

Marine Delivery Routemap

Towards a shared vision for our seabed and coastline



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"We need to look ahead to create pathways for success across sectors, planning together to co-exist, making the fullest opportunity of the huge potential of our seabed."



Gus JaspertManaging Director
Marine, The Crown Estate

Foreword

As an island nation, the UK's fortunes have been defined for centuries by the waters surrounding our shores. Whether it's vital trading routes, our thriving marine wildlife, our coastal communities, or establishing new markets for clean energy, the UK's seabed has underpinned its success for generations.

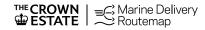
Today, this precious natural resource continues to play a vital role in our global success, but the demands being placed on it continue to grow at an ever-increasing rate. From critical infrastructure such as defence and communications, to trade and travel – vital industries including offshore wind, marine aggregates, fisheries and new carbon capture technology need to exist side by side; all the while, increasing our focus on the marine environment and the need to support the rich biodiversity that surrounds us. The seabed holds the potential to unlock some of the greatest challenges of our time – reversing the decline of our natural environment, addressing climate change, and stimulating growth and regeneration across the country through new jobs and investment.

Addressing each of these challenges faster than ever before means that we need a whole system approach. Every marine sector cannot plan its future without thinking about the whole of our seas, including how best to integrate with competing and complementary interests, while maintaining a focus on the safety of all users of the sea.

Crucially, nature is too vital a foundation to treat simply as a mitigating factor in infrastructure development or deployment. Rather, we must actively plan a future with a restored and thriving marine environment. We need to look ahead to create pathways for success across sectors, planning together to co-exist, making the fullest opportunity of the huge potential of our seabed. As an organisation, we will soon be publishing the first stage of our company-wide nature commitments, which seek to raise the bar on our level of ambition for nature recovery.

We are now proud to bring forward our initial thinking for a Marine Delivery Routemap, which is a collaborative initiative to develop a long-term strategy for the marine space. It is underpinned by The Crown Estate's world-leading capabilities and data, with insights from our partners. It will help coordinate action across agencies and sectors, considering how best to support nature to flourish in a changing climate, while building a thriving marine economy and supporting communities. This includes identifying spatial pathways and seabed plans towards 2050 and potential enabling investments and de-risking activity needed.

Our recently-announced partnership with Great British Energy unlocks further opportunities to tackle systems issues and reduce the risks developers can face when looking to deploy important new offshore energy infrastructure. In addition, new powers being considered by Parliament will enable The Crown Estate to play



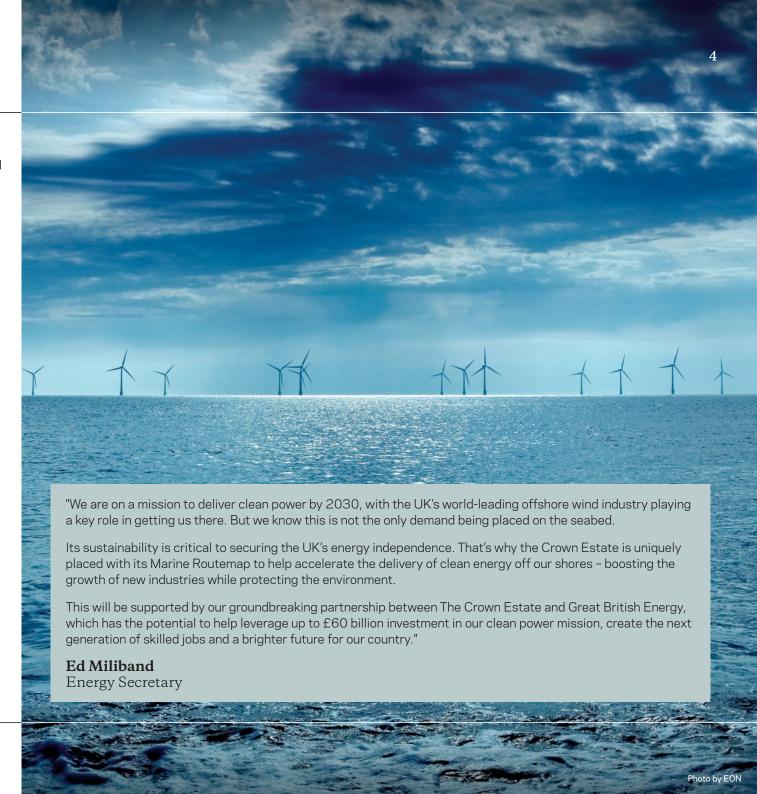
a more active role in investing to support this critical infrastructure, supply chain and nature restoration needed to achieve our collective goals.

As we continue to build the Marine Delivery Routemap, we intend to work with partners to bring focused updates on each sector, looking at how they can evolve over the years ahead. This begins with a closer look at and a call for input on the 'Future of Offshore Wind', a report which we have published alongside this one, including how our approach might evolve to accelerate the deployment of important new capacity. We will follow this with reports on nature, carbon capture and other sectors.

Our purpose at The Crown Estate is to create lasting and shared prosperity, together with our vision for a seabed which is set up to thrive for many generations to come. I would like to thank all those who have worked with us to get to this point. By continuing to work together across systems, we can ensure that it is those future generations that reap the rewards of our efforts today. I hope you'll join us on this journey.

Gus Jaspert

Managing Director Marine, The Crown Estate





Developing a Marine Delivery Routemap

Welcome to this report, which introduces the development of a Marine Delivery Routemap (the Routemap). This document sets out how a more coordinated, long-term view for meeting future demands on the UK seabed can enable the growth of important offshore industries, such as renewable energy, while protecting and enhancing the marine environment, and providing onshore benefits. This builds on The Crown Estate's world-leading spatial mapping capabilities and marine data, but will crucially require the continued collaboration between partners across multiple sectors as well nature bodies.

The creation of a Marine Delivery Routemap is intended to give holistic context across sectors and sea users to support and inform individual sector delivery planning; e.g. the Strategic Spatial Energy Plan (SSEP) led by the Energy Systems Operator (ESO). It will also align with – and help inform – devolved marine planning.

It is envisaged that the Routemap will support identification of spatial pathways and plans towards 2050; informing management of the seabed and coastline; and providing forward visibility on key enabling investments required, for example, ports, supply chain, grid and nature.

Read about these in more detail on page 15.



Purpose and strategy

The Crown Estate's purpose and strategy

The Crown Estate is an independent organisation, sitting between the public and private sectors, with a remit to create lasting value for the nation from its activities.

At the heart of everything we do lie four core objectives:



Be a leader in supporting the UK towards a net zero carbon and energy-secure future



Take a leading role in stewarding the UK's natural environment and biodiversity



Help create inclusive communities and support economic growth and productivity



Responsibly generate value and financial returns for the country

Our marine strategy

Managing the seabed around England, Wales and Northern Ireland - as well as 50% of our coastline - means taking a holistic and long-term view of this vital resource, helping catalyse the UK's transition to net zero while playing an important role in stewarding the marine environment. By working in partnership with industry, governments and stakeholders, we are proud to have helped establish the UK as home to one of the most successful offshore wind markets in the world, with enough operational capacity to power half of all UK homes.

This also means we are well-placed to bring people together to find solutions to some of the shared challenges facing our increasingly congested shores. This includes convening partners to help solve key systems issues together such as supply chain, grid connection, consenting processes and delivering environmental net gain.

Our strategy sets out our role to deliver value for the nation, including nature recovery, enabling green energy, driving economic growth and jobs, and creating and protecting thriving biodiversity and marine environments. By working with partners and stakeholders to deliver the Routemap, we will be able to deliver against our strategic objectives and those of others, to create the most sustainable and attractive marine economy and environment in the world.

By forward delivery planning across a range of sectors such as offshore wind and creating opportunities for new technologies such as tidal energy, carbon capture and storage (CCS) and green hydrogen, we play a vital role in unlocking low-carbon energy for millions of homes, supporting the nation's transition to a resilient, sustainable and decarbonised future. Working together with partners and our stakeholders highlights the need to take a holistic view on how we manage the seabed to ensure the right activities are brought forward in the right locations in the right way.

We aim to help de-risk and accelerate development with upfront investment in evidence, surveys, siting and aligned activities to help derisk consenting, grid connections and supply chain.

Nature objectives

Healthy and resilient ecosystems are fundamental for society. Marine, coastal, rural and urban environments are home to a rich diversity of habitats and species that our climate, communities and economy depend on. As an organisation focused on delivering lasting and shared prosperity for the nation, we have been accelerating our efforts to support the restoration, conservation and recovery of nature.

We are embedding nature into the core of the business and how we deliver for the nation. We need to protect and restore nature whilst meeting other national needs, such as our transition to net zero, food production and economic growth, creating more jobs, skills and supporting our communities.

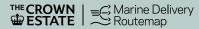
Together with partners in Blue Marine Foundation, Crown Estate Scotland, Esmee Fairbairn Foundation, Finance Earth and Pollination, we worked with over 200 crosssector experts to develop a 'High-Integrity Marine Natural Capital Markets in the UK - A Roadmap for Action'. This presents a pathway to unlocking new sources of finance to protect, restore and sustainably manage marine and coastal ecosystems.

We have shaped our business-wide nature recovery approach through engagement with a wide range of expert stakeholders, including our overarching goals and the commitments we can make as an organisation. We look forward to setting out more details on our approach in the near future.

Co-developing a Marine Delivery Routemap will form a key part of our ability to execute on these goals. Following publication of our overarching approach, we will continue to work with stakeholders to refine the targets and KPIs by which we plan to measure our progress, with a view to sharing these publicly in the first quarter of 2025.





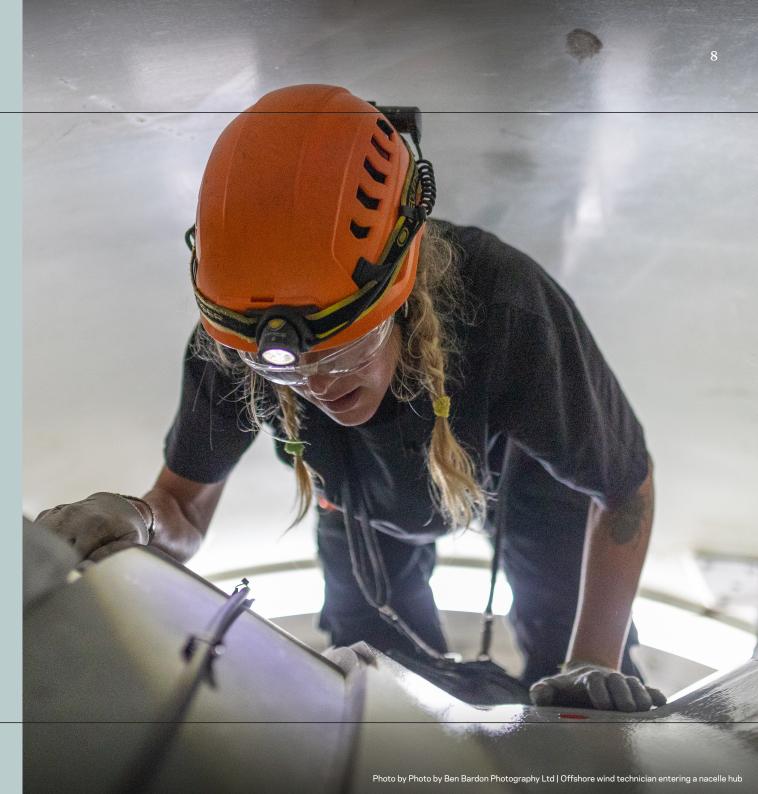


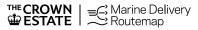
Safety first approach

We have a unique and special role in fostering an environment where everyone who works in, supports, or visits the marine environment can do so healthily and safely. This means ensuring the minimum of personal risk but also meeting expectations of an environment where they can thrive. We are committed to continued innovation and improvement and have made 'Safety First' a central tenet of our approach across our whole business, and our marine strategy. To achieve our purpose we will continue to:

- Demonstrate our culture of care through how we operate as a client and as a key enabling stakeholder, setting industry-leading expectations on health and safety performance.
- Apply best industry practices and highest industry safety standards to ensure that all our operational activities are performed safely, without harm.
- Monitor and act on sector safety performance, staying connected to industry groups and enforcement bodies.
- Have a voice on key issues that are key to promoting a safe, healthy and inclusive industry.

We recognise that the UK is leading in navigation and port safety. This a vital consideration in our approach, and we strive to work with partners in a shared response to the need for safety as part of the Marine Delivery Routemap.





The need for a new vision for the UK's seabed

The seabed and coastline are critical for the UK's economy, nature restoration and the delivery of net zero. They support a huge range of activities and industries on which we all depend. As these demands continue to grow, so does the need for a long-term, holistic approach that works across all sectors and marine users. This means that sectors cannot be viewed in isolation but as part of a bigger, interconnected network of interests, including the need to tackle biodiversity loss and nature recovery.

As we set out our thinking for 'what is next' and why we need a long-term vision for the marine space, there are several shared opportunities and considerations:

- Supporting growth: marine-based sectors are a vital area of growth for the economy, driving investments in supply chains, ports, grid infrastructure, skills and jobs. By providing greater certainty and long-term visibility of how the seabed will be developed, we can help address 'bottlenecks' by unlocking anticipatory investments needed (e.g. ports, supply chain, grid, nature recovery). More visibility of the enabling investments needed can help secure more investment in local content and ensure communities fully benefit from offshore development.
- Biodiversity loss and nature recovery: significant declines in UK biodiversity¹ and habitat areas in recent decades underline the urgency of restoring and recovering nature so that our marine environment is more resilient to growing demands for space from other

- sectors. Maintaining healthy habitats and ecosystems is instrumental for sustaining nature's inherent value, mitigating the effects of climate change, and providing ecosystem services to support livelihoods and a thriving economy.
- Net zero and increasing demand for marine space: the marine space supports a wide range of sectors and usage, and demand for space is growing fast, driven by market demands and policy. In particular, to reach net zero by 2050, the UK Government has an ambition to decarbonise the power system by 2030, including a radical increase in offshore wind capacity within the same timeframe. By 2050, the electricity sector is also set to almost triple in size, with around 50% of generation expected to come from offshore energy. This could require 125GW or more of offshore wind installed by 2050. We must meet such demands for space for offshore wind, and related offshore transmission infrastructure, alongside demands from other sectors of key importance to the country, including other renewables, aggregates, carbon storage, defence, fisheries, hydrogen, minerals, shipping, oil & gas, and telecommunication cables.

For all these reasons, we need a shared long-term strategy for how the seabed is best used and this is at the heart of The Crown Estate's role, purpose and strategy.





The marine space is critical for nature, net zero and the economy and demands are growing fast. The Crown Estate works across a number of key sectors in England, Wales and Northern Ireland which play an important role; these include:

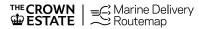
- Natural capital: the UK's marine natural capital assets host an abundance of biodiversity and help regulate our climate by sequestering and storing carbon (including around 3,000MT in seabed sediments) as well as providing adaptation benefits, such as reduced flood risk.
- Offshore Wind: the UK has rich wind resource offshore which will be critical to meeting growing demand for clean power, supporting energy security and lowering bills. By 2050, around 50% of electricity generation is expected to come from offshore wind, which could require 125GW or more of capacity installed.
- Carbon capture and storage (CCS): CCS will play a critical role in the transition to net zero by 2050, with the UK having high CO₂ undersea storage potential close to major sources of emissions. UK carbon storage targets will bring online four clusters storing 100 million tonnes of CO₂ per year by 2050.
- Tidal: the UK has significant tidal energy resources and the latest ESO future energy scenarios suggest up to 5GW of tidal capacity will be required to support net zero in 2050.
- Subsea electricity transmission cables: these are required to connect this new generation capacity and increase interconnection with neighbouring countries driving net zero and supporting energy security.

- Minerals: marine sand and gravel make a crucial contribution to meeting the demand for construction material providing 25% of sand and gravel demand for England and Wales.
- Subsea telecoms cables: these carry 99% of all intercontinental data traffic. With demand for data increasing rapidly, it is forecast that the UK will require approximately 25 new submarine cables by 2035 and further growth thereafter.

Based on The Crown Estate's Whole of Seabed analysis, all of this activity will see demand for seabed at least double in the next decade, supporting a transition that will sustain more growth in the next 10 years than has been delivered over the last century. Competition for space is often focused on particular hot-spots which are important for nature and multiple different sectors.

For example, Figure 1 provides an illustration of existing uses off the east coast. This includes sectors in which The Crown Estate is not directly involved, such as **fishing**, **shipping**, **oil** & **gas** and **defence**, but which are equally important to ensure a holistic approach.





A pro-active, coordinated approach

Delivering this growth sustainably requires a more coordinated, 'systems-led' approach to delivery, development and wider seabed management to ensure we can deliver on our net zero and nature recovery goals, as well as build a thriving marine economy and support energy security. This shared approach should be built on:



Robust data and evidence: building a deep evidence base covering the whole of the seabed and understanding the future demands of all sectors that use the marine space and their interactions with nature.



De-risking and accelerating deployment: pre-development activities ahead of leasing, to better understand site conditions, reduce consenting risks, support timely development of infrastructure required for project development and improve availability of the supply chain.



Long-term delivery planning: looking holistically across all marine infrastructure sectors, users and nature, to ensure we make best use of the space, proactively manage potential spatial overlaps, maximise co-location opportunities, and provide forward visibility that gives more certainty to developers and unlocks potential growth opportunities (e.g. supply chains, ports, grid infrastructure, skills and jobs).



Working together collaboratively: convening key parties involved in marine delivery, including experts in nature and delivery agencies, to share knowledge and develop partnerships that galvanise a collective response to opportunities and challenges ahead. This includes sharing feedback and insights across shared forums and engagement.

All of this starts with building a robust, shared evidence base to inform delivery plans and decision-making.





Our data capability and investment in evidence

With an increasingly constrained offshore environment, data, analysis and collaboration are fundamental to supporting accelerated growth in UK offshore sectors and building confidence in the UK market.

The Crown Estate is committed to investing in and sharing pioneering research, data and digital capabilities to manage the seabed holistically and inform future delivery, in a way that works as part of the wider ecosystem – building confidence in the quality and sustainability of developments. We share the data and insights we have gathered – for example, through:

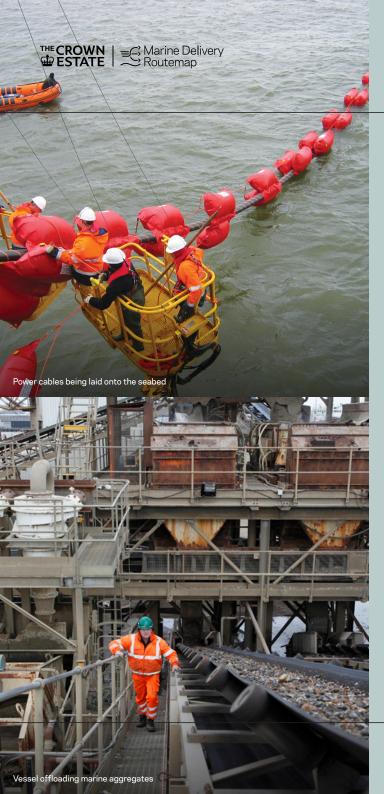
Marine Data Exchange

• The Marine Data Exchange (MDE): a world-leading collection of data from a variety of industries, including marine aggregates, subsea cables, tidal and wave energy, offshore wind and also data from research and evidence projects. Throughout the years, the MDE data holding has grown to almost 300TB of survey data from over 50 offshore projects across the UK, over 2,600 survey campaigns and covering over 15 survey themes, from geophysical data to marine mammal surveys.



- The Offshore Wind Evidence and Change programme (OWEC): which brings together a coalition of 26 government organisations, industry bodies, and environmental NGOs to collaborate on a range of prioritised projects which create a data and evidence base that can be used to shape the future of offshore wind and the marine environment. It draws down from a £50m funding commitment by The Crown Estate and is delivered in partnership with the Department for Energy Security and Net Zero (DESNZ), and the Department for Environment, Food and Rural Affairs (Defra).
- The Crown Estate's Open Data Portal which provides freely available data on the seabed and coast.

This growing evidence is all used in our pioneering work to digitally map the seabed and potential future uses (the Whole of Seabed Programme) which includes data from over 250 sources and 10 sectors and allows for scenario planning (see next section). This programme recently won a global 'Special Achievement in GIS Award' at the Environmental Systems Research Institute (ESRI) annual User Conference in California.



A robust evidence base: mapping the Whole of the Seabed

The Marine Delivery Routemap will be underpinned by our Whole of Seabed evidence base. This combines our spatial mapping expertise, digital capabilities, an overview of seabed demands across sectors and nature, and inputs from our partners to digitally map the potential use of the seabed resource² to meet future objectives – supporting vital industries, net zero and nature recovery for the long-term.

This modelling capability represents the most comprehensive and sophisticated approach to spatial mapping in our history and will be kept up to date as new data, evidence and information becomes available. The analysis covers the opportunities for nature as well as a range of critical infrastructure sectors including offshore wind, other types of energy generation, CCS, aggregate extraction and telecoms cabling. Tailored approaches have been co-developed with key stakeholders to map opportunities for each sector, while considering all uses and interests in the marine space, including those beyond The Crown Estate's responsibilities, to promote co-location and minimise potential future conflicts.

Future views for each sector are brought together into integrated scenarios around potential seabed usage out to 2050. For example, we can run a scenario focused on minimising the space used by multiple sectors, or a scenario focused on minimising environmental impacts and prioritising nature recovery. Each scenario offers us insights into different options and trade-offs for delivery. A full overview of the Whole of Seabed methodology can be found here and is summarised in Appendix 2.

We use this holistic evidence base to work with relevant programmes including the cross-government MSPri programme led by Defra, and Marine Plan updates led by the MMO, and the SSEP to be led by the ESO. We are also working with Welsh Government to explore how the Whole of Seabed Programme evidence base can support the marine planning process in Wales, including the development of Strategic Resource Areas (SRAs); and we are collaborating with Crown Estate Scotland on the Marine Data Exchange and are working with them to integrate Scotland into the Whole of Seabed analysis, in order to provide a consistent evidence base across the whole of the UK.

We will make this evidence base available and share insights to inform decisions on delivery with devolved and UK planning authorities, and bodies representing different sectoral interests.

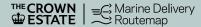
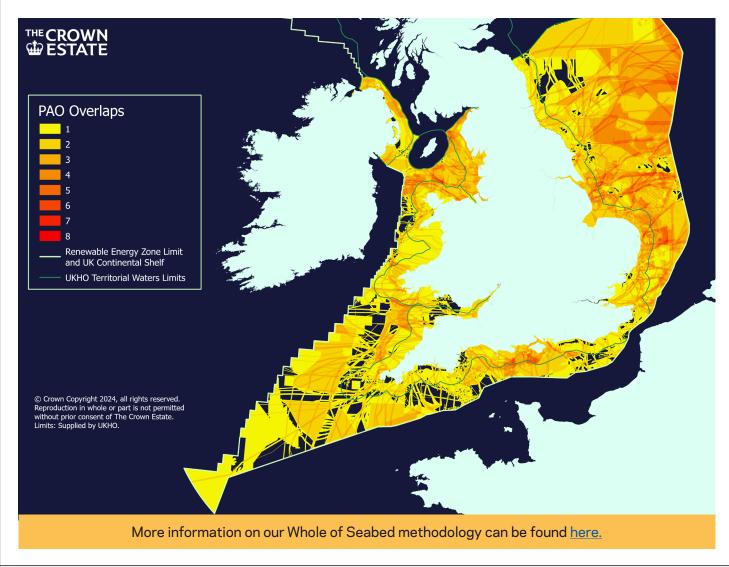


Figure 2 shows the overlaps between 'potential areas of opportunity' (PAOs) for marine sectors and highlights the growing competition for future space. In turn, it highlights the critical decisions around how the seabed is developed and used.

For example, the east has attractive areas for relatively low-cost future offshore wind development, but there is a lot of competition for space with environmental interests and other sectors (e.g. navigation, fisheries, defence, CCS, power cables, pipelines etc.) and areas designated to protect key environmental habitats and species. Therefore, early identification of co-location options and agreeing the best use of space are critical.

Figure 2: Early view of competition for future marine space





A Marine Delivery Routemap for net zero, nature recovery, and a thriving marine economy

The Routemap is a collaborative initiative to develop a long-term strategy for the marine space. Underpinned by the Whole of Seabed evidence base, it will help coordinate action across agencies and sectors to deliver on net zero and nature policy, build a thriving marine economy, and support impacted communities.

The Routemap objectives are to:

- Catalyse the UK towards a net zero and energy secure future.
- Deliver a thriving marine environment and promote nature recovery.
- Optimise value from the marine space across sectors for the economy and communities.



It is envisaged the Routemap will support:



Spatial pathways

Identifying 2050 spatial pathways to enable the best use of the marine space in order to meet policy objectives and user needs across sectors. This will provide stakeholders with long-term visibility on the key areas of opportunity for each sector, including opportunities for co-location, and support early resolution of competing demands.



Enabling investment

Providing forward visibility on where and when key enabling investments are needed (e.g. ports, supply chain, grid, nature). This can help underpin anticipatory investment needed and identify opportunities these can create for onshore communities.



Seabed and coastal management

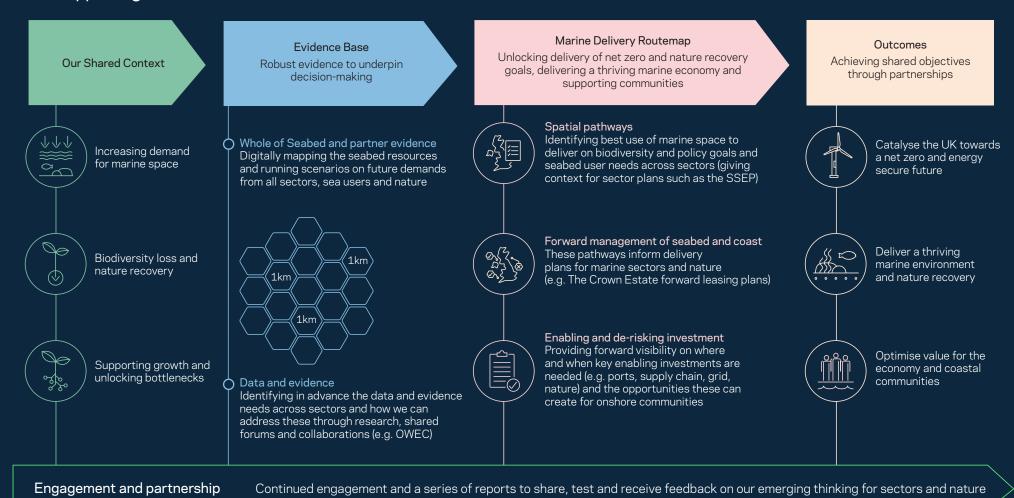
Informed by these pathways, developing forward plans which align the needs of industries, sectors and the natural environment. For The Crown Estate, this means a timeline of leasing and development activity and investment for nature and infrastructure which it manages, while providing valuable long-term visibility for other users of the marine space.

This will all be underpinned by The Crown Estate's world-leading data and evidence. As we progress with the development of the Routemap, we will be able to identify in advance any gaps in this data across sectors, and how they can be addressed through research, shared forums and collaborations.



Marine Delivery Routemap

A long-term strategy for the marine space to meet net zero and nature recovery goals, delivering a thriving marine economy and supporting communities



Outcomes and benefits

By working together on the Routemap, we will harness the full value of our precious marine space. Some of the key benefits include:

- Optimise the use of marine space, securing best outcomes for the economy, the environment and society.
- Identify high-opportunity areas for biodiversity and nature, supporting delivery of a thriving marine environment.
- Provide visibility and certainty to sea users across sectors on how the seabed will be used, giving market confidence
- Accelerate delivery and reduce costs across sectors.
 For example, in energy, working with the ESO to find low-cost pathways for net zero with low consenting risk and which fit with the needs of non-energy sectors.
- Support economic development and impacted communities by identifying enabling investment needs and opportunities over the long-term (e.g. skills, infrastructure, ports, supply chain).

We also believe that undertaking more forward delivery planning will help ensure a safer marine environment by providing better co-ordination and co-existence of activities within what is becoming an increasingly congested marine space (e.g. ensuring safe buffer zones between different activities where needed).

How the Routemap will help de-risk development

Marine infrastructure development currently faces significant risks and delays around spatial prioritisation, consenting and availability of enabling infrastructure such as supply chain and grid.

The Routemap can play a valuable role here in de-risking future development across sectors by enabling a more systems-based approach to future use of sea space. In particular, the Routemap will highlight, help address, and de-risk issues over competition for sea space across a range of sectors; thus early decisions to avoid especially sensitive or productive areas of the natural environment, and providing visibility to support important anticipatory investment (e.g. grid, ports, supply chain, nature recovery).

This means future developments will face less consenting risk as overlaps with other sectors will have been resolved in advance and impacts on nature either avoided or compensated for. We are also exploring further activities to support consenting, such as upfront plan-level surveys and a greater role identifying and delivering strategic compensation across sectors. More information and a link to the Future of Offshore Wind Report can be found here.

Establishing the Routemap will also help to de-risk the critical investment needed in **enabling infrastructure and supply chain** by providing early visibility of future needs.

For example, cross-sector spatial pathways to 2050 will give us better visibility of when and where onshore ports, fabrication and manufacturing investments are likely to be needed. In turn, this can underpin the case for both private and state anticipatory investments - including those made as part of the new Great British Energy-partnership.

Similarly, the Routemap can help support anticipatory investment in grid, cabling and pipeline infrastructure as recommended in the Electricity Network Commissioner's 2023 review³. Working with the ESO on the Strategic Spatial Energy Plan, we will identify the optimal sites for future offshore renewables in the context of nature and all marine sector needs. This will help drive electricity grid design through the ESO's Centralised Strategic Network Plan (CSNP) and underpin timely investment in grid connections for projects critical to net zero and energy security.

Further engagement and next steps

Working with partners and stakeholders is central to our approach at The Crown Estate. As part of this, we want to share how the Routemap and our Whole of Seabed evidence base will inform our strategic approach across a range of sectors and nature – and we are pleased to share the first of a series of reports alongside this one, outlining our thoughts for the future of offshore wind.

This Routemap series of publications will continue to expand, with future thinking to be shared on our approach to:



Nature



Carbon capture and storage



Marine aggregates

As well as other reports on key marine sectors – all set in the context of the needs of nature and all sea users.

In sharing our thinking about a Marine Delivery Routemap, we are presenting the vision of a more strategic, 'systems thinking' approach to how the marine space is developed, than ever before. For sectors where The Crown Estate has a particular role, such as offshore wind and CCS, this means moving beyond linear 'round-by-round' or reactive approaches; to looking more strategically and holistically at long-term delivery plans which enable each marine sector to develop successfully alongside each other, and support a thriving marine environment.

Our proposed approach will be closely informed by our Whole of Seabed Programme and centred around our work with delivery partners and governments on a Marine Delivery Routemap. This was one of the key recommendations from the Electricity Networks Commissioner, Nick Winser, accepted as part of the Government's TAAP⁴. In line with this, we are partnering with the ESO so that this cross-sector Routemap informs, supports and aligns to the Strategic Spatial Energy Plan.

This is the beginning of the conversation and we remain committed to working with all of our partners and stakeholders. As discussed, the Routemap will complement and inform key related marine spatial programmes and forward plans for specific marine sectors. This Routemap series of publications will continue to expand, with future thinking to be shared in due course on our approach to nature, CCS, marine aggregates and other key marine sectors.

As part of the development of the Marine Delivery Routemap and our related Whole of Seabed evidence base, we are engaging with a wide range of stakeholders.

Our core delivery partnership brings together all the key government departments, devolved administrations, and planning and delivery bodies in order to co-ordinate action and decision making for net zero and nature recovery, and across all sectors, bridging from policy to delivery. Beyond this core group of decision makers, we are also engaging with representatives covering our key sectors and a range of other stakeholders, to ensure all customers and stakeholders understand our work and have opportunities to input into the process in the future. As part of our broader approach, we will continue to seek the views of non-profit organisations, governments, sea users, and delivery partners on how we can work together to ensure our activities best support biodiversity, nature recovery and the creation of broad environmental and social value.

The Crown Estate will take any decisions on future leasing for our key sectors in line with the marine delivery routemap; over time it is our hope that decisions taken by other bodies will also be informed by routemap. We look forward to working with all stakeholders to refine our understanding and develop a world-class whole system approach that creates lasting and shared prosperity for the nation.



Get in touch

If you would like to find out more about our work or want to get in touch, you can contact us through:

Jamie Moore

Routemap Delivery Director

jamie.moore@thecrownestate.co.uk

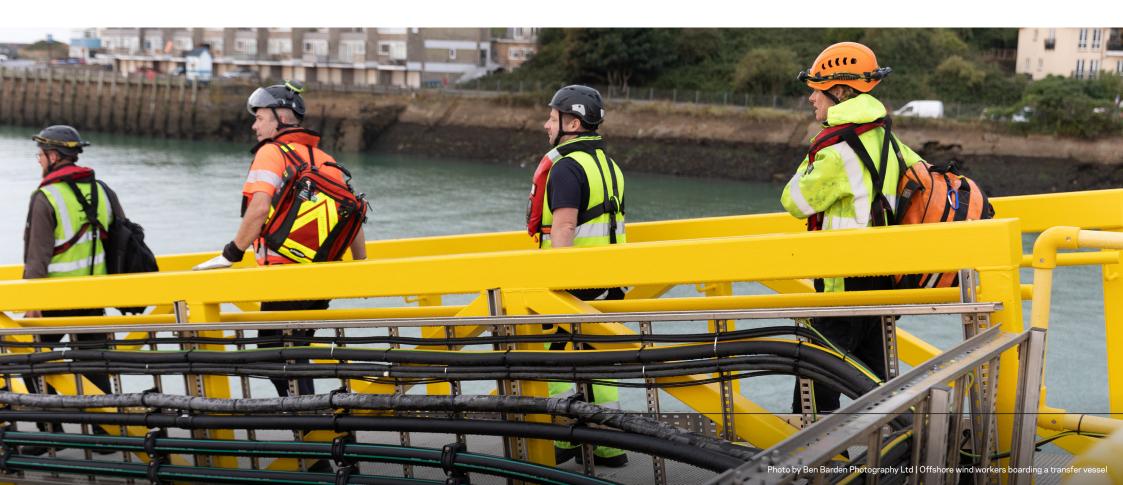
Michelle Moore

Technical & Spatial Planning Director michelle.moore@thecrownestate.co.uk

Tristan Bromley

Whole of Seabed Lead

tristan.bromley@thecrownestate.co.uk





About The Crown Estate

Marine Delivery
Routemap

The Crown Estate has a diverse £16bn portfolio that includes urban centres and development opportunities; one of the largest rural holdings in the country; Regent Street and St James's in London's West End; and Windsor Great Park. We also manage the seabed and much of the coastline around England, Wales and Northern Ireland, playing a major role in the UK's world leading offshore wind sector.

We are a unique business established by an Act of Parliament, tasked with growing the value of the portfolio for the nation and returning all of our net profit to HM Treasury for the benefit of public spending. This has totalled £4bn over the last ten years.

For further information please contact The Crown Estate Press Office: www.thecrownestate.co.uk | 0845 241 2342

Through our statutory purpose, The Crown Estate creates environmental, social and financial value both for now and into the long term. This includes:

- Playing a significant role in unlocking renewable energy for millions of homes through sectors such as offshore wind and creating opportunities for new technologies like CCUS and hydrogen to deliver the UK's energy security transition, resulting in thousands of jobs for communities across the UK.
- Supporting the sustainable transformation of land use in the UK through diversified, regenerative agricultural and environmental best practice alongside a thriving natural world.
- Becoming recognised as a centre of excellence for environmental and ecological best practice across the Windsor Estate.
- Identifying and creating opportunities for thriving and resilient communities across the country to support regeneration, housing and innovation.
- Ensuring London retains its global city status, by fostering a more vibrant, greener and inclusive destination for millions of visitors and businesses.

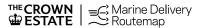


Figure 4: Graphic explanation of The Crown Estate's role in managing the marine space

As custodian of the marine environment, The Crown Estate leads sustainable development to protect the seabed while creating lasting value

As an island nation with high population density and valuable wind and natural resources, **the seabed and coastline are critical for the economy, restoring nature and delivering net zero.** Therefore, we have a vital role to play managing this space to deliver long-term value for the nation.

OUR PAN-SECTORAL VIEW INCLUDING HABITAT*

Energy Offshore Wind Energy Conversion Marine energy



Infrastructure
Power & Telco Cables
and Pipelines



Ports and harbours Aquaculture Leisure



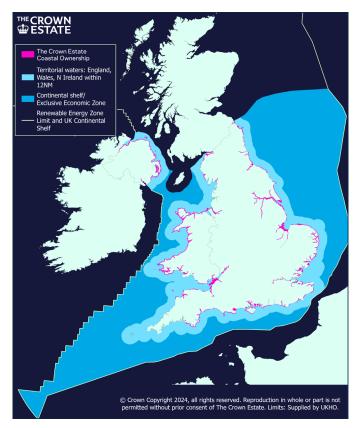
Storage CCS Hydrogen Natural Gas



Minerals
Reclamation
Aggregate dredging
Marine mining



OUR OFFSHORE AND ONSHORE FOOTPRINT



OUR CAPABILITIES

- Our deep expertise and experience (including multisector knowledge, data and spatial insight).
- Our ability to look across sectors (e.g. energy, minerals, nature) balancing competing and complementary demands.
- Requirement and purpose to protect while delivering greatest value for the nation.
- Statutory independence and our ability to take an objective long-term view.
- Our power to convene and partner with others to bring the marine vision to life.

^{*}This includes sectors in which The Crown Estate is not directly involved, such as fishing, shipping, oil & gas and defence, but which are equally important to ensure a holistic approach.

Appendix

Appendix 1: Glossary and references

Glossary

CCS	Carbon Capture and Storage
CSNP	Centralised Strategic Network Plan
DESNZ	Department for Energy Security and Net Zero
Defra	Department for Environment, Food and Rural Affairs
ESRI	Environmental Systems Research Institute
ESO	Energy System Operator
GW	Gigawatt
LCOE	Levelised Cost of Electricity
MDE	The Marine Data Exchange
MT	Megatonne
PAO(s)	Potential Area(s) of Opportunity
SRA(s)	Strategic Resource Area(s)
SSEP	Strategic Spatial Energy Plan
OWEC	Offshore Wind Evidence and Change Programme

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- 1. Brotherton, Pete (2023) "State of Nature," Natural England (blog) September 29, 2023. https://naturalengland.blog.gov.uk/2023/09/29/state-of-nature/
- 2. Department for Energy Security and Net Zero (2023) "Accelerating Electricity Transmission Network Deployment: Electricity Networks Commissioner's Recommendations" Accessed 2 September 2024 https://www.gov.uk/government/publications/accelerating-electricity-transmission-network-deployment-electricity-network-commissioners-recommendations.
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Appendix 2: Whole of Seabed Methodology

Definition and Data Sourcing





environmental and economic).



Modelling Potential Areas of Opportunity (PAOs)

Key Resource Areas

Identify where sectors can technically be deployed. (Q)



Exclusion Modelling

Exclude locations that contain interests which prevent offshore development ("hard constraints"). These are defined as areas where development is not possible generally due to existing rights, legislation, technical factors, infrastructure or health & safety.



Constraints Modelling

Analyse remaining locations for relative level of constraint posed to offshore development by all other competing activities or interests.



Cost Modelling

Integrate cost constraints into the modelling approach, e.g. consider levelised cost of energy (LCOE) for development (where available).



Potential Area of Opportunity (PAO) outputs

Incorporate spatial insights from previous spatial exercises and region-specific requirements. The output of this step of the process is then presented as a spatial map of the Potential Area of Opportunity (PAO), per sector.



This symbol illustrates the quality assurance process, conducted to ensure outputs are reliable and that only high quality datasets have been used in the modelling process.

Modelling Scenarios



Scenario Modelling

The scenario modelling informs a greater understanding of the potential distribution of sectors to meet 2050 demands. according to specific spatial rules, industry projections, policy targets and priorities. This process generates a wealth of insights and information that can be used to understand the implications of the successful delivery of sectors, impacts on the environment and societal and economic benefits.





Scenario Outputs

The output is the understanding of the potential distribution of sectors and trade-offs per scenario. Results demonstrate whether a scenario has met the demand requirements as well as prioritisation and co-location implications. This process is iterative, and as more data is fed into the process, scenario outputs will change and develop over time.



We generate a wealth of statistics alongside each scenario output. We use these to form insights based on individual scenarios as well as them collectively. This process consolidates our understanding of the spatial outputs, helping us to identify where challenges are being identified through the analysis as well as where we should investigate further and aim to iterate and improve aspects of the analysis.

Stakeholder Engagement

We will continue to engage with government, industry and other key marine stakeholders throughout the process, to ensure that we include the best available data, evidence and analysis rules in the Programme.

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+44 (0) 20 7851 5000 @TheCrownEstate thecrownestate.co.uk

