



UK National
Clean Maritime
Research Hub

Clean Maritime Assembly 2026

Collaboration | Innovation | Transformation



Engineering and
Physical Sciences
Research Council



Funded by
UK Government

Clean Maritime Assembly

24 June 2026

*Shaping the future of clean maritime
innovation*

Dr. Jo North
CEO, Harwich Haven Authority

Harwich
Haven
Authority



Welcome

- Come together
- Technology and sustainable innovation
- Share your reflections

The Clean Maritime Research Hub

Vision

- The Hub aims to go beyond traditional marine engineering and naval architecture, creating a collaborative research environment that integrates technical, environmental, social and economic perspectives.

Scale and Partnerships

The Hub operates at significant national and international scale:

- 25 universities involved, including 14 core consortium members and 11 associate universities
- Over 100 partnerships across the maritime sector, including shipping, ports, fuel producers and technology developers
- 68 industry partners and 8 civic partners supporting real-world application
- Collaboration spanning 13 countries, reinforcing global relevance
- This diverse ecosystem enables cross-sector innovation and ensures research translates into practical deployment.

The Clean Maritime Research Hub

Research Focus

The Hub delivers integrated research across the full maritime system, focusing on:

- Low-carbon power and propulsion technologies
- Decarbonised fuels and their safe scale-up
- Energy-efficient vessel design and operations
- Zero-emission ports and supporting infrastructure
- Digitalisation, optimisation and green finance



2050 INNOVATION HUB

Since we launched in 2019, we have collaborated with over 400 companies and more than 5,500 people

- Other Ports – in the UK and internationally
- Universities
- Data and tech businesses
- Government organisations – locally, nationally, internationally
- Regulators
- Innovation Hubs in the maritime and other sectors, tackling similar challenges and opportunities

Maritime Innovation Week x3

Venture Connect – Green Investment Hub

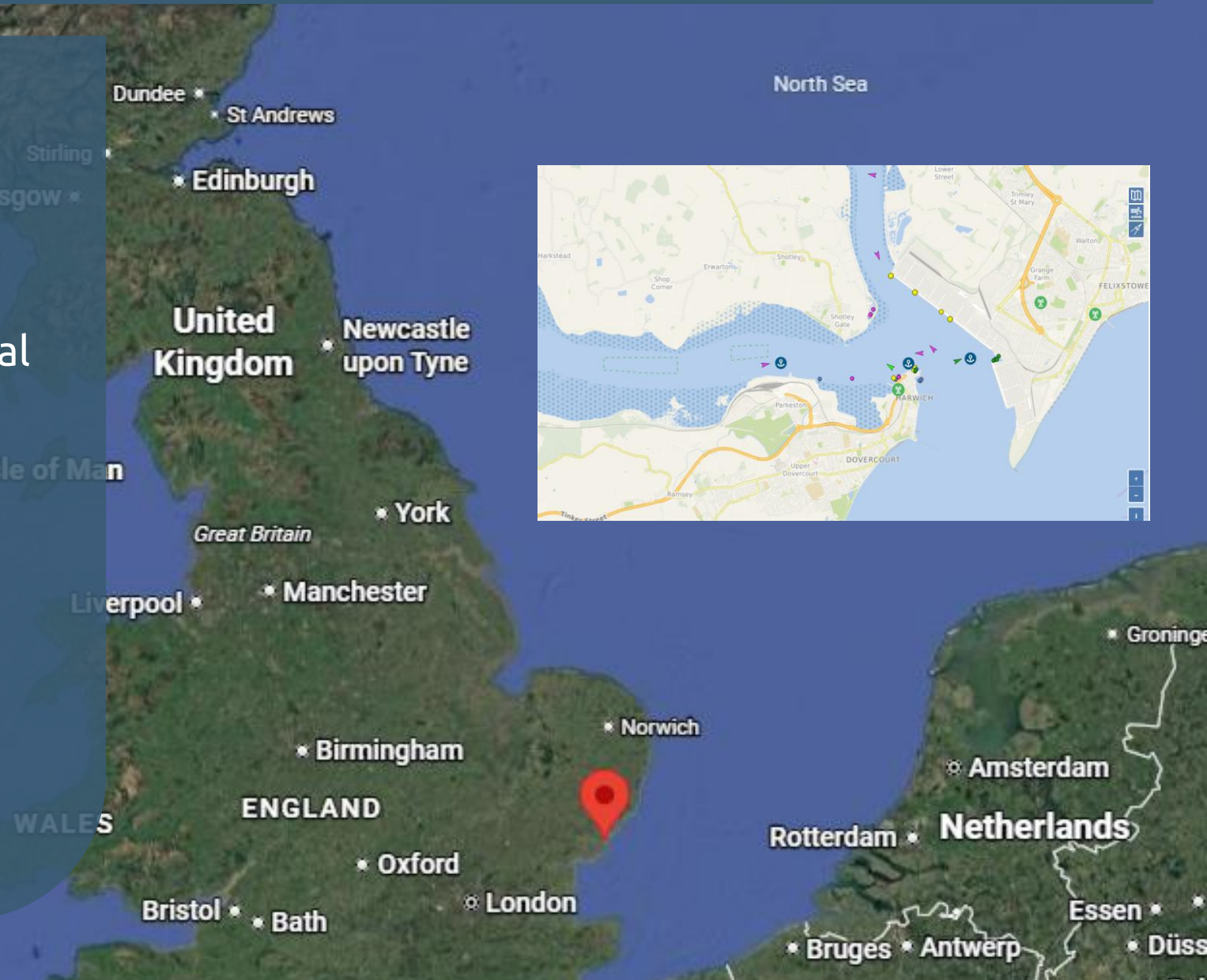
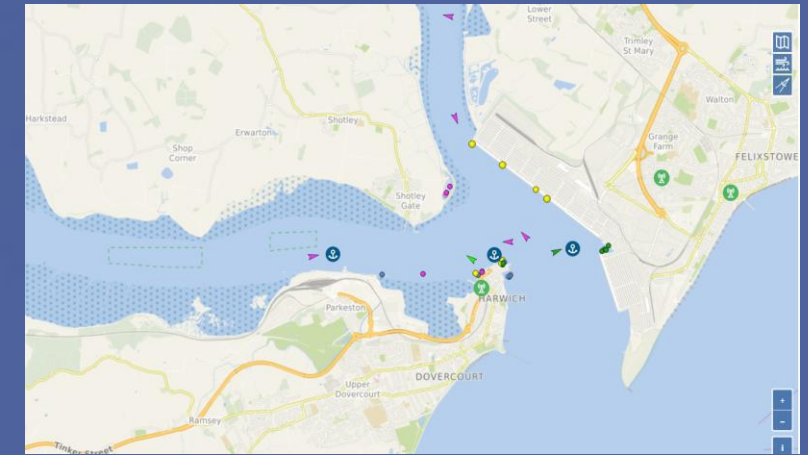


About us - Statutory Harbour Authority

Responsible for marine operations
in an area of 150 miles²

Providing services to:

- Five port operators (Port of Felixstowe, Harwich International Port, ABP Ipswich, Mistley, Brightlingsea)
- Shipping lines - MSC, Evergreen, OOCL
- Ferry operators
- Commercial fishing
- All types of vessels and leisure craft
- All users



Our Services

- **Vessel Traffic Services**
(active regulation and traffic management)
4000 commercial arrivals a year
- **Boarding and Landing Services**
- **Pilotage to Haven Ports**
3,500 pilotage acts a year
- **Maintenance of Haven**
Navigation Channels and Buoyage

Fleet of 4x pilot launches, Hornbill workboat, Egret surveying vessel



About Us – Trust Port Status

- Trust port, created by an Act of Parliament in 1863
- Independent statutory body
- Responsibility to manage, maintain and improve the harbour
- In 2024 completed a privately financed project (£130m) to deepen the channel to maintain container market share



What makes us different

- Our vision is *"to support the Haven as a thriving community committed to the preservation of its environment and the wellbeing and prosperity of its people."*
- Our Values:
Making Safety the Standard,
Creating Positive Impact,
Connecting as One Team and
Leading with Expertise



Freeport East

- One of 12 Freeports in the country covering Essex and Suffolk
- Set up to attract inward investment and jobs into the area and facilitate innovation and a low carbon economy including the Harwich Innovation Hub
- Through the Government, freeports have enhanced opportunities to access innovation and regulatory support, including financial resources
- Funding streams include the Clean Growth Fund
- Delivering the Freeport East innovation cluster connecting partner organisations, world leading universities and other local innovation networks to drive productivity, as well as new market opportunities for local businesses and inward investors.

**FREEPORT
EAST**

**Felixstowe
Gateway 14
Harwich**

A GLOBAL FREEPORT FOR A GLOBAL BRITAIN

Building the future
UK Freeports



Harwich Haven Authority and Sustainability

Harwich Haven's Sustainability Priorities

- To support our people & community to build a more resilient future together
- To conserve and protect our shared local environment
- To be leaders in sustainable innovation and carbon net zero



Social value – £40m by 2030

Using the TOMs framework to attribute monetary value to our actions



APPRENTICESHIPS

401 weeks of apprenticeships:

£124K
of Social Value



EXPERT HOURS

520 hours of expert time provided to the community:

£55K
of Social Value



EMPLOYING LOCALLY

111 full-time equivalent jobs within the definition of local:

£4.45M
of Social Value



INITIATIVES TO PROMOTE AND SUPPORT RESPONSIBLE BUSINESS

£13.8k invested locally

£13.8k
of Social Value



COMMUNITY SUPPORT

£305K invested in local community projects:

£305K
of Social Value



LIFE BELOW WATER

£104k supporting marine biodiversity projects:

£104K
of Social Value



VOLUNTEERING

143 hours of community project volunteering:

£2.5K
of Social Value



SPENDING LOCALLY

£1.4m spent in the local area:

£1.6M
of Social Value

BUDs at Levington Creek

- Routine marina maintenance with Suffolk Yacht Harbour



- Repurposed to restore eroding saltmarsh
- Beneficial for overwintering birds





Sustainable innovation in action
at Harwich Haven Authority

Tiamat – innovation in dredging

TIAMAT



Digital Optimisation

Problem

Limited ability to identify, monitor and quantify optimisation opportunities within the Pilot Launch Service

Innovation

- CMD6 funded feasibility study
- Progressed to pre-deployment trial

Results

Demonstrated the feasibility of a digital optimisation tool

Next Steps

Establish a broader stakeholder partnership to support continued development and future deployment



Innovate
UK

Business
Connect



PURPLE
SECTOR

Data-Led Decisions

Marfle

Problem

Need for a better understanding of vessel operations to support informed, data-driven operational and investment decisions.

Innovation

Deployment of the Marfle telemetry system

Results

Enabled evidence-based operational and investment decisions, including:

- Implementation of an 8-knot harbour speed limit.
- Completion of a duty cycle analysis

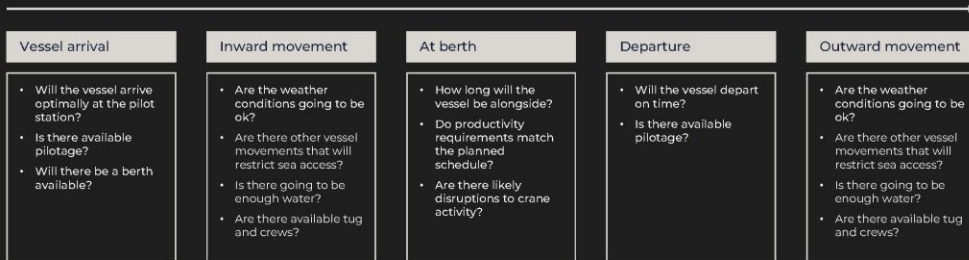


Capella – Our Digital Twin

+ Continuously updating operational picture.

A holistic workflow

Applying Unified Intelligence to complex marine port operations.



© entopy 2026

Problem

Needing to make more informed, strategic, time-sensitive decisions on vessel arrivals, berthing and wider Haven operations.

Innovation

Capella – a digital twin designed to 'mirror' operations and make predictions to better improve ETAs, ETDs, berth optimisation, pilotage and fuel efficiencies – in collaboration partnership with the Port of Felixstowe and Svitser

Results

An intelligent, data-led platform and joint venture with Entopy

Blue Innovation Opportunities

- Huge opportunities within the Harbour, rivers and estuaries of the Haven
- Collaboration, R&D, investment, innovation to drive sustainability
- Guardians of the UK's biggest container port – 40% of UK trade comes into HHA waters – vital to UK PLC
- Balancing economic progress with environmental responsibility



Harwich Haven Authority & Innovation Projects



What are Harwich Haven Authority looking for?

- Marine based innovation projects that support Harwich Haven as a Blue Innovation Zone
- Alternatively powered multi-purpose harbour vessels

Contact us for collaboration opportunities



Dr Jo North
CEO



Helen Rudd
Strategy & Partnerships
Director



Linzi Jobber
Sustainability Manager



Scan the QR code on the left to visit the HHA website and the
one on the right for our LinkedIn profile





Harwich
Haven
Authority

hha.co.uk

01255 243030

@harwichhaven



communications@hha.co.uk



Department
for Transport

Clean Maritime Assembly

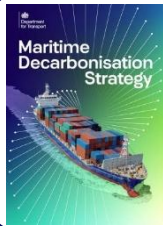
DfT CSA Keynote

24th June 2026

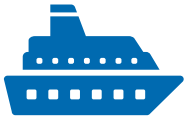
Maritime Decarbonisation Programme



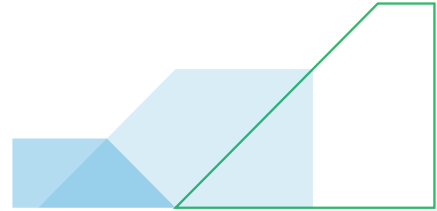
International Policy/Regulations



Maritime Decarbonisation Strategy
– Domestic UK Policy



UK SHORE R&D Innovation Grants



Decarbonisation Goals

01

An **interim goal** for the fuel lifecycle greenhouse gas emissions from UK domestic maritime to be

reduced by

30%

by 2030

compared to 2008

02

An **interim goal** for the fuel lifecycle greenhouse gas emissions from UK domestic maritime to be

reduced by

80%

by 2040

compared to 2008

03

An **overarching goal** for the fuel lifecycle greenhouse gas emissions from UK domestic maritime to

reach

zero emissions

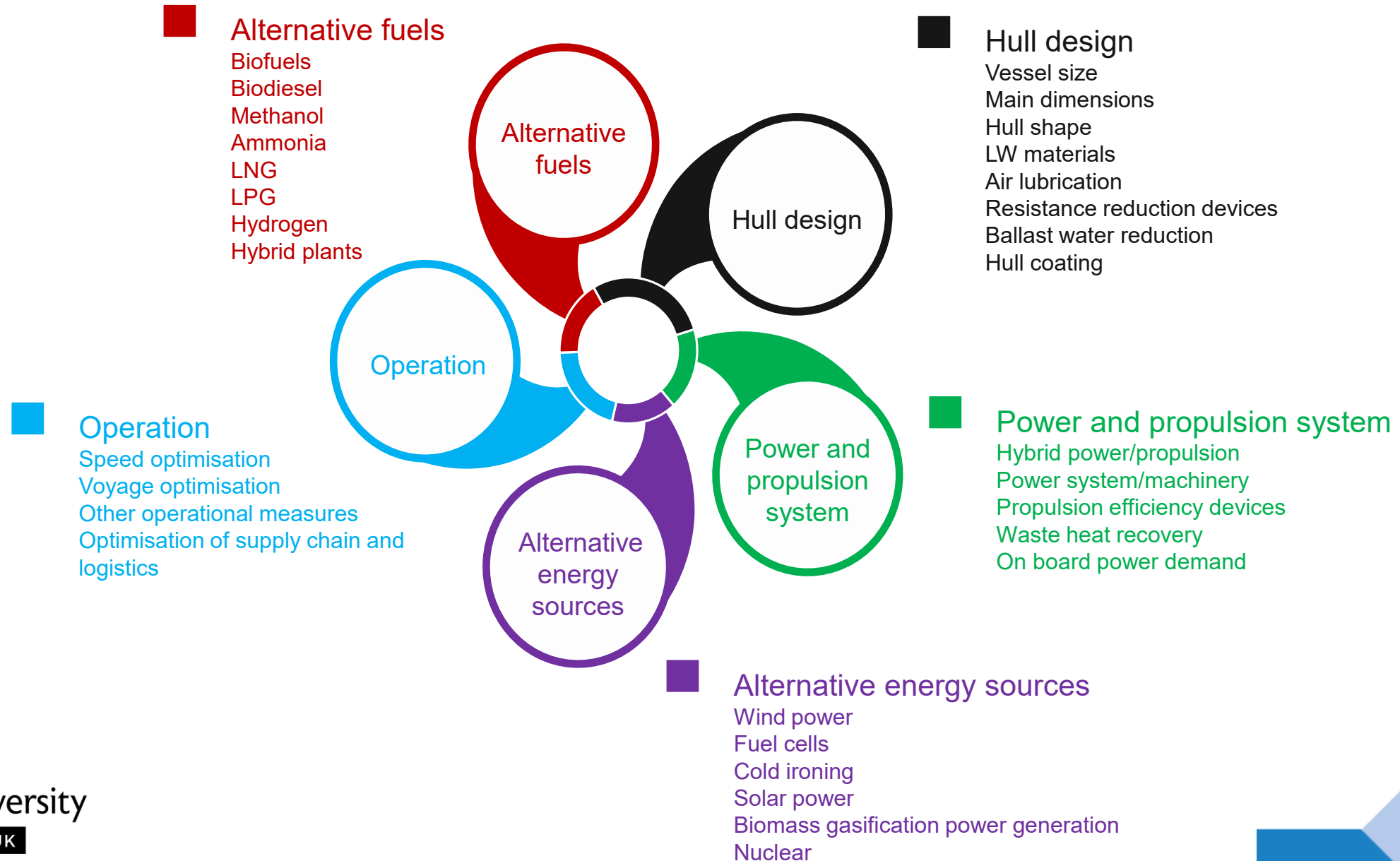
by 2050

Set in alignment with the highest ambition in the IMO's 2023 strategy.

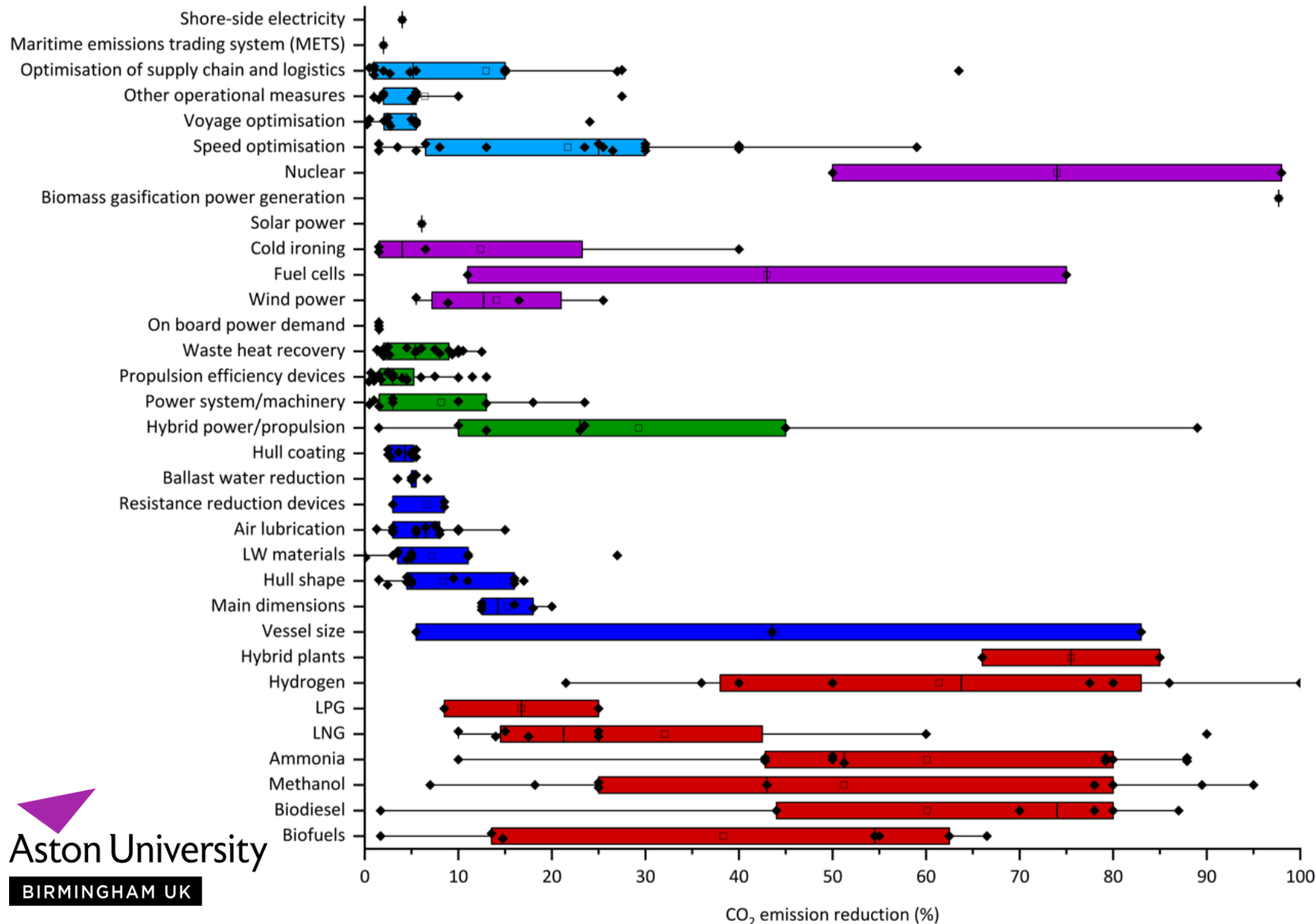
Page 14 of the Maritime Decarbonisation Strategy



Maritime Decarbonisation Options



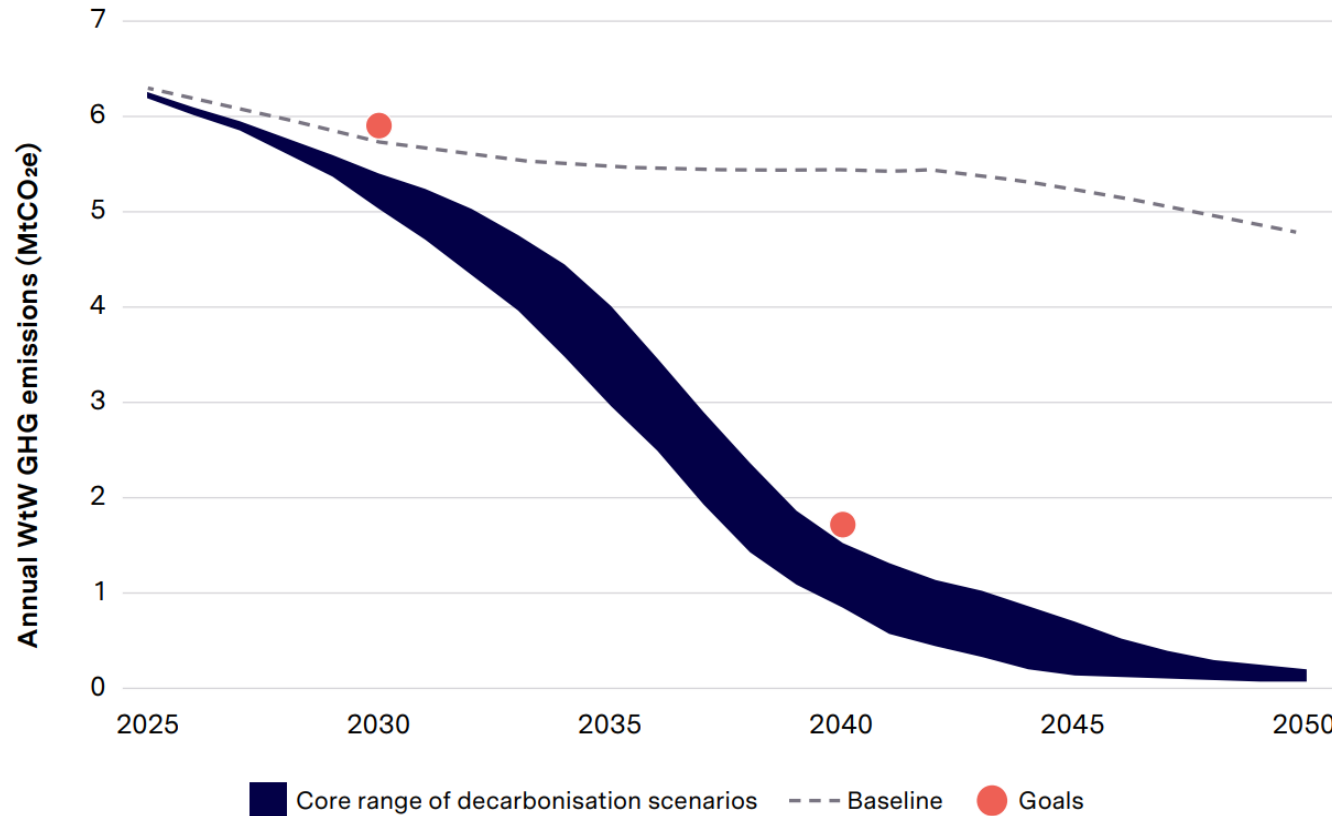
CO₂ Maritime Emission Reduction Potential



[Sina Fadaie, Patricia Thornley, Jean-Baptiste Soupez, A systematic review of technologies, measures, and CO₂ emission reduction potential for maritime transport decarbonisation, Advances in Applied Energy, 2025](#)

Key Policies

Figure 16: Estimates of the annual fuel lifecycle (WtW) GHG emissions from UK domestic maritime vessels under our range of illustrative decarbonisation scenarios (excludes inland waterways).



- **Fuel Regulation:** A UK fuel standard alongside EU and IMO measures
- **Emissions pricing:** UK ETS alongside EU ETS and IMO measures
- **Emissions at berth:** Launched a call for evidence to inform action on at berth emissions
- **Emissions from smaller vessels:** Launched a call for evidence to start policy development for these vessels which are not likely to be included in the above measures
- **Energy Efficiency:** Increasing the efficiency of maritime operations

With these 5 key policies, modelling shows the MDS goals are stretching, but achievable



Outputs and Impacts of UK SHORE so far

Launched **twelve competitions** since 2021



Allocated over **£260m** to over **200 projects***



Funding provided to **all 12 regions and nations** of the UK



Leveraged **£120m** in **private investment****



Supported over **500 organisations**, including **250 SMEs***



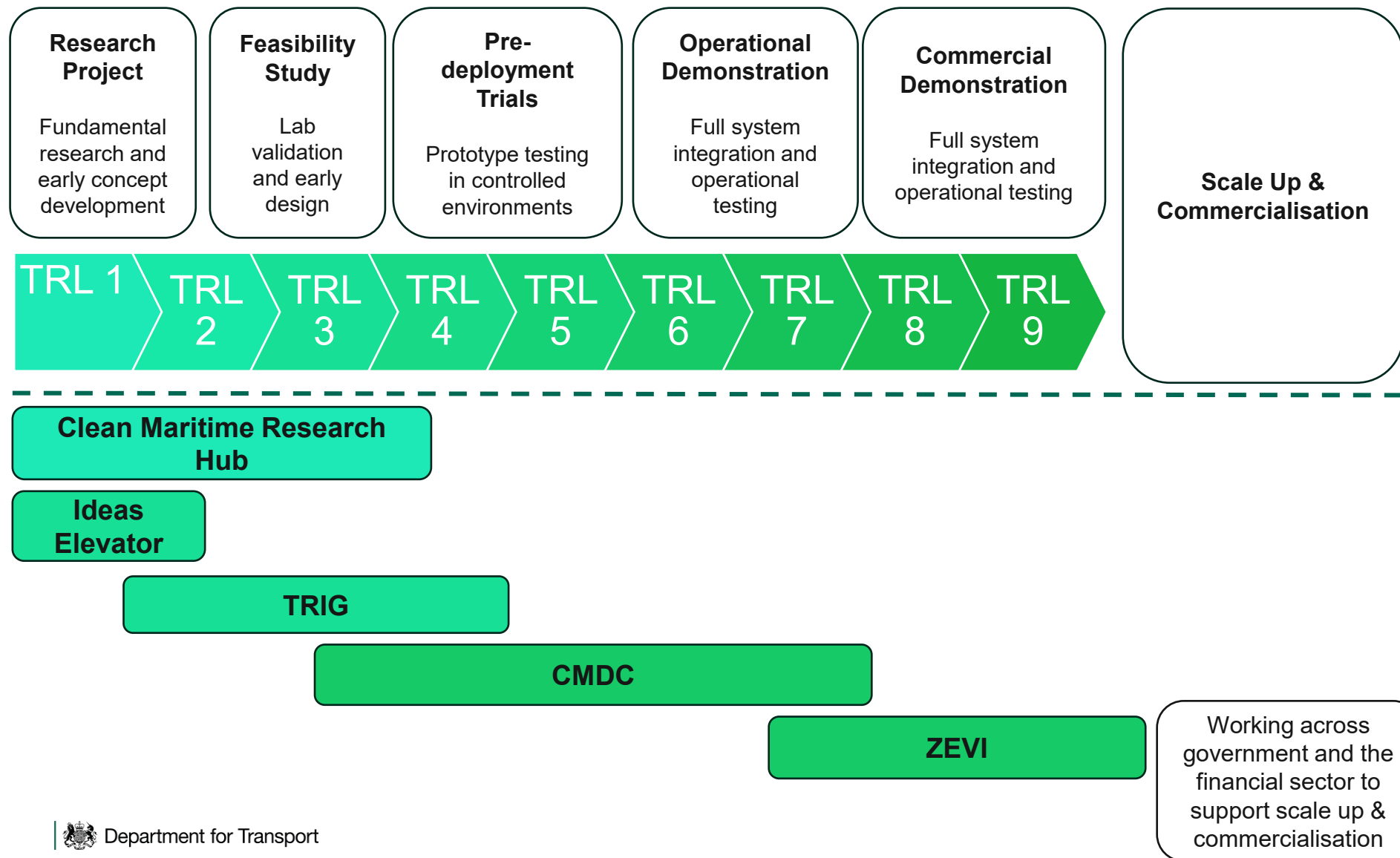
Completed projects have supported over **750 jobs** so far***



CMDC1-4 Project Distribution Map



UK SHORE Programme 2026 – 2030



- UK SHORE 2026-2030 will support projects through the technological readiness scale (TRL)
 - We are also exploring options of supporting international collaboration through the EUs Horizon Europe Programme and the Eureka Programme
- Find out more here:**



Thank You

csa@dft.gov.uk





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