



Innovation
Networks

Decarbonising
Ports and Harbours

Briefing Note

July 2020

WHAT ARE WE TRYING TO ACHIEVE?

The Innovation Network's overarching objective is to raise the profile of the critical part ports and harbours need to play in Maritime transport's transition to net zero by 2050 and accelerate this transition by giving clear direction.

The desired end-result of this community's work is a sector-led, compelling proposal for a government and industry partnership and stimulus package. This will include:

1. Agreed priority cross-sector challenges, informed by the current policy and solutions landscape
2. A road-map for solution development, that offer the best overall lifecycle emission reductions, to provide focus and early planning for longer term R&D and innovation investment
3. Agreed industry and government commitments and priority actions, including investment plan and timescales.

WHY ARE WE DOING THIS?

Climate change and air quality are the most pressing sustainability issues of our time - Net Zero by 2050, the Maritime 2050 Strategy, and Clean Maritime Plan set a new level of ambition for the UK.

The UK's ports are key gateways to international trade and core to the UK's supply chains, with around 95% of British imports and exports in goods moved by sea. Ports can play a key role in facilitating decarbonisation in the wider transport sector and there is enthusiasm across the sector to address this shared agenda, but recognition that no single industrial player can address the scale and complexity of the transformation needed alone.

The UK could be global leaders in creating global markets through clean-growth technology, which is more timely than ever, in the context of COVID recovery and staying competitive with the EU.

At present, a gap exists between policy ambition and available solutions for the sector. There is no silver bullet, a range of options exist or will emerge, but industry needs a level of certainty that the significant nearer term investment they make in maritime infrastructure will not lead to stranded assets.

Now is therefore the time to build on the policy frameworks set out by Government to define a 'high ambition' emissions reduction plan for the sector and help deliver the significant increase in technology commercialisation and uptake that is necessary.

HOW WILL WE ACHIEVE THIS?

This Innovation Network, facilitated by KTN, will convene a community of knowledge to coordinate efforts in addressing the challenge of decarbonising ports & harbours.

The outline programme will involve the following (to evolve as necessary), with key deliverables in green.

Headline Activity	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Online launch - build the IN community via portal/events																
Mapping Working Group: map sector challenges & solutions																
Air Pollution Working Group: sources, scale and impact																
Fuel Source Working Group: review of fuel vectors / sources																
Regulatory Working Group: existing and what's needed																
Benefits Analysis Working Group: mapping costs to value																
Develop Landscape map (from outputs of above / workshops)																
Host series of Challenges via Innovation Exchange , to understand solutions	<i>Note: timescales will depend on readiness of sponsoring organisations</i>															
Further analysis of available solutions, including facility visits																
Develop Solutions map (from outputs of above/workshop)																
Develop Investment plan																

[1] The timescales for Innovation Exchange hosted challenges will depend on readiness of sponsoring organisations.

Please note: Timescales are approximates and may vary.

WAYS OF WORKING

An overall advisory group will maintain strategic direction along with other key roles, for example, reviewing ToR for working groups, setting workshop objectives and engaging others.

A series of working groups will develop detailed outputs, and broader stakeholder workshops will be held to review key outputs.

An online portal will drive online engagement for specific actions and to engage the wider community.

Meetings will be held online until face to face meetings are possible.

Scope

This Innovation Network is focused on addressing the challenge of how to decarbonise port operations (landward side) to reduce emissions of greenhouse gases arising from maritime activities. This will include a focus on carbon dioxide, nitrogen dioxide, sulphur dioxide and particulates, which are the primary gases and emissions responsible for climate change and localised poor air quality. This will include emissions from:

- Port plant, equipment and port related road vehicles
- Port vessel energy: Pilotage, tugs, patrol vessels, etc

The wider strategies for road vehicles; visiting vessels (including activities like dredging) and rail freight will be taken into consideration but will not be defined by this group.

The Innovation Network will focus on major ports and harbours that have a cross section of usage including cargo, ferries, and containers, thus addressing a broad range of issues.

The scope is focused on UK ports, but will take in to account relevant international activity.

Exclusions: The Innovation Network will not focus on the following aspects of decarbonising the maritime sector:

- Non-operational energy usage (i.e. energy not related to passenger or freight movements and embedded carbon);
- Port lighting and building emissions (as these are not significant in the context of ports and solutions readily exist to address these);
- Emissions arising from vessel operations whilst outside of port;
- Minor ports and harbours, with no handling equipment or serving the sole leisure and fishing sector.

Advisory Group

The following organisations have agreed to be active members of the Advisory Group.

Associated British Ports	Connected Places Catapult	Royal Navy
BAE Systems	Dept of Transport	UK Chamber of Shipping
BEIS	Forth Ports Limited	UK Defence Solutions Centre
Birmingham Centre for Railway Research and Education	Maritime UK	UK Major Ports Group
British Ports Association	MarRi-UK	UKRI – Innovate UK
Carbon Trust	Offshore Renewable Energy Catapult	Vattenfall
	Road Haulage Association	

Working Groups

The initial working groups envisaged as part of the Innovation Network are:

NAME	AIM	CHAMPION	KTN LEAD
Mapping	Mapping the high-level challenges (who owns the facilities; who operates them; what energy are they using now & in the future; who visits the facilities and what are their energy needs now & future). Understanding existing activity underway, and priority 'gaps' the Innovation Network needs to focus on.	Tim Morris - UKMPG	Matthew Moss
Fuel source	Review of what fuel vectors/sources there are for the different users/ equipment.	Giulia Rado - Carbon Trust	Matthew Moss
Air pollution	Review of sources and scale of air pollutants and their impacts - harvesting Clean Air SIG.	Ben Murray - Maritime UK	Simon Buckley
Regulations & policy	Review of existing and what areas need to be addressed to facilitate the change.	Mark Simmonds – BPA	Simon Buckley
Benefit analysis	Mapping costs to value and assigning to beneficiaries.	TBC	Mark Wray

Key Contacts

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KTN Innovation Exchange:	https://ktn-uk.co.uk/programmes/ktn-ix