

IRISH SEA GREEN SHIPPING CORRIDOR

IUK Pulse Programme

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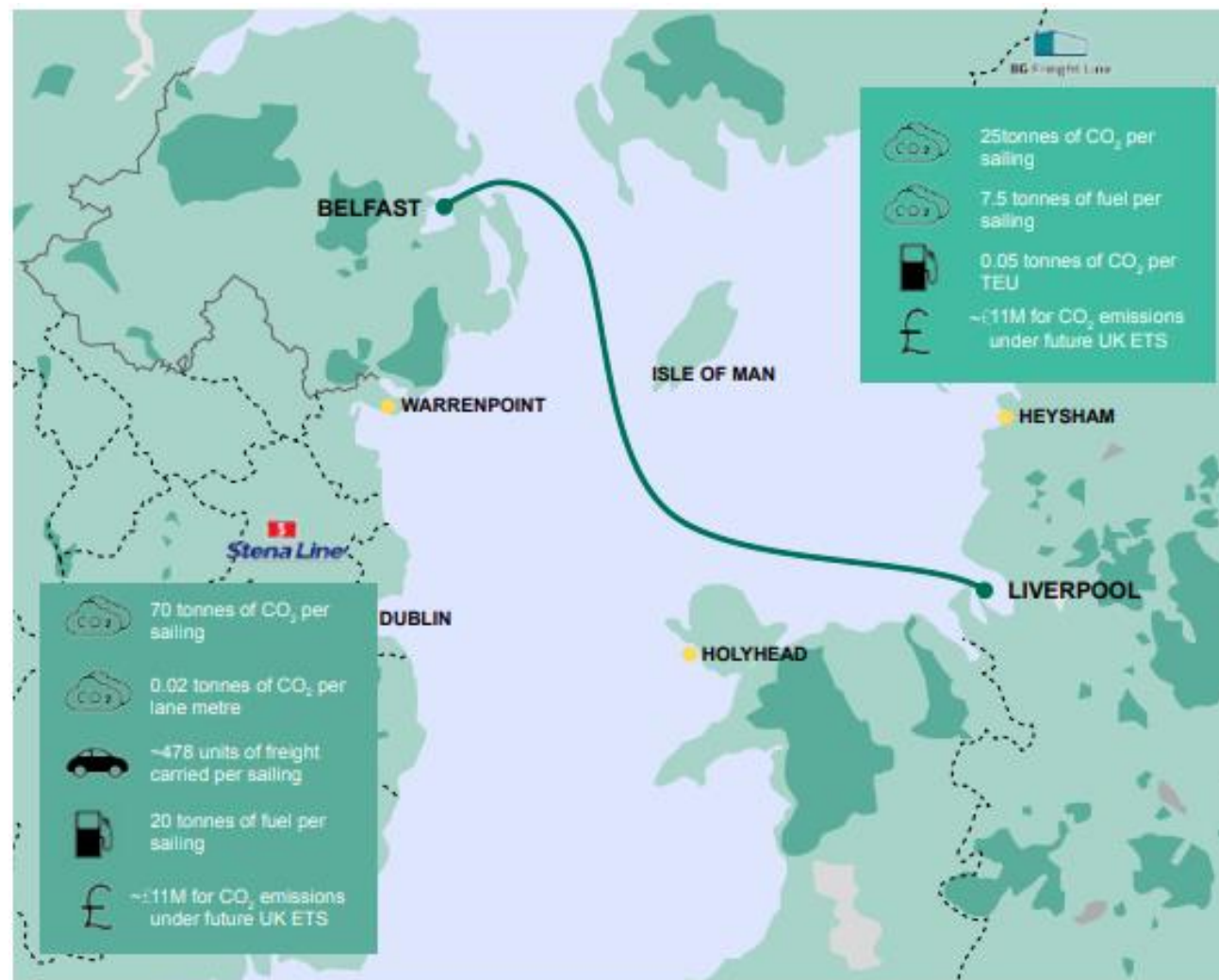
A concept study exploring means to provide clean energy to berthed vessels & propulsion solutions



Thank you to all of our contributors and stakeholders who attended industry, project and civic leader workshops

- B9 Energy
- Belfast City Council
- Belfast Harbour
- BG Freight
- Cammell Laird
- Department for Transport
- Innovate UK
- Invest NI
- Isle of Man Maritime
- Isle of Man Steam Packet
- JG Maritime Solutions
- Liverpool City Council
- Liverpool City Region Combined Authority

- Liverpool John Moores University
- Mersey Maritime
- NI Maritime & Offshore Cluster
- Peel Ports
- Queens University, Belfast
- Royal HaskoningDHV
- Stanlow Terminals
- Stena Line
- Strategic Investment Board (NI)
- Svitzer
- University of Liverpool
- Wirral MBC
- World Kinect Corporation



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Key findings



Existing infrastructure is capable of but needs adapting to take methanol and low carbon fuels.



Significant investment is needed in national grid.



Design and deliver new terminal infrastructure

Collaboration is essential.

No single solution will solve the complexities of decarbonising the corridor.

A combination of e-methanol and shore power are the most promising solutions for decarbonising vessels and owners are already preparing.

Innovation is expensive and risky, yet scaling is needed for financial viability.

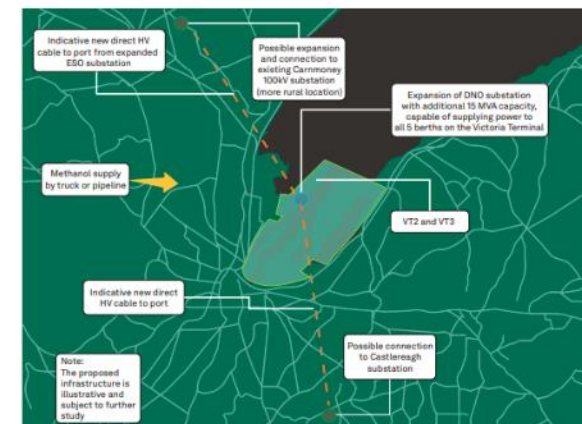
Port of Liverpool

The figure below provides an overview of the potential future changes within the Port of Liverpool to support the green shipping corridor development.



Belfast Harbour – VT2 and VT3

The figure below provides an overview of the potential future changes to support the green shipping corridor development in VT2 and VT3 in Belfast Harbour.



GREEN SHIPPING CORRIDORS AN ECOSYSTEM FOR CHANGE



Place leadership

Support amongst local and government leaders to advocate policy change, funding opportunities and to address barriers to progress.



Skills & resources

Investment in local facilities to create staff skills in new energy management and engineering, to support green shipping and provide wider regional economic benefits.



Policy & regulation change

New policies and regulations to provide certainty for investors and support the safe and standardised adoption of new technologies.



Investment sources






From both the public and private sectors to incentivise progress and risk-taking within the maritime environment, to drive innovation.




GREEN SHIPPING CORRIDORS PROJECTS



A range of 29 pilot projects has been developed in collaboration with industry representatives, seeking to build on their motivations and existing plans.

Symbols key

Estimated budget range for implementation		Benefit	
£	Under £250,000		Reduction in carbon emissions directly
££	£250,000 to £1M		Improved business and climate resilience
£££	Over £1M		Provision of skills and learning
			Social benefits to community
			Improvement of local air quality
			Commercials gains (cost, revenue, profit)
			Improvement in operational safety

Trial production of e-methanol and methanol diesel blends as marine fuel		
Aim: To have a trial production (and plan for scale-up) of e-methanol and methanol-diesel blends, using offshore wind energy and industrial collaboration for feed/waste.	Theme	Energy Supply
Design the process and identify a site for a trial production of e-methanol. This uses power from offshore wind (zero-carbon) and biogenic CO ₂ as a (waste) product from water treatment or industrial waste to blend into e-methanol liquid fuel. The waste heat generated can be supplied to local industry or residential purposes. Methanol will be generated, stored and then used on Irish Sea vessels (or port workboats) to both reduce carbon emissions directly and show the benefits/lessons for methanol usage in shipping locally.	Location	Belfast
	Potential Sponsor	TBC
The project will create a demonstrator for e(lectro)-methanol generation, partnering with local industries, for supply to shipping in Belfast. This will capture valuable lessons for further scale-up planning and investment.	Stakeholders	QUB, Stena Line, Barnets, network and generators.
	Benefits	  
Learnings:	Cost	£££
<ul style="list-style-type: none"> Develop methods for e-methanol generation. Handling, storage and distribution of e-methanol to shipping and ports. Effectiveness of methanol-diesel blends as an emission-reduction option for today's fleet. Identify infrastructure, skills and tools to support scale-up of methanol generation. Informs engine design and naval architecture for new vessels. 	Duration	2-5 years
Risks and Constraints:		
<ul style="list-style-type: none"> Technological challenges in e-methanol production. Securing consistent supplies of biogenic CO₂. Establishing reliable CO₂ sourcing agreements. 		
	Project ref	29

GREEN SHIPPING CORRIDORS CALL TO ACTION



Stakeholder group	Call to action
Government	<ul style="list-style-type: none">• Align UK ports with EU carbon & vessel emissions policies• Support Irish Sea port investment in infrastructure & alternative fuel supply• Set new fuel regulations & codes
Shipping lines	<ul style="list-style-type: none">• Pressure ports to provide new fuels and onshore power supply for vessel calls• Standardise connections for shore power in newbuilds• Demonstrate e-methanol demand to seed supply projects
Port operators and investors	<ul style="list-style-type: none">• Shape long-term return on investment to execute power infrastructure and generation investments• Ask government for firm policy and investment to support planning for onshore power and alternative fuel supply• Operate carbon-efficiently (using metrics to drive and monitor progress)

WHAT NEXT

Socialising with key decision makers and investors between August and September

- NIMO 3/9
- Belfast Sustainability Meeting 5/9
- LCR Mayor and Leader 11/9
- September 24th – MM event 1030 -12 soft launch during Labour Party conference – Mike Kane / Maritime UK/ LCR/Peel ports
- October – Royal Haskoning will speak at a conference abroad Lisbon
- 5-7 November – Smart Cities Expo/Smart Ports Liverpool and Belfast are part of our Delegation



THANK YOU

We'd welcome thoughts on the vision & other planned activities

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