

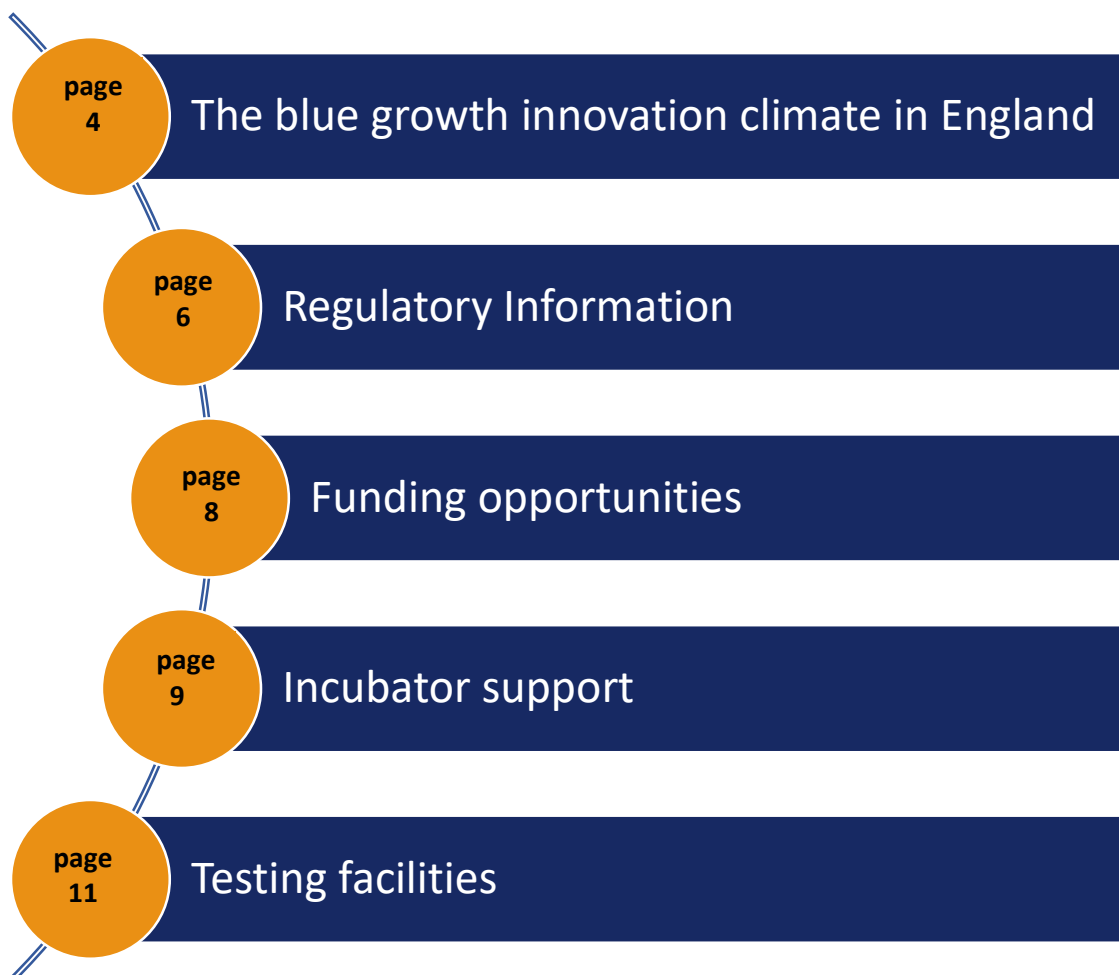
# SME GUIDE

For international  
collaboration with  
**England** on blue growth  
activities in the North Sea  
region



*Are you working in the marine or maritime sector, the domain of renewable energies or any other field related to **blue growth**, and thinking of starting a project in the **North Sea area**? Then you might want to start a **collaboration** with another region, that has the necessary testing facilities or the specific skills to make the project a success. This guide will give you an overview of the tools for blue growth collaboration that **England** has to offer.*

## QUICK GUIDE



## WHAT DOES ENGLAND HAVE TO OFFER?

With the notable exception of offshore oil and gas, England hosts between 69% and 80% of all UK maritime economic activity. The maritime sector makes a substantive macroeconomic contribution to the UK through turnover, Gross Value Added (GVA), employment and through the compensation of employees. It is estimated for the UK as a whole in 2017; the aggregated sector directly supported £46.1 billion which includes direct business turnover, £17 billion in GVA and 220,100 jobs (Scotland 39,300 jobs).

The UK's marine engineering and scientific (MES) and shipping industries are the largest constituent industries in terms of economic activity, contributing direct impacts worth £5.1 billion and £6.1 billion in GVA respectively, and directly supporting around 81,900 jobs and 59,400 jobs in 2017. As simple figure, the ratio of Aggregate Impact to Direct Impact is ~2.7 averaged across the sector as a whole.

Some definition of categories is also needed to understand these figures. Activities falling within the classification of 'MES' are Shipbuilding; Marine renewable energy; Marine support activities for offshore oil and gas, engineering and mining; Marine science and academic activities, including government vessels and technical consulting. 'Shipping' comprises, International passenger transport (cruise and ferry); Domestic and inland waterway passenger transport; International freight transport (bulk, container, gas and tanker); and, Domestic & inland waterway freight transport. The total Maritime Sector also includes, Port Industries and Maritime Business Services. These activities are shared across the four countries that make up the UK.

Overall, the contribution of the shipping component of the maritime industry increased to an estimated £18.9 billion in UK business turnover in 2017.

The UK is an island, except for the NI-Republic of Ireland interface. As such, most of the UK's material goods arrive and leave via ports; indeed, 95% of UK internationally traded goods are transported by ship. Passenger (including cruise passengers) transport and international freight transport combined consistently represent about 90% of UK shipping business by value. A key strategic growth area for the UK, and by implication, England, is maritime trade within Asia and Africa's emerging markets and across the world. Ports are also part of the UK Governments Regional Growth Strategy. Intra UK/England logistical efficacy and efficiency will need to match this ambition. Shipping and Port and warehousing efficiencies may be growth areas for innovation. Further, re-establishing or developing new Free Ports with significant potential for (local) added value are under consideration. There may be 'new' regional value added opportunities not realised prior to 2012 when the seven UK Free Ports were discontinued. If Free Ports succeed in the future, then this would leverage up the indirect and induced components of the ports industry. There is a consultation paper out at the time of writing this fiche. In it, the Government states, "our Free Port policy aims to combine regulatory flexibilities, collaborative approaches and potential funding in order to target and remove key barriers to testing and delivering new technologies and processes, and to promote innovative activity by businesses." Perhaps this is an opportunity.

According to the Cruise Lines International Association, the UK cruise industry is flourishing with both UK holiday makers and cruise tourists visiting the UK. In 2017, the economic contribution of the UK cruise industry was £3.5 billion (direct) and £9.4 billion (total) and provides cruise industry dependent employment of 82,000 people. Environmental priorities are equally valued with commercial priorities within the cruise industry nationally. In particular it is pledged to meet or exceed IMO decarbonisation targets and to raise air quality standards. The UK has a Net Zero carbon ambition and the maritime sector will play a significant role. It cannot yet be quantified, but the cruise sector is being particularly hard hit by the loss of business during the global Coronavirus pandemic. It is likely to take a considerable time for revenues to recover post-pandemic.

Overall UK is highly dependent upon maritime trade and therefore needs its logistical maritime assets and businesses to be especially economic operationally; but also to be excellent in the key "acceptability" areas of environmental pollution and climate change: the main objective for the sector will be retaining its competitive advantage.

Climate Change remains a pressing issue which the UK is committed to ameliorating. In terms of offshore wind energy the NSC report points out, the UK has overtaken Denmark to become the world's 'number one' for wind farms built offshore, with 597MW fully constructed. Offshore wind is a hugely important strength to help realise the Government's ambition to dramatically increase the amount of energy from renewable sources and there are already five more offshore wind farms under construction that will add a further 938 megawatts to the total by the end of 2021. The UK Government are also assessing plans to increase the total by a massive 25 gigawatts in the future. In 2019 the UK Conservative Government included an election manifesto pledge to increase new offshore wind capacity to 40GW by 2030, from 30GW previously.

The sector has the potential to become one of strategic economic importance, supporting a thriving supply chain and exporting expertise and technology all over the world.

According to the UK Department for International Trade, the UK has a competitive advantage in maritime professional and business services and a strong reputation in areas such as marine equipment and systems, autonomous vessels, marine science and other specialist technical areas. It is a market leader in the design, manufacture and refit of commercial, naval and leisure vessels. There is also expertise in superyachts, high-end powerboats and sailing yachts.

Remembering that England is not a governmentally devolved region of the UK, its future directions fall within the “Maritime 2050 Strategic Ambitions” adopted by the new (November 2019) government for the UK overall, namely:

- Maximise our strength in maritime professional services, retaining and enhancing our UK competitive advantage in the provision of maritime law, finance, insurance, management and brokering, and developing our green finance offer.
- Lead the way in taking action on clean maritime growth enjoying economic benefits from being an early adopter or fast mover.
- Strengthen our reputation for maritime innovation, maximising benefits to the UK from new maritime technology through our world leading universities, maritime small and medium enterprises (SMEs) and global companies.
- Continue to be recognised as the global leader in maritime safety and security standards and expertise worldwide.
- Grow our maritime workforce and transform their diversity enhancing our reputation as the world leader in the provision of maritime education and training.
- Promote a liberalised trading regime that delivers maximum benefit for our maritime sector.
- Support the continued multi-billion pound commercial investment in maritime infrastructure that makes the UK a globally attractive destination for all maritime business.
- Strengthen and enhance our reputation as a leading country in the International Maritime Organization (IMO), International Labour Organization (ILO) and all international fora working with like-minded countries to take action.
- Promote our UK wide leading maritime cluster offer with government, the maritime sector and academia working in partnership to make the UK the place to do maritime business.
- Showcase our UK maritime offer to the world, promoting all parts of the maritime sector including shipping, services, ports, engineering and leisure marine, and through London International Shipping Week (LISW) maintaining its status as the leading global maritime event.

The way out of the current (covid-19) crisis is seen as through economic growth: despite the cost of protecting lives, the UK Government is showing commitment to that. However, the dangers to the economy must remain a risk factor for regional cooperation (PERISCOPE charter). We may see changing priorities for infrastructure – more working from home, more automation, less travel etc. That could increase the maritime priority for “connectedness” and AI-enabled automation relative to ‘renewables’. It would be hard to envisage any reduction in the priority for clean, efficient maritime transport and customs impact minimisation (e.g. Free Ports) – the UK remains a maritime trading nation subject to new (post-BREXIT) trading challenges.

### **Smart specialisation**

The North Sea Commission produced a report ‘North Sea Commission Strategy – Contributing to the Europe 2020’. This was published in 2014 prior to a UK report entitled ‘Smart Specialisation in England’ by the Department of Business, Innovation and Skills, submitted to the European Commission in April 2015.

2015 specialisations strategies in the NSR:

- Aerospace
- Automotive
- Lifesciences
- Offshore Wind
- Oil and Gas
- Nuclear
- Information economy
- Agri-tech
- Professional and business services
- Construction

These may continue within the EU but might require revision with respect to UK/English interests.

The UK view expressed in its 2015 report was:

“Smart Specialisation seeks to ensure that proposed actions are based upon sound evidence that properly reflects the comparative advantages of the physical and human assets of particular places in the global economy. It emphasises the need to ensure that activities are fully integrated in the local economy and its supply and value chains. It helps to build connections of ideas, finance and trade with similar activities elsewhere. It promotes also the use of enabling technologies that can transfer and add value between related sectors”.

This UK sentiment is likely to remain valid; but it is reasonable to assume a modified context. At the time of writing, EU-UK trade negotiations and exit agreements have to be finalised. The following is based on the current reality of interests and facilities and emerging strategy exposed in recent publications.

The UK exited the European Union in January 2020 and this may impact the UK's, and therefore England's, future priorities. Emerging priorities will build upon those identified in April 2015. The future will probably hold modifications to UK interests but also new opportunities for regional cooperation.

# INTELLECTUAL PROPERTY RIGHTS (IPR), REGULATIONS AND STANDARD SUPPORT

## IPR

NATIONAL IPR AMBASSADOR	WEBSITE	TELEPHONE NUMBER	EMAIL
Intellectual Property Office Concept House Cardiff Road Newport South Wales NP10 8QQ UK	<a href="https://www.gov.uk/government/organisations/intellectual-property-office">https://www.gov.uk/government/organisations/intellectual-property-office</a>	0300 300 2000 Or +44 (0)1633 814000	information@ipo.gov.uk

## MARINE SPATIAL PLANNING

Policy Documents: English Planning Areas Planning Guidance Marine Management Organisation, license, regulate and plan marine activities in the seas around England	Access through URLs: <a href="https://www.gov.uk/government/publications/marine-plan-areas-in-england">https://www.gov.uk/government/publications/marine-plan-areas-in-england</a> <a href="https://www.gov.uk/guidance/marine-plans-development">https://www.gov.uk/guidance/marine-plans-development</a> <a href="https://www.gov.uk/government/organisations/marine-management-organisation">https://www.gov.uk/government/organisations/marine-management-organisation</a>
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## REGULATIONS AND STANDARD SUPPORT

### AGENCIES

<b>Name agency</b>	Royal Yachting Association
Concerning	The national body for dinghy, yacht and motor cruising, all forms of sail racing, RIBs and sports boats, windsurfing and personal watercraft and a leading representative for inland waterways cruising.
Link to website	<a href="https://www.rya.org.uk/about-us/Pages/hub.aspx">https://www.rya.org.uk/about-us/Pages/hub.aspx</a>
telephone number	+44(0)23 8060 4100
<b>Name agency</b>	Marine Management Organisation
Concerning	The MMO license, regulate and plan marine activities in the seas around England so that they're carried out in a sustainable way. MMO is an executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs.
Link to website	<a href="https://www.gov.uk/government/organisations/marine-management-organisation">https://www.gov.uk/government/organisations/marine-management-organisation</a>
telephone number	numerous regional and topical offices, general number, 0330 123 1032
<b>Name agency</b>	Maritime and Coastguard Agency
Concerning	Responsible for: preventing loss of life on the coast and at sea; legislation and guidance on maritime matters, and certification to seafarers, hydrographic data on UK charts, safety, Civil Hydrography Programme (CHP) for UKHO
Link to website	<a href="https://www.gov.uk/government/organisations/maritime-and-coastguard-agency">https://www.gov.uk/government/organisations/maritime-and-coastguard-agency</a>
telephone number	Numerous dedicated offices, see <a href="https://www.gov.uk/government/organisations/maritime-and-coastguard-agency/about/access-and-opening">https://www.gov.uk/government/organisations/maritime-and-coastguard-agency/about/access-and-opening</a>
<b>Name agency</b>	UK Hydrographic Office (UKHO)
Concerning	ADMIRALTY Marine Data Portal ADMIRALTY Maritime Data Solutions Cartographic training Copyright licensing Civil Hydrography Programme (CHP) Defence Maritime Geospatial Intelligence Centre (DMGIC) HM Nautical Almanac Office (HMNAO) UKHO Archive UK Maritime Limits and Law of the Sea Vertical Offshore Reference Frames (VORF)
Link to website	<a href="https://www.gov.uk/government/organisations/uk-hydrographic-office">https://www.gov.uk/government/organisations/uk-hydrographic-office</a>
telephone number	+44 (0)1823 484444

<b>Name agency</b>	Department for International trade
Concerning	Investment and Trade
Link to website	<a href="https://www.gov.uk/government/organisations/department-for-international-trade">https://www.gov.uk/government/organisations/department-for-international-trade</a>
telephone number	+44 (0) 20 7215 5000
<b>Name agency</b>	Natural England
Concerning	The government's adviser for the natural environment in England
Link to website	<a href="https://www.gov.uk/government/organisations/natural-england">https://www.gov.uk/government/organisations/natural-england</a>
telephone number	0300 060 3900/enquiries@naturalengland.org.uk
<b>Name agency</b>	DNV GL
Concerning	DNV GL is a global quality assurance and risk management company providing classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries.
Link to website	<a href="https://www.dnvgl.com/contact/find-our-offices.html#GBR-GBLON4-details">https://www.dnvgl.com/contact/find-our-offices.html#GBR-GBLON4-details</a>
telephone number	tel: +44203816 4000
<b>Name agency</b>	Lloyds Register
Concerning	Vessel classification, compliance and consultancy services to the marine and offshore industries – Vessels covered: Commercial, Specialised, Passenger ships, Yachts, Naval, Offshore
Link to website	<a href="https://www.lr.org/en-gb/marine-shipping/">https://www.lr.org/en-gb/marine-shipping/</a>
telephone number	+44 330 414 1000
<b>Name agency</b>	The Crown Estate
Concerning	A commercial business, created by an Act of Parliament; it owns and manages almost half the foreshore around England, that is the land between mean high and mean low water mark - and the all seabed out to the territorial limit. It also has a diverse portfolio of UK buildings, forestry, agriculture and common land. The business generates valuable revenue for the government and over the last 10 years has contributed £2.6 billion to the Consolidated Fund.
Link to website	<a href="https://www.thecrownestate.co.uk/">https://www.thecrownestate.co.uk/</a>
telephone number	+44 (0)20 7851 5000
<b>Name agency</b>	International Association of Classification Societies (IACS)
Concerning	Classification Society statutory services and assistance to the maritime industry and regulatory bodies as regards maritime safety and pollution prevention, and all vessel systems apply CS Rules verify compliance with national & international regulations
Link to website	<a href="http://www.iacs.org.uk/">http://www.iacs.org.uk/</a>
telephone number	+44 (0)20 7976 0660
<b>Name agency</b>	RINA UK LIMITED
Concerning	Ship Classification, Marine, Energy & Yacht Certification
Link to website	<a href="https://www.rina.org/en">https://www.rina.org/en</a> (UK see <a href="http://www.rinauk.co.uk/contacts">http://www.rinauk.co.uk/contacts</a> )
telephone number	+44 7736 255638 (Liverpool); +44 2380332271 (Southampton)
<b>Name agency</b>	The Rolls-Royce University Technology Centre (UTC); The University of Manchester
Concerning	Marine electrical propulsion systems, electrical system modelling, rim thrusters, submarine electrical actuation systems
Link to website	<a href="https://www.eee.manchester.ac.uk/research/facilities/rolls-royce-utc/">https://www.eee.manchester.ac.uk/research/facilities/rolls-royce-utc/</a>
telephone number	+44 (0) 161 306 4667
<b>Name agency</b>	Marine Propulsion Research Laboratory, Blyth Marine Station, Newcastle University, Newcastle upon Tyne, NE1 7RU
Concerning	A marine hydrodynamics laboratory with experimental facilities including the Emerson Cavitation Tunnel, several seawater flumes and a specialist research vessel, the Princess Royal; aiming to reduce energy use, environmental impact and lifecycle costs; R&D of propellers, thrusters, turbines, foils, surfaces, coatings and other innovative marine devices
Link to website	1) <a href="https://research.ncl.ac.uk/marinepropulsion/">https://research.ncl.ac.uk/marinepropulsion/</a> 2) <a href="https://research.ncl.ac.uk/marinepropulsion/facilities/emersoncavitationtunnel/">https://research.ncl.ac.uk/marinepropulsion/facilities/emersoncavitationtunnel/</a>
telephone number	+44 (0) 191 208 7891

Support - Marine financial Services - commercial	
<b>Name of Entity</b>	<b>International Group of P&amp;I Clubs</b>
Concerning	Protection and Indemnity - Insurance and Risk Management insurance needs of global shipping through delivering robust pooling and reinsurance facilities
Link to website	<a href="https://www.igpandi.org/">https://www.igpandi.org/</a>
telephone number	+44 20 7929 3544
<b>Name of Entity</b>	<b>UK P &amp;I Club</b>
Concerning	Protection and Indemnity insurance in respect of third party liabilities and expenses arising from owning ships or operating ships as principals
Link to website	<a href="https://www.ukpandi.com/">https://www.ukpandi.com/</a>
Telephone number	+44 (0) 20 7283 4646
<b>Name of Entity</b>	<b>British Marine</b>
Concerning	Comprehensive range of Marine and Maritime Protection and Indemnity
Link to website	<a href="https://britishmarine.com/">https://britishmarine.com/</a>
telephone number	+44 (0)20 7105 5555

## CROSS BORDER FINANCIAL INSTRUMENTS FOR BLUE GROWTH

TYPE OF FINANCIAL INSTRUMENT	Grant
NAME FINANCIAL INSTRUMENT	Innovate UK
DESCRIPTION	Innovate UK is part of UK Research and Innovation [see below], a non-departmental public body funded by a grant-in-aid from the UK government. They drive productivity and economic growth by supporting businesses to develop and realise the potential of new ideas, including those from the UK's world-class research base
WEBSITE	<a href="https://www.gov.uk/government/organisations/innovate-uk">https://www.gov.uk/government/organisations/innovate-uk</a>
TYPE OF FINANCIAL INSTRUMENT	Grants
NAME FINANCIAL INSTRUMENT	UK Research and Innovation UKRI
DESCRIPTIONS various streams of interest	<p>With a combined budget of more than £7 billion, UK Research and Innovation brings together the seven research councils, Innovate UK and Research England and links to // Horizon 2020 // NERC // ... Must include UK</p> <p><a href="https://www.ukri.org/research/international/ukri-europe/">https://www.ukri.org/research/international/ukri-europe/</a></p> <p>A) promotes international links including H2020 <a href="https://www.ukri.org/news/horizon2020-portal/">https://www.ukri.org/news/horizon2020-portal/</a></p> <p>B) Funding is available to support workshops, visits, travel and part-time coordinators including overseas partners. <a href="https://epsrc.ukri.org/funding/applicationprocess/routes/international/">https://epsrc.ukri.org/funding/applicationprocess/routes/international/</a></p> <p>C) NERC invests in the large research infrastructure, equipment and skills that keep the UK at the cutting edge of environmental science, support long-term science, and support for international partnerships is embedded across all of our funding streams <a href="https://nerc.ukri.org/research/partnerships/international/">https://nerc.ukri.org/research/partnerships/international/</a></p> <p>...</p> <p><a href="https://ahrc.ukri.org/funding/internationalfunding/">https://ahrc.ukri.org/funding/internationalfunding/</a></p> <p>...</p>
WEBSITE	<a href="https://www.ukri.org/">https://www.ukri.org/</a> & <a href="https://www.ukri.org/research/international/">https://www.ukri.org/research/international/</a>
TYPE OF FINANCIAL INSTRUMENT	Grant
NAME FINANCIAL INSTRUMENT	Interreg Europe
DESCRIPTION	A series of grant funding programmes which aim to generate cohesion across regions in Europe including with participants outside the EU Seeks to generate regional development.
WEBSITE	<a href="https://www.interregeurope.eu/">https://www.interregeurope.eu/</a>
TYPE OF FINANCIAL INSTRUMENT	Public funding leveraging private investment. Principal investment and flexible capital.
NAME FINANCIAL INSTRUMENT	Green Investment Group
DESCRIPTION	<p>Originally formed by the UK Government, the Green Investment Group Limited (GIG) is a specialist in green infrastructure principal investment, project delivery and the management of portfolio assets and related services.</p> <p>Also embodies UK Climate Investments – UK international funding commitment - UKCI is a joint venture between the Green Investment Group (GIG) and the UK Government's Department for Business, Energy and Industrial Strategy (BEIS)</p>
WEBSITE	<a href="https://greeninvestmentgroup.com">https://greeninvestmentgroup.com</a>

TYPE OF FINANCIAL INSTRUMENT	Grant
NAME FINANCIAL INSTRUMENT	European Maritime and Fisheries Fund
DESCRIPTION	Purpose: make the fisheries and aquaculture sectors more sustainable; conservation of the marine environment; support growth and jobs in coastal communities. [UK vs EU position subject to change.]
WEBSITE Applying for funds	<a href="https://www.gov.uk/guidance/european-maritime-and-fisheries-fund-emff-apply-for-funding">https://www.gov.uk/guidance/european-maritime-and-fisheries-fund-emff-apply-for-funding</a>
Managing Authority (UKMA)	<a href="https://www.gov.uk/guidance/european-maritime-and-fisheries-fund-emff-uk-managing-authority-ukma">https://www.gov.uk/guidance/european-maritime-and-fisheries-fund-emff-uk-managing-authority-ukma</a>
Future plans EU (2021 to 2027)	<a href="https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4104">https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4104</a>
TYPE OF FINANCIAL INSTRUMENT	Investment contribution
NAME FINANCIAL INSTRUMENT	Innovfin EDP
DESCRIPTION	EIB debt product used to fund energy demonstration projects. EIF supports Europe's SMEs by improving their access to finance through a wide range of selected financial intermediaries
WEBSITE Fund holders	<a href="https://www.eif.org/">https://www.eif.org/</a> and <a href="https://www.eib.org/en/index.htm">https://www.eib.org/en/index.htm</a>
Eligibility	<a href="https://www.eib.org/attachments/documents/innovfin-energy-demo-projects-eligibility-questionnaire-en.pdf">https://www.eib.org/attachments/documents/innovfin-energy-demo-projects-eligibility-questionnaire-en.pdf</a>

## SME ORIENTED INCUBATOR SUPPORT

PORT  
of  
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NAME	PORT OF TYNE
MAIN TOPICS	Innovation HUB - with PD Ports, Nissan, Connected Places Catapult, Accenture, Royal HaskoningDHV, Ubisoft and the Department for Transport.
ADDRESS/TELEPHONE	Maritime House Tyne Dock South Shields Tyne & Wear NE34 9PT +44 (0)191 455 2671
WEBSITE	<a href="https://www.portoftyne.co.uk/">https://www.portoftyne.co.uk/</a>



NAME	ORE CATAPULT NATIONAL LAUNCH ACADEMY
MAIN TOPICS	The Launch Academy is a national technology accelerator programme for the offshore wind industry, focusing on near to market solutions. It is designed to enhance the UK's offshore wind supply chain, enable greater UK content and support cost reduction through innovation.
ADDRESS	National Renewable Energy Centre, Offshore House, Albert Street, Blyth, Northumberland, NE24 1LZ, UK
WEBSITE	<a href="https://ore.catapult.org.uk/research-innovation/strategic-programmes/launch-academy/">https://ore.catapult.org.uk/research-innovation/strategic-programmes/launch-academy/</a>



NAME	MARINE ROBOTICS INNOVATION CENTRE HUB
MAIN TOPICS	specialist engineering and test facilities to nurture collaborative engagements between companies developing technology for marine autonomous systems and leading academics
ADDRESS	National Oceanography Centre, European Way Southampton SO14 3HZ
WEBSITE	<a href="http://noc.ac.uk/innovationcentre">http://noc.ac.uk/innovationcentre</a>



NAME	EDF BLUE LAB
MAIN TOPICS	Blue Lab is EDF Energy's innovation accelerator – created to play an instrumental role to improve the lives of consumers by harnessing the latest technologies, developing energy services and testing the new business models of tomorrow.
ADDRESS	329 Portland Rd, Hove BN3 5SU
WEBSITE	<a href="https://www.edfenergy.com/bluelab/blue-lab-challenge">https://www.edfenergy.com/bluelab/blue-lab-challenge</a>

## TESTING FACILITIES AND CO-WORKING SPACES



NAME	CONNECTED PLACES CATAPULT
TYPE OF TECHNOLOGY	Marine Autonomous Next-Gen Transport Application (MANTA) [automation]
FACILITIES	Marine Autonomous Transport, Marine Autonomous Next-gen Transport Application (MANTA)
WEBSITE	<a href="https://cp.catapult.org.uk/">https://cp.catapult.org.uk/</a> <a href="https://cp.catapult.org.uk/case-studies/manta-project/">https://cp.catapult.org.uk/case-studies/manta-project/</a>



NAME	Energy Systems Catapult
TYPE OF TECHNOLOGY	Energy sector testing & demonstration facilities, offshore renewables, systems integration, modelling and infrastructure, integrating tidal energy, renewable energy, bioenergy, carbon capture and storage, hydrogen, energy storage, energy networks, nuclear, renewables and transport Exemplars: DTOceanPlus; Integrating Tidal Energy into the European Grid (ITEG);
FACILITIES	Smart And Integrated Energy Systems, Systems Integration Modelling Methods; Business Modelling Infrastructure and Engineering; Digital and Data; Markets, Policy and Regulation
WEBSITE	<a href="https://es.catapult.org.uk/">https://es.catapult.org.uk/</a>



NAME	Offshore Renewable Energy Catapult & Energy Systems Catapult
TYPE OF TECHNOLOGY	wave, tidal, offshore wind, energy storage, energy management
FACILITIES	Facilities include: 7MW LEvenmouth demonstration turbine 100m+ blade test facilities 15MW, 3MW, 1MW Power train test facilities 18MVA Grid Emulation System (eGrid) UKAS accredited High Voltage test laboratories Offshore Anemometry Hub Onshore meteorological Hub Robotics and autonomous systems testing Subsea structure and foundations testing
TRL LEVEL	2-8
WEBSITE	<a href="https://ore.catapult.org.uk/">https://ore.catapult.org.uk/</a>



NAME	Marine Energy Engineering Centre of Excellence (MEECE), Wales
TYPE OF TECHNOLOGY	Offshore renewables
FACILITIES	Develop new products, processes and services for the offshore renewables sector. Includes marine energy test areas (meta) and consented wave power test sites.
TRL LEVEL	1-8
WEBSITE/REFERENCE	<a href="https://ore.catapult.org.uk/research-innovation/strategic-programmes/meece/">https://ore.catapult.org.uk/research-innovation/strategic-programmes/meece/</a>

England has a variety of accessible onshore tank testing assets and offshore test facilities for offshore wind, wave and tidal stream. This includes nursery sites and pre-commercial testing sites with a range of environmental conditions.



NAME	Falmouth Bay Test Site
TYPE OF TECHNOLOGY	Offshore Renewables (Wind, Wave, Tidal), Robotics, AUVs
FACILITIES	Consented Offshore Test Site
TRL LEVEL	1-5
WEBSITE	<a href="https://www.fabtest.com/">https://www.fabtest.com/</a>



NAME	Wave Hub
TYPE OF TECHNOLOGY	Offshore Wave and Floating Wind
FACILITIES	Grid connected test site for RE technologies with a 48MW capacity
TRL LEVEL	2-8
WEBSITE	<a href="https://www.wavehub.co.uk/">https://www.wavehub.co.uk/</a>



NAME	Marine Business Technology Centre
TYPE OF TECHNOLOGY	Offshore renewable energy. Gateway for accessing comprehensive research and development support as well as cutting-edge facilities and expertise.
FACILITIES	Advanced Marine Autonomy; Alternative Propulsion; Advanced; Materials/Manufacturing; Environmental Monitoring/Modelling; Cyber Security; Internet Of Things (IOT); Big Data.
TRL LEVEL	1-8
WEBSITE/REFERENCE	<a href="https://www.marinebusinesstechnologycentre.co.uk/">https://www.marinebusinesstechnologycentre.co.uk/</a>



NAME	Smart Sound Plymouth
TYPE OF TECHNOLOGY	Designing, testing and developing cutting edge products and services for the marine sector. Autonomy focus
FACILITIES	State of the art offshore and onshore facilities Nearly 1,000 sq.km of authorised, de-conflicted water space
TRL LEVEL	1-8
WEBSITE/REFERENCE	<a href="https://smartsoundplymouth.co.uk/Home">https://smartsoundplymouth.co.uk/Home</a>



NAME	MS TESTING (Formerly Mariner Systems Test Lab)
TYPE OF TECHNOLOGY	EMC, Marine Type Approval or Environmental UKAS approved
FACILITIES	Fast Transients, ESD, Surge, Harmonics and Flicker test stations we are able to perform a full suite of EMC compliance testing Dynamic Inclination, Vibration, Shock, Temperature, Humidity, Salt Mist, Acoustic Noise, Compass, Ingress (solid and water)
TRL LEVEL	
WEBSITE/REFERENCE	<a href="https://www.mstesting.co.uk/index.html">https://www.mstesting.co.uk/index.html</a>



NAME	University of Plymouth, COAST (Coastal, Ocean And Sediment Transport) laboratory
TYPE OF TECHNOLOGY	Physical model testing with combined waves, currents and wind, offered at scales appropriate for device testing, array testing, environmental modeling and coastal engineering.
WEBSITE/REFERENCE	<a href="https://www.plymouth.ac.uk/research/institutes/marine-institute/coast-laboratory">https://www.plymouth.ac.uk/research/institutes/marine-institute/coast-laboratory</a>



### National Maritime Information Centre

NAME	National Maritime Information Centre
TYPE OF TECHNOLOGY	Maritime Intelligence, Satellite derived Intelligence Threat Evaluation National Security Crime Prevention
FACILITIES	security evaluation
WEBSITE/REFERENCE	<a href="http://www.nmic.org.uk/">http://www.nmic.org.uk/</a> (restricted access) +44 (0) 2392 211951 / <a href="http://www.safeseas.net/safeseas-visits-nmic/">http://www.safeseas.net/safeseas-visits-nmic/</a>

## LITERATURE LIST

**STATE OF THE MARITIME NATION 2019**; by the Centre for Economics and Business Research (Cebr) available through [maritimeuk.org](http://maritimeuk.org) (tel. 020 7417 2837 e: [info@maritimeuk.org](mailto:info@maritimeuk.org), physical 30 Park Street, London, SE1 9EQ)  
<https://www.maritimeuk.org/media-centre/publications/state-maritime-nation-report-2019/>

World Intellectual Property contacts including UK [https://www.wipo.int/members/en/contact.jsp?country\\_id=62](https://www.wipo.int/members/en/contact.jsp?country_id=62)

Report '**North Sea Commission Strategy – Contributing to the Europe 2020**'

<https://cpmr-northsea.org/download/north-sea-region-2020-strategy/>

**UK report entitled 'Smart Specialisation in England' by the Department of Business, Innovation and skills**

([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/436242/bis-15-310-smart-specialisation-in-england-submission-to-european-commission.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/436242/bis-15-310-smart-specialisation-in-england-submission-to-european-commission.pdf))

**Department for International Trade (DIT): Promoting the UK's world-class global maritime offer: Trade and Investment 5-year plan 2019**

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/833816/Maritime\\_5-year\\_Plan\\_Accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833816/Maritime_5-year_Plan_Accessible.pdf)

**Free Ports Consultation**

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/878352/Freeports\\_Consultation\\_Extension.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/878352/Freeports_Consultation_Extension.pdf)

Publications\* within **UK Government "Maritime 2050 Navigating the Future"**

<https://www.gov.uk/government/publications/maritime-2050-navigating-the-future>

- MARITIME 2050 Navigating the Future
- Maritime 2050 People Route Map
- Maritime 2050: Trade Route Map
- Technology and Innovation in UK Maritime: The case of Autonomy, A Maritime 2050 Route Map
- January 2019

Draft **Development Planning Documents for all English Sea Regions** from the Marine Management Organisation:

A collection of documents for the Draft North East Marine Plan:

- Draft North East Marine Plan
- Technical Annex
- Sustainability Appraisal Reports
- Habitat Regulations Assessment Report

<https://www.gov.uk/government/publications/draft-north-east-marine-plans-documents>

A collection of documents for the Draft South West Marine Plan:

- Draft South West Marine Plan
- Technical Annex
- Sustainability Appraisal Reports
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#### UK International Climate Finance

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/832315/UK-International-Climate-Finance-Booklet.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832315/UK-International-Climate-Finance-Booklet.pdf)

intellectual property rights (IPR), regulations and

