to push boundaries with our products and services, driving down development and operating costs and enabling the sector to be globally competitive.

We are taking a sectoral view of the impact we expect to realise through the development of our offshore wind investment portfolio – mapping end impacts to our Net Zero, Place and Innovation missions, providing the blueprint for subsequent offshore wind related investment and major project development in Scotland.



3. The Bank's future role continued

Working with the eco-system

The Bank is determined to play a pivotal role in ensuring that Scotland's largest economic opportunity in a generation is realised – leaving a lasting legacy.

We will continue to work in collaboration with the Scottish Government and Scotland's enterprise agencies to invest up to £500 million over five years. We will take a 'commercial-first' approach, maximising the return for the public purse and minimising the level of sub-commercial capital required to enable investment.

As part of a changing public sector landscape, we will work in partnership with the National Wealth Fund and GB Energy to enable a coherent and comprehensive public sector response across the UK, one that is tuned in to the commercial challenges and opportunities.

Scotland is widely viewed as a leader by many other countries and regions that are now embarking on the offshore wind journey. For a small country we punch well above our weight and we can take a leading role in this sector. With our offshore heritage and wind resource, Scotland has a real competitive advantage.





The Scottish National Investment Bank

Scottish National
Investment Bank plc
Waverley Gate,
2-4 Waterloo Place,
Edinburgh,
United Kingdom
EH1 3EG

www.thebank.scot
enquiries@thebank.scot

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