



CENTRE FOR RESEARCH INTO
ENERGY DEMAND SOLUTIONS

Local conditions and decarbonisation: UK Marine Hydrogen Case Study

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Aims:

- Identify the key UK locations for innovation clusters, surrounding hydrogen/ammonia as marine fuels
- Highlight possible socio-technical transitions towards sustainability in maritime shipping.
- MarSTF – **M**aritime **S**ustainability **T**ransitions **F**ramework – based on sustainability transitions literature



Methodology and methods:

- GloTraM for context and future demand understand, then apply MarSTF to 3 cases
- **Quantitative data:** Statistical data, and local geographic data
- **Qualitative documentary data:** Data on local, regional and national policy developments
- **Qualitative interview data:** Interview data expanding insights



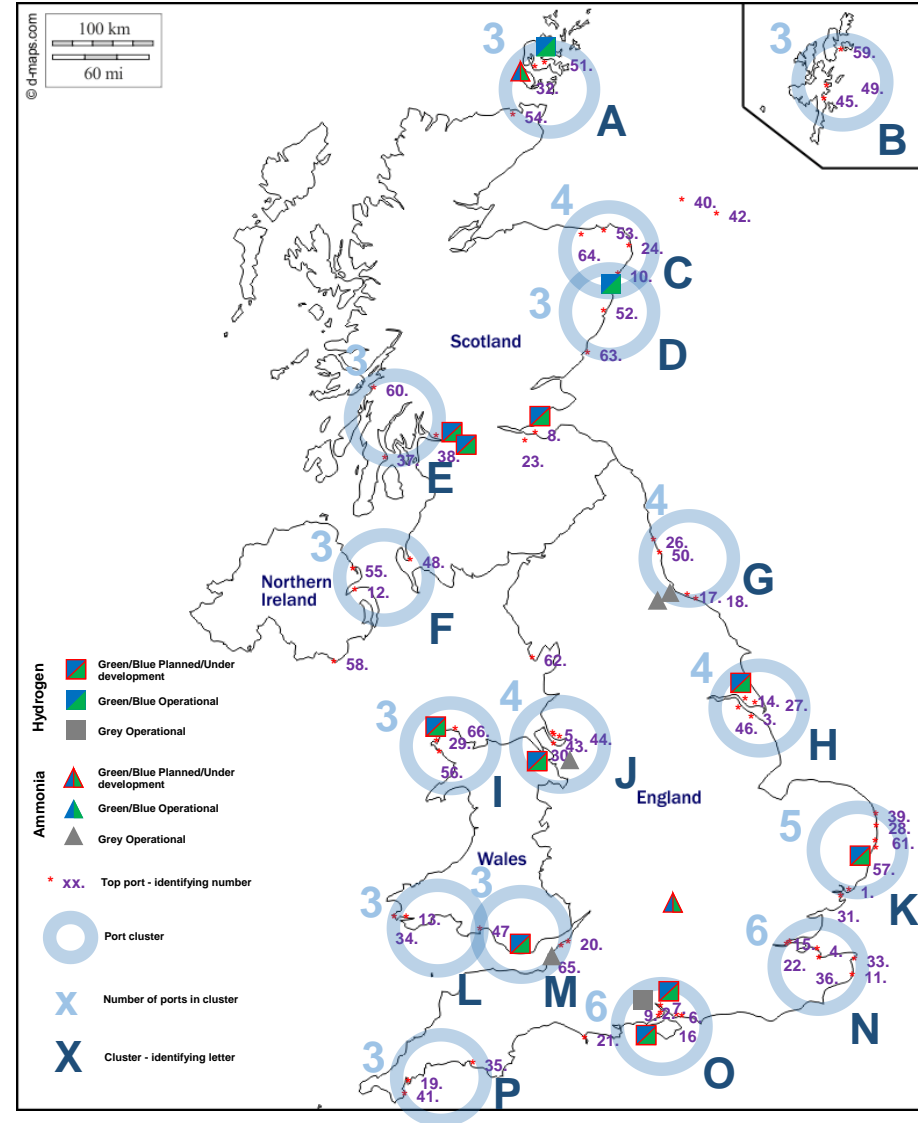
Identifying the indicators:

1. Infrastructure
2. Policies/finance
3. Actors/Networks
4. Local demand characteristics
5. Shipping niches/other



Clustering:

1. Minimum 3 identified ports within 50km radius
2. Cluster used also to define geographic proximity of other relevant endowments
3. 9 clusters identified



3 qualitative cases:

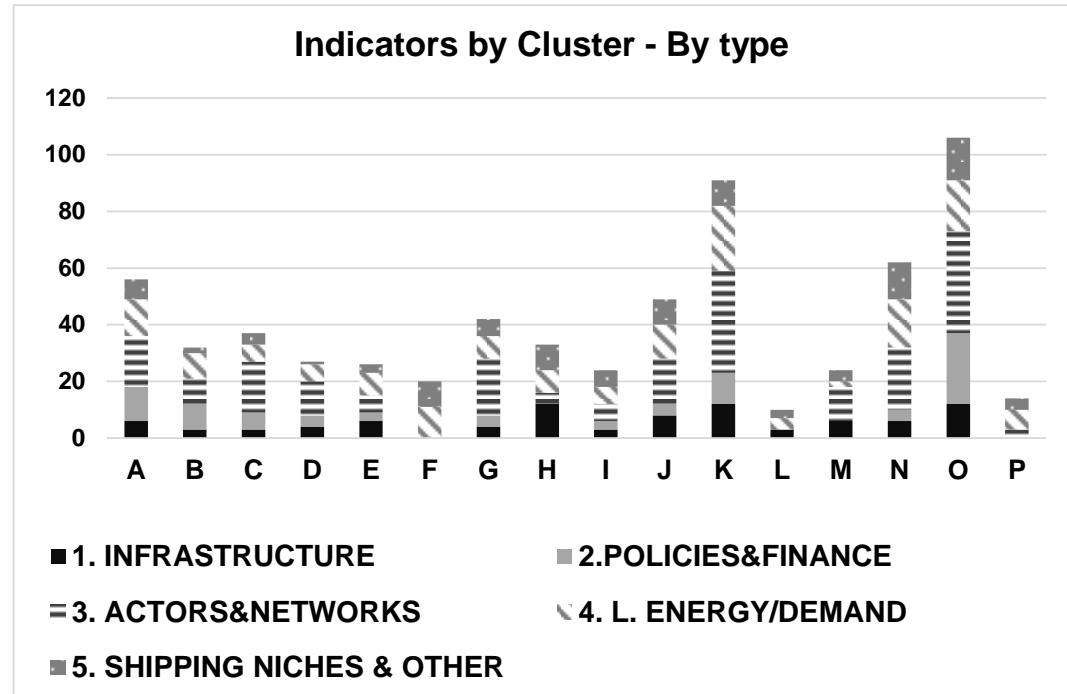
	Case 1 (Orkney)	Case 2 (Dover)	Case 3 (Solent)
1. Infrastructure	MEDIUM	LOW	MEDIUM
2. Policies and finance	HIGH	LOW	HIGH
3. Actors/networks	HIGH	MEDIUM	HIGH
4. Energy demand/local characteristics	HIGH	MEDIUM	MEDIUM
5. Shipping niches and other	MEDIUM	MEDIUM	MEDIUM

- Orkney, Dover and Solent – 3 diverse cases with unique perspectives
- Used to refine quantitative indicators and provide unique local narratives of decarbonization



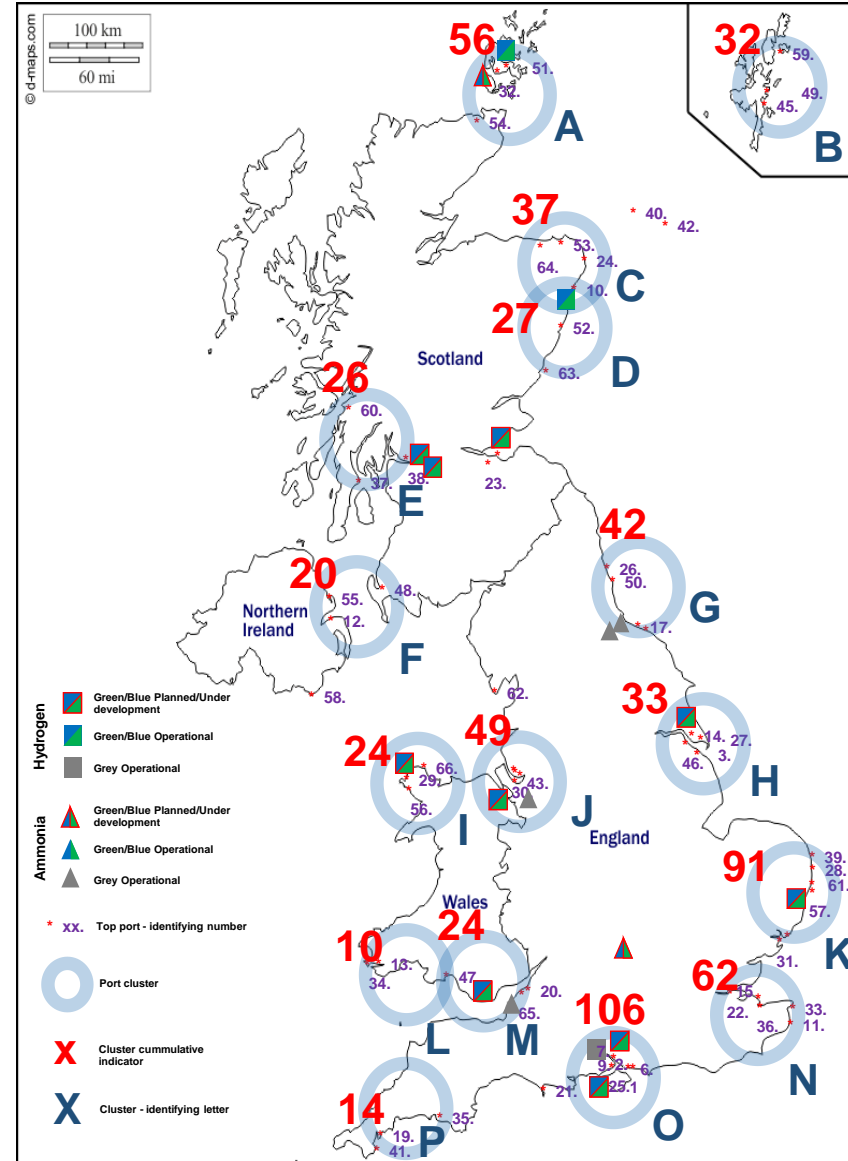
Indicators:

- Significant variability
- Lack of actors
- Variability of conditions
- Variability of niches
- Local pressures



Mapping:

- Quantitative analysis: traffic type, industry segments, liner routes, etc.
- 3 Clusters – qualitative in-depth interview analysis



To consider:

- **Safety:** perception, regulation, location
- **Location:** synergies, local supply (electricity vs liquid fuel)
- **Ports:** actors/networks, port type/structure (private/municipal/trust), local area



Thank you.

