



# North East Green Energy Opportunity

# Contents

North East Green Energy Investment Opportunity	6
Flagship Green Growth Sites	8
Green Energy Business Scale Up Opportunity	12
Our World-Leading Green Energy Expertise	13
Why Invest in the North East, and Why Now	14



## Foreword

### North East Mayor Kim McGuinness



#### The North East is the region to invest in for clean energy growth.

We are already home to some of the most exciting and innovative clean energy companies in the country, from Power Roll and Low Carbon Materials in Seaham to GeoPura in Newcastle.

Investors from around the world are taking notice of our vision, they see our shared ambition that extends from the workers maintaining turbines, to the researchers testing new approaches, to their Mayor championing innovation.

I want to see more good, green jobs across the region and so we are planning to double the number of people working in green energy to around 50,000 by 2035, while securing £3bn in private sector investment for the region.



From our local skills funding to our global investment partnerships, the North East is positioning itself to lead the way.

My Local Growth Plan sets out how we will achieve a just transition to a green economy, with a focus on ensuring good, green jobs are accessible to all through skills and training investment. My Combined Authority is also working hard to ensure our clean energy innovators have access to the support and funding they need to grow their ideas and scale up their businesses to compete on a global scale.

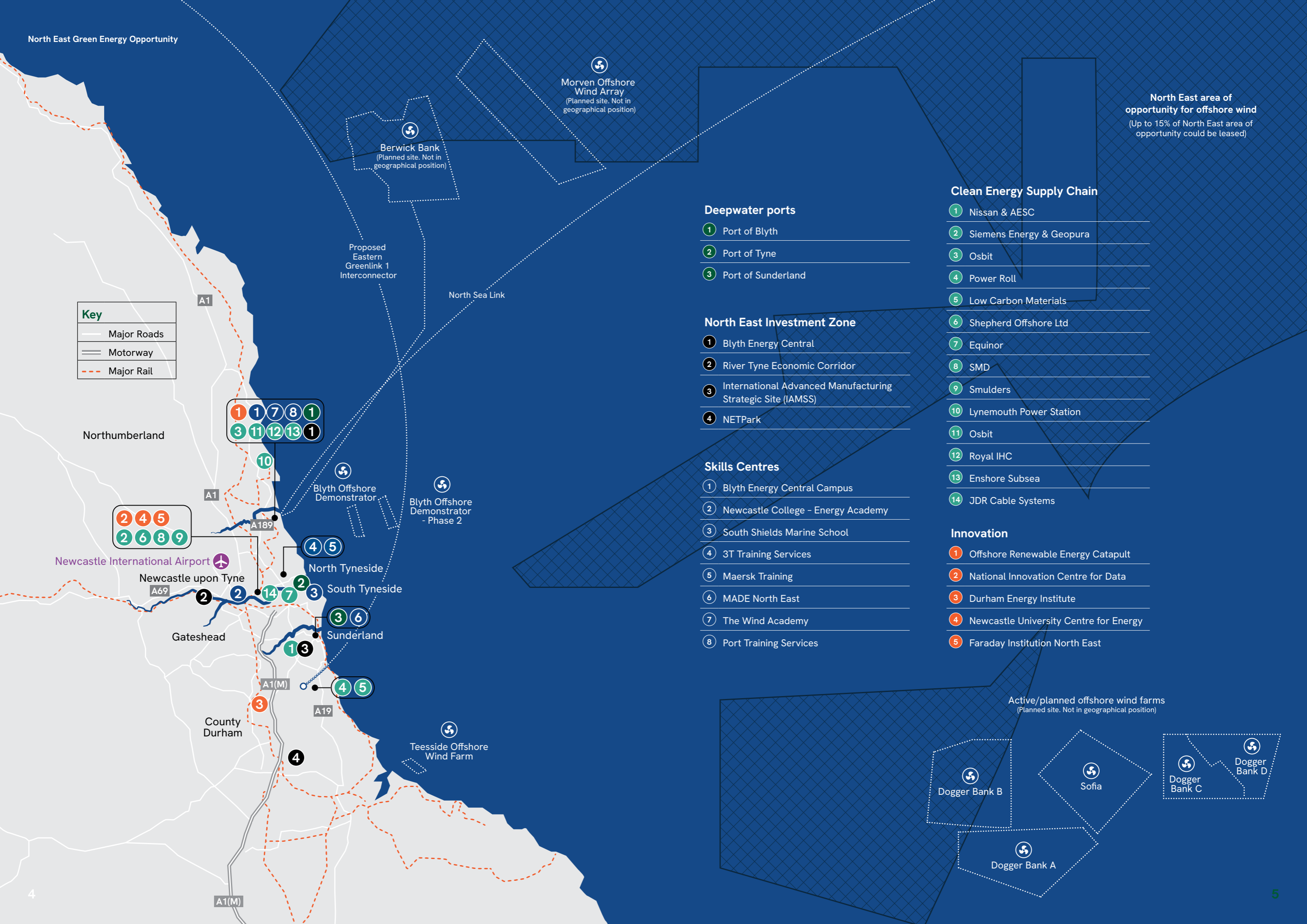
We have the most advanced offshore wind industrial cluster in the UK, which is located close to North Sea development

sites and accounts for one fifth of the UK's offshore wind economy. Our ports are fantastic regional assets, with three deep water ports that are all well suited to clean energy development with proven delivery outcomes. The £160m flagship North East Investment Zone which includes Blyth Energy Central and the River Tyne Economic Corridor is already attracting global interest, which we will build on by investing in critical port infrastructure to attract major inward investment from offshore wind developers and supply chain manufacturers.

**North East Mayor Kim McGuinness**

**Key**

- Major Roads
- Motorway
- Major Rail



**North East area of opportunity for offshore wind**  
(Up to 15% of North East area of opportunity could be leased)

**Clean Energy Supply Chain**

- 1 Nissan & AESC
- 2 Siemens Energy & Geopura
- 3 Osbit
- 4 Power Roll
- 5 Low Carbon Materials
- 6 Shepherd Offshore Ltd
- 7 Equinor
- 8 SMD
- 9 Smulders
- 10 Lynemouth Power Station
- 11 Osbit
- 12 Royal IHC
- 13 Enshore Subsea
- 14 JDR Cable Systems

**Deepwater ports**

- 1 Port of Blyth
- 2 Port of Tyne
- 3 Port of Sunderland

**North East Investment Zone**

- 1 Blyth Energy Central
- 2 River Tyne Economic Corridor
- 3 International Advanced Manufacturing Strategic Site (IAMSS)
- 4 NETPark

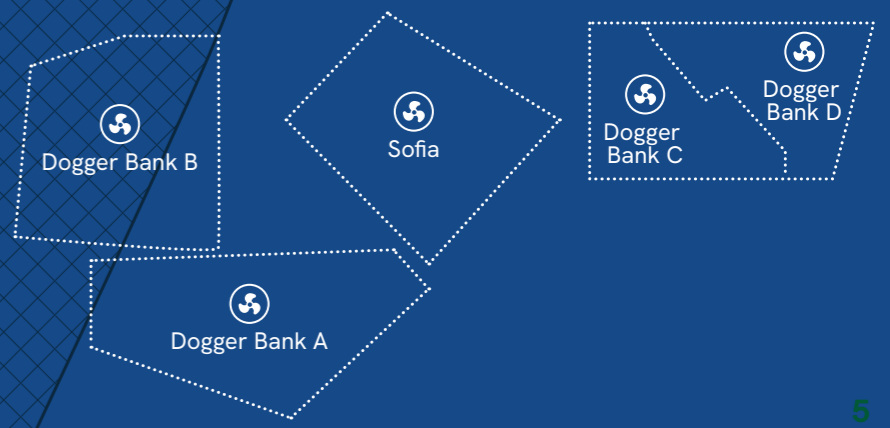
**Skills Centres**

- 1 Blyth Energy Central Campus
- 2 Newcastle College – Energy Academy
- 3 South Shields Marine School
- 4 3T Training Services
- 5 Maersk Training
- 6 MADE North East
- 7 The Wind Academy
- 8 Port Training Services

**Innovation**

- 1 Offshore Renewable Energy Catapult
- 2 National Innovation Centre for Data
- 3 Durham Energy Institute
- 4 Newcastle University Centre for Energy
- 5 Faraday Institution North East

Active/planned offshore wind farms  
(Planned site. Not in geographical position)





## North East Green Energy Investment Opportunity

### Why invest in green energy?

The UK's transition to green energy is a once-in-a-generation economic opportunity.

With an established ecosystem and supply chain, the North East is home to the industries of the future. As part of the Energi Coast Cluster, it is the only region labelled by the Offshore Wind Industry Council with all UK offshore wind capabilities.

The energy sector in the North East is creating skilled jobs, delivering economic growth, and positioning the UK as a Clean Energy Superpower.



Green energy is critical to the UK's economic growth and future energy security.



The clean energy economy is growing three times faster than the wider UK economy.



More than £40 billion of private investment has been made in clean energy since July 2024.



There is a significant £1tn global export market for the UK in offshore wind.



Large-scale £270bn UK offshore wind market.



The UK has a rising energy demand - a 50% increase by 2035 and 100% by 2050.



95GW pipeline of offshore wind for the UK.



Up to 16GW offshore wind leasing off the North East coast by 2030 and installed between 2035 - 2040.

### Why the North East?

With more than 25 years' experience in the sector, the North East has a global reputation as a leader in clean energy. The region provides investors with access to an established and highly skilled ecosystem, along with world-class infrastructure.

Driving innovation and R&D, the region will build and adopt the new technologies and solutions to decarbonise the UK. The North East has a clear, long-term strategy to grow the sector and invest in its experienced supply chain, creating thousands of jobs in the green economy. The region offers investors a tried and tested clean energy ecosystem to scale energy transition with confidence and impact.

The North East Combined Authority's Local Growth Plan provides a strong framework for growth in the clean energy sector. Building on the region's status as the UK's most advanced offshore wind industrial cluster, the Local Growth Plan positions the North East as the home of the green energy revolution.



The North East has leading power distribution and capacity, which offers investors a high-readiness platform to accelerate clean energy deployment.



The North East has the capability and track record of delivering major clean power projects in the UK and globally - and comprises the power infrastructure for unlocking economic growth.



With four leading universities, nine further education colleges, and specialist training facilities across the region, the North East has a highly skilled workforce with the technical ability to meet the needs of the sector.



The North East Combined Authority is aiming to grow the regional renewables workforce to 50,000 by 2035 and attract £3bn of private investment in renewable energy.



The region has world-leading R&D and testing hubs including Offshore Renewable Energy Catapult, and the advanced high-speed rotor balancing chambers at Siemens Energy.



Pioneering companies in the global clean energy market - including JDR Cable Systems, Smulders, Siemens Energy, Equinor, RWE, Ørsted, and EDF Renewables - are already based in the North East and investing millions of pounds in the region's clean energy infrastructure.



The North East has a growing supply chain, which includes scaling innovators GeoPura, Power Roll and Low Carbon Materials. Homegrown clean energy talent includes SMD, Osbit, and Kinewell Energy.



The North East has almost 4,000 acres of employment and green energy development space.

### Why now?

The scale of the opportunity in the North East makes it an ideal proposition for investors. From its established cluster of clean energy businesses to its world-leading infrastructure and assets, investors have access to a ready-made ecosystem that can support future growth.

- The North East will deliver on future offshore wind leasing in the UK and Europe - a strategic investment trigger.
- Dogger Bank Wind Farm, which will become the largest wind farm in the world, has created a huge offshore wind pipeline in the North East.

- Major grid upgrades have unlocked new generation potential in the region, and the North East's globally-leading design, testing, and technology validation expertise attracts businesses from all over the world.

- The region's ambitious and growing business base provides the skills, talent, and knowledge to take clean energy projects forward and drive market demand.

- The region has a leading role in building the future UK energy system, ensuring all clean energy generated is harnessed.

- With a growing clean energy supply chain, the North East offers direct investment into infrastructure and business growth.

The region will deliver on future offshore wind leasing in the UK and Europe



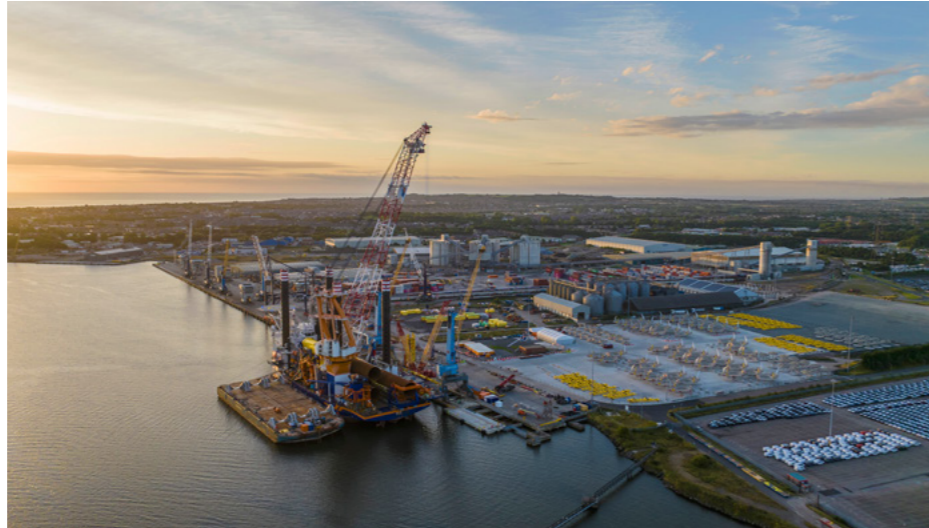
The North East is the home of the green energy revolution

## Flagship Green Growth Sites

### River Tyne Economic Corridor

With a 700-year legacy of engineering expertise, the River Tyne is at the heart of the UK's clean energy transition.

Thanks to its unrivalled marine infrastructure, some of the world's leading clean energy businesses are based on the River Tyne.



### Tyne Clean Energy Cluster

A developed cluster of the biggest energy companies in the world are based on and around the River Tyne, creating an established supply chain in the region. Collectively, they provide clean energy infrastructure and services to globally significant projects here in the UK and internationally.

### Port of Tyne

One of the most innovative and efficient deep-sea ports in the UK, Port of Tyne covers 650 acres, with 230 acres of deep water quayside land available for investment. Boasting 13m-deep berths, making it ideal for subsea and offshore wind projects, Port of Tyne provides container handling, bulk goods, automotive logistics, warehousing, and land and property for offshore operations.

The Port of Tyne is part of the Green North Sea Shipping Corridor Project, which aims to create one of the world's first green shipping corridors between the Port of Tyne and the Port of IJmuiden in Amsterdam. In partnership with Hitachi and the North East Combined Authority, it will also work on the vision to develop a Smart Port of the Future via a dedicated clean e-fuels hub.

### Flagship development opportunity: Tyne Clean Energy Park

Supported by over £150 million of investment in port infrastructure, marine capability and specialist equipment, the Port of Tyne is transforming the north and south banks of the River Tyne.

The north-side development alone will deliver 400 metres of deep-water quayside and a kilometre of heavy-lift capacity, creating a world-class development platform for offshore renewables, clean energy and advanced manufacturing businesses to establish and grow.

Situated within an Industrial Strategy Zone, Tyne Clean Energy Park benefits from 5G connectivity, upgraded power networks, and streamlined planning and investment incentives.

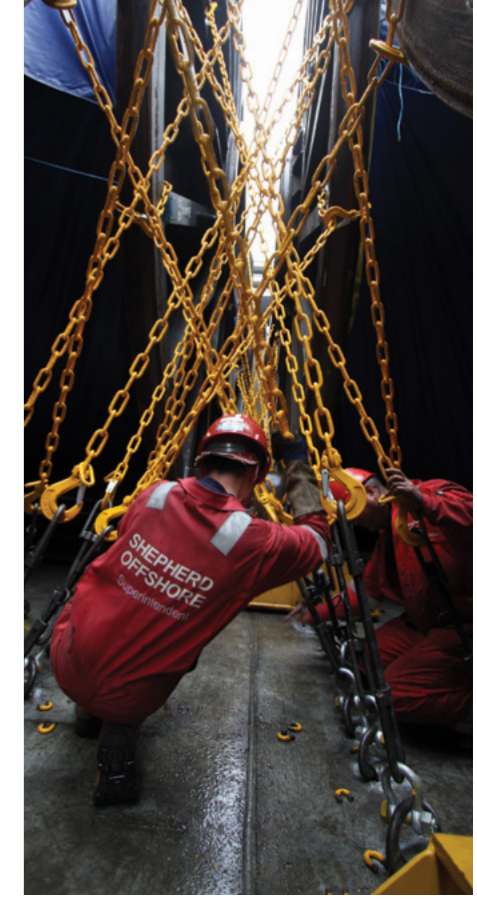


### A&P Tyne

With the largest commercial dry-dock on the East Coast of England, A&P Tyne provides world-class ship repair, conversion and fabrication services across the marine and renewables sectors. The expansive site has two deep water berths, and a significant modern fabrication facility complete with panel line, rolling, plasma and gas burning machines.

### Shepherd Offshore

Developing local infrastructure with high-value capacity and capabilities, Shepherd Offshore supports services attracting the offshore, marine, renewable energy providers and construction industries to the River Tyne. The company has significantly grown the offshore and energy sector along the River Tyne thanks to major investments like Offshore Technology Park and Neptune Energy Park.



## North East Ports Green Growth Capability

#### Manufacturing

- SMD
- Smulders
- Siemens Energy
- JDR Cable Systems
- Royal IHC
- Wastefront

#### Services

- Bekaert
- Baker Hughes
- TechnipFMC
- Osbit
- Boskalis Subsea Services

#### Developers

- Equinor
- Ørsted
- RWE
- EDF
- SSE Renewables

#### Research, Skills and Innovation

- Newcastle University Engineering Research Hub
- Newcastle College Energy Academy
- South Shields Marine College
- National Maritime Innovation Hub
- Offshore Renewable Energy Catapult

#### Recent Offshore Wind Project Delivery

- Dogger Bank
- Sofia
- Hornsea 3
- Inch Cape
- Wider European Projects



## Energy Central - Blyth

Delivered through a partnership between Advance Northumberland, the Port of Blyth, Offshore Renewable Energy (ORE) Catapult, and Northumberland County Council, Energy Central in Blyth is the UK's unique port-based service, investment and growth cluster for companies operating in the offshore energy, subsea, decommissioning, battery manufacturing and renewable energy markets.

The site offers nearly 200 HA of strategic quay linked development sites, lock free access to the North Sea basin, and more than 50 HA of sites with access to deep water quays.

### Port of Blyth

Port of Blyth is one of the UK's leading offshore support hubs and has 25 years' experience in delivering offshore wind projects. As a pioneer in offshore and onshore wind, Blyth is home to the UK's leading offshore renewables test facilities at ORE Catapult. Port of Blyth provides turn-key solutions to onshore and offshore wind farm developments.

The Port provides facilities and services for all stages of offshore wind farm development, from consenting to installation, O&M to decommissioning, as well as valued added services such as renewable skills training and global freight / project forwarding.



Current investment opportunities include:

- **Bates Clean Energy Terminal** - a 17 HA site of redeveloped prime quayside land for low carbon investment and innovation.
- **Battleship Wharf** - with direct access to four deep-water berths, this 19 HA site is ideal for companies in the marine and offshore energy sectors.
- **South Harbour Terminal** - the fully ISPS protected terminal is served by two berths, providing 40,000 sq m of modern warehousing and 3 HA of open storage.
- **Dun Cow Quay** - a 0.38 HA site alongside the Blyth harbour, well situated for offshore wind operations and maintenance businesses.
- **Commissioners Quay** - a multi-purpose 2.1 HA Enterprise Zone site with a state-of-the-art workspace and 40-room hotel/restaurant.
- **Blyth Riverside Park** - an established business park with industrial space and development land between one and three acres.

### Energy Central Cluster

Energy Central has an established clean energy and fabrication cluster in Blyth, consisting of over 50 supply chain companies working together to provide a one-stop-shop solution to the offshore renewables sector. Capabilities include: logistics, specialist engineering, heavy lifting services, manufacturing, hydraulics, testing, fabrication, welding, bunkering, GWO training, Port agency and other key services.



## Sunderland

The city of Sunderland's clean energy industry is centered around Port of Sunderland, one of the UK's leading ports for advanced materials handling, bulk and project cargo. As a major hub for the region's circular economy, the Port is delivering growth whilst supporting the UK's energy transition.

Nearby is the International Advanced Manufacturing Strategic Site (IAMSS), a North East Investment Zone site, which is expected to create thousands of jobs in clean energy, green manufacturing, and automotive.

In parallel, Riverside Sunderland is transforming the city's former industrial heartland into the UK's first low carbon urban quarter.



### West Hartford Business Park

Strategically positioned close to the Port of Blyth and Offshore Renewable Energy Catapult, West Hartford Business Park is a 51 HA site for large scale commercial developments supporting the offshore wind, renewable energy, and manufacturing sectors. Just 20 minutes north of Newcastle city centre, West Hartford Business Park offers excellent transport links via major road networks.

### Lynfield Park

Lynfield Park in Northumberland has substantial development potential with excellent transport links and the ability to become a leading industrial hub, supporting a wide range of industrial and clean energy activities.

### Northumberland Energy Park

This strategic North East Investment Zone for clean energy and advanced manufacturing sits adjacent to the Port of Blyth in the wider Energy Central cluster.

Global energy leaders, innovative advanced manufacturers and Critical National Infrastructure for digital and AI are all based at the site, demonstrating its capability to support both green energy and next-generation digital infrastructure.

Planned expansion land soon to be unlocked provides large-scale investment opportunities across renewables, manufacturing and digital sectors.



### Port of Sunderland

A fully connected multimodal hub, Port of Sunderland has more than 20 acres of land available for inward investment and development opportunities. With deep water berths minutes from open sea and experience in handling offshore vessels and providing heavy lift craneage, Port of Sunderland is equipped to support the growing clean energy sector. Well-connected across the North East by sea, road and rail, it is primed for investment and development.



### Key investment and development sites include:

- **Greenwell's Quay** - featuring 200 metres of vessel berthing, a heavy duty roll out ro-ro ramp, a load out quay and a reinforced crane slab for heavy lift cargo handling and project support. The site also has over two hectares of developable land and 9,000 square metres of warehousing.
- **East Shore Enterprise Zone and Trinity: Rail, Road & Sea Enterprise Zone** - prime Enterprise Zone development sites on Port of Sunderland, each benefitting from major enabling engineering works.
- **Fully connected railhead** - allowing for seamless access to the region's transport network.



### Wastefront

A flagship clean energy development opportunity in the region, rubber waste recycling company Wastefront is constructing a £100m+ tyre-to-fuel facility at the Port of Sunderland. When fully operational, the plant will process 10 million end-of-life tyres annually, making it the largest facility of its kind in Europe.



## Green Energy Business Scale Up Opportunity

The North East has a successful track record in attracting investment and supporting businesses to access the funding they need to scale and grow. Strong collaboration across business and academia gives investors the confidence to back new and innovative projects.

The North East Combined Authority has committed millions of pounds to improve skills and talent in clean energy industries. It has also backed the latest round of the North East Fund, which will help around 470 innovative firms over the next 15 years.

### North East green energy pioneers

There are a number of clean energy businesses based in the North East that are experiencing rapid growth and seeking further investment. They include:



#### GeoPura

Working in partnership with Siemens Energy, GeoPura is the UK's leading green hydrogen generation, storage and fuel cell technology company. Operating from Newcastle upon Tyne, the company's Hydrogen Power Units (HPUs) provide zero-emission, off-grid and supplementary electricity. The company recently launched the HPU2, its next-generation power unit, designed to meet higher-capacity power demands.

In the past two years, GeoPura has secured more than £170 million to expand its operations and accelerate the UK's adoption of green hydrogen. With major new contracts in the UK and Europe, GeoPura is well positioned to scale rapidly, offering a secure and reliable hydrogen supply chain in the UK.

#### Power Roll

Based in County Durham, Power Roll is building the next generation of solar PV modules. Its patented solar film combines thousands of microgrooves with perovskites, creating lightweight, flexible solar modules that don't use rare earth materials and can be produced using cost-efficient processes.

Recently featured in the UK Government's newly published Solar Roadmap, which outlines the steps government and industry are taking to accelerate solar deployment, Power Roll secured £2.4 million in its latest funding round to commercialise its proprietary solar technology both here in the UK and internationally. North East Mayor Kim McGuinness recently brought together Tokyo Gas (one of the biggest energy companies in Japan) with Power Roll as part of her first trade visit to Japan.

#### Low Carbon Materials

A climate tech company developing low-carbon, next-generation construction material alternatives, Low Carbon Materials designs and manufactures carbon negative aggregates that can be incorporated into existing manufacturing processes.

The company's innovative approach to decarbonising the concrete and asphalt industry saw it named a finalist for The Earthshot Prize, a global environmental accolade launched by HRH Prince William that identifies, celebrates and backs solutions to repair the planet.

At the company's state-of-the-art facility in County Durham, it is continuing to develop future innovations to revolutionise construction materials. Low Carbon Materials was recently named winner of the prestigious BE100 SCALE competition at The Blue Earth Summit in London.

## Our World-Leading Green Energy Expertise

Developing future clean energy solutions requires expert knowledge and technical expertise. In the North East, investors and industry have access to world-leading talent at the region's four universities, and its wider network of further education colleges.

Expanding the R&D and innovation emerging from the region's academic institutions is a wider network of internationally-renowned institutes, centres for excellence, and innovation centres.

### Developing the next generation of green energy skills

Energy Central Campus in Blyth is made up of two education, training and skills facilities. Energy Central Learning Hub provides pathways to employment, including STEM education, clean energy related engineering qualifications, and sector focussed apprenticeships. The Energy Central Institute, which has received £5.5m from the North East Combined Authority, will focus on higher-level skills, innovation, and research and development; it will work closely with Newcastle and Durham universities, leading clean energy companies across the region, and the ORE Catapult.

Newcastle College Energy Academy is the leading subsea and renewable energy training provider in the North East. An £8.48m investment from the North East Combined Authority will expand the academy and support thousands of young people into green energy careers.

South Shields Marine School is the longest operating marine training college in the world. It provides courses and training geared towards the clean energy industry in the region. The North East Combined Authority is investing up to £18.2m to support a new state of the art campus which will further bolster future skills.

Sunderland College is working with leading UK-based low-carbon heating technology company Ambion Heating to launch the Ambion Heating Academy – an innovative initiative designed to equip the construction workforce with in-demand skills in sustainable heating and decarbonised technologies. The Academy is within the The Housing Innovation & Construction Skills Academy (HICSA) which is a partnership between Sunderland College and Northumbria University.



Newcastle University's Centre for Energy combines its energy research, thought leaders and region-wide collaboration to unify new ways of thinking about energy systems. Its dedicated School of Engineering trains the next generation of clean energy specialists.

Durham Energy Institute at Durham University is a pioneering centre for energy research and home to a number of globally recognised academic research groups, including the Wind Energy Group and the Renewable Energy Research Group.

Energy Futures Network at Northumbria University drives forward innovative research-driven approaches to create a cleaner energy future.

Northumbria University's two Centres for Doctoral Training - ReNU and ReNU+ - are funded by the Engineering and Physical Sciences Research Council, and delivered by Northumbria, Durham and Newcastle Universities. ReNU+ is an ambitious programme designed to train the next generation of doctoral researchers in renewable energy and Net Zero.

Sunderland University offers a range of courses covering sustainability in design, manufacturing, and engineering, helping create the next generation of skilled clean energy workers.

A wider cluster of clean energy training providers in the region includes 3T Training Services, Decerna, Port Training Services, Welding and Fabrication Technical Training Centre, The Wind Academy, and Wind Energy.

### North East R&D institutes and centres for excellence

ORE Catapult in Blyth, Northumberland, is the UK's leading technology innovation and research centre for offshore renewable energy. It recently opened a new £6.3m Technology Development Centre, adding to other state-of-the-art facilities including the Digital Autonomous and Robotics Engineering Centre (DARE Centre) and high voltage cable testing facilities.



ORE Catapult is also home to the TIGGOR (Technology Innovation in Green Growth and Offshore Renewables) Programme. Directly helping new businesses in the North East develop the next generation of offshore wind products and services, TIGGOR has supported a total of 95 businesses to date, including: Kinewell Energy, Transmission Dynamics, Unasys, S3Nventus, Walker Subsea Engineering, Acuity Robotics, SeaThor, Pulcea, SMD, TechnipFMC, Enshore Subsea and FES International.

Faraday Institution North East (FINE) brings together the battery innovation ecosystem in the North East to accelerate innovation. It uses its strengths in research and industry collaboration to influence regional and national government policy.

## Why invest?



To reach Clean Power 2030, the UK requires:

- £40bn of investment per year (£30bn in energy generation and £10bn in transmission infrastructure)
- Between £12.4bn - £15bn in offshore wind      - £4.6bn in onshore wind
- £3.6bn in solar      - Between £4.7bn - £5.3bn in nuclear capacity.



95GW UK offshore wind investment pipeline.



£270bn offshore wind market by 2035.



£1tn offshore wind global export market by 2035.



Demand for power expected to increase by 50% by 2035 and double by 2050.

## Why here?



The North East has an ambition to grow the offshore wind and clean energy workforce to 50,000 by 2035.



The North East has accessibility to 80% of UK offshore wind farms within 24 hours from three deepwater North East ports.



Up to 16GW offshore wind leasing off the North East coast by 2030 and installed between 2035 - 2040.



Large amount of rooftop solar on commercial and industrial buildings across the North East, with a strong supply chain of installers and innovators such as Power Roll.



Bioenergy production with potential future opportunities for Bioenergy with Carbon Capture and Storage (BECCS) in the North East.



£1.5bn+ North East Heat Network pipeline, including minewater and deep geothermal opportunity.



Green hydrogen and alternative fuel opportunities with potential benefits for growth and decarbonisation.



The North East forms a key part of the UK nuclear and SMR supply chain across technology manufacturing, innovation, and testing.

## Why now?



Currently 14.8GW of UK offshore wind capacity installed.



Currently 16GW of UK offshore wind capacity committed or under construction.



The UK needs 43-50GW of offshore wind to meet its Clean Power 2030 target.



In 2022, National Grid announced £54bn investment requirement to connect new offshore wind farms and transmission infrastructure by 2030.



In 2024, National Grid announced £58bn investment required to connect an additional 21GW of offshore wind.



Great British Energy pledge to deliver 15 GW in clean energy generation and storage capacity. It will also mobilise £15bn of private finance over time up to 2030.



The National Wealth Fund will focus £5.8bn of capital on clean energy and key growth industries.



Over £1bn budget for fixed and floating offshore wind in UK Allocation Round 7.





Invest North East England is the first point of contact for companies looking to locate or expand in North East England. Its highly experienced team opens the door to the region's network of specialist organisations and individuals with the information, support and advice essential for businesses locating here.

Invest North East England has access to the UK Government, support agencies, sector specialists, universities, colleges, knowledge networks, finance streams and business organisations, making your move to North East England seamless.

Invest North East England is part of the North East Combined Authority.

To find out more, call, email or visit Invest North East England:

+44 (0) 7464 649 579

[inwardinvestment@northeast-ca.gov.uk](mailto:inwardinvestment@northeast-ca.gov.uk)

[investnortheastengland.co.uk](http://investnortheastengland.co.uk)