# Advancing Seabed Geology Data: The Crown Estate Data Creation Project

Foundation Ex 2025



#### A vision for the future use of the seabed to 2050, working in partnership

# Accelerating clean energy projects and planning for critical UK infrastructure needs

Deliver business confidence from strategic planning through project development to operation, by planning out spatial conflicts upfront and actively de-risking development - supporting projects in the right place at the right time with the needs of all sectors informing the design

#### Placing nature at the centre of decisionmaking

Optimise the use of the marine space, with partners & Government, protecting high priority areas for nature and delivering a plan, created in partnership, for a healthy, flourishing marine environment'



#### Creating onshore opportunities from offshore development

Inform the strategic plans of regional and local elected bodies, driving investment and economic growth and enabling thriving communities

#### **Building UK supply chains & attracting investment**

UK jobs secured through visibility of industry development pipelines to 2050, crowding in global investment and driving innovation in the stable, reliable UK market



# Marine Delivery Routemap







Export

Cables



Inter

Telecoms







Pipelines

















## Existing technical data from surveys

# Marine Ange Data Exchange

# What makes a good windfarm?



#### Wind data

Metocean data

Seabed Geology



### Improving our UK wide technical datasets



## **OSW Levelised Cost of Energy**

Optimising and evaluating cost and energy yield across every 1km<sup>2</sup> of the UK Exclusive Economic Zone



## Source of National Scale seabed geology data



#### Use in national-scale spatial planning Example: translating geology into potential constraints for foundations







#### Questionnaire results

Likelihood of seabed change Potential for presence of boulders Potential for laterally variable soils Potential for vertically variable soils Areas of interpreted gas or fluid in shallow... Marine landforms (including mobile bedforms) Potential presence of peats Fluvial landforms (e.g., submerged river.. Potential exposure to periglacial weathering Potential for over consolidated soils Presence of pockmarks Coastal landforms (e.g., gravel barriers) Potential presence of buried channels Areas of MDAC Glacial landforms (e.g., moraines) Thickness of unlithified soil above rockhead. Submarine landslides Exposed bedrock Soil lithology beneath seabed sediments Carbon content in seabed sediments Structural geology at seabed Seabed sediment type (based on grainsize) Bathymetry and derivatives (e.g., slope) Seismic hazard Lithology type Recorded and historical earthquakes





# Forward look: a new seabed geology package



#### Modern Re-analysis

of existing data using new approaches for interpreting seabed geology, such as using Machine Learning for automated feature detection





#### **Data Sharing**

Binding, processing, and inclusion of other open data sources (MCA, UKHO, MDE) into the technical characterization, risk factor maps, and constraints models

#### **New Survey Data**

Acquire new survey data by commissioning new survey campaigns

# Thank you for listening.

Hassan Moharram@thecrownestate.co.uk



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Download Full report on Seabed Geology data needs



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