



Net Zero North Sea

The challenges and realities of renewable integration

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The History of EMEC



32

devices

20

developers

11

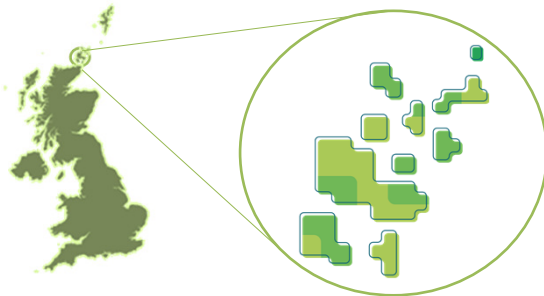
countries



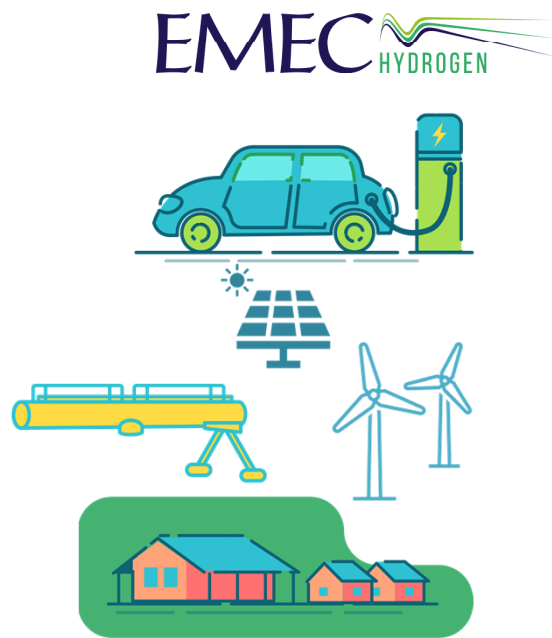
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Orkney – Energy Use



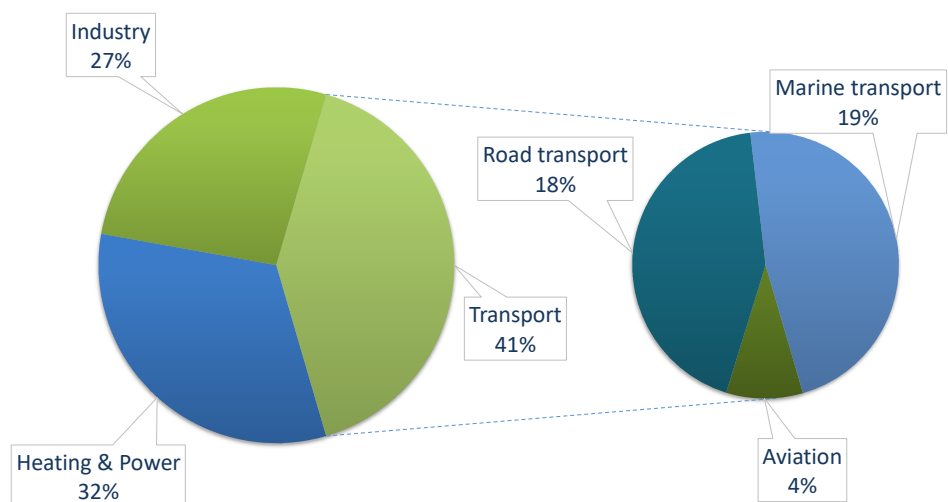
22,190 people
732 GWh Energy Use
Net exporter since 2013
Net Zero ambition



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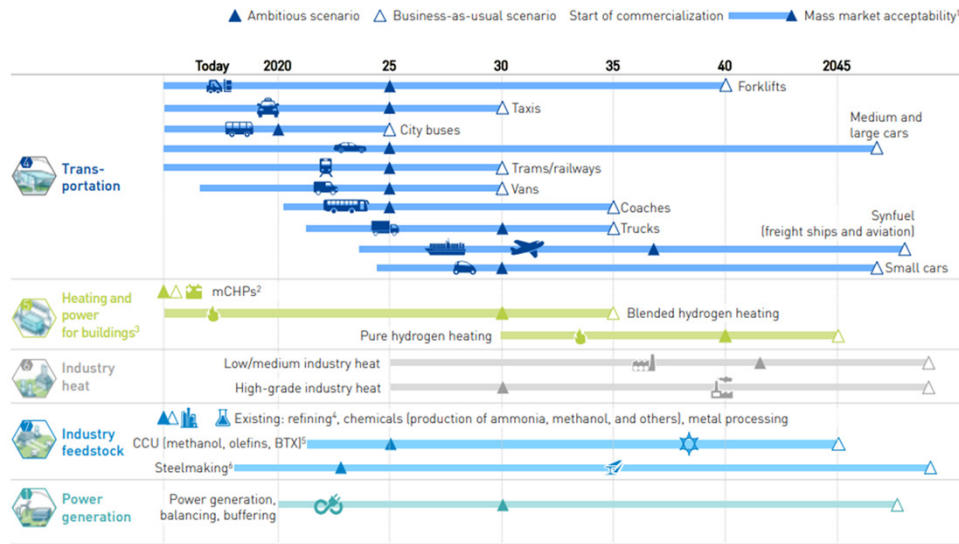
Detailed Energy Use



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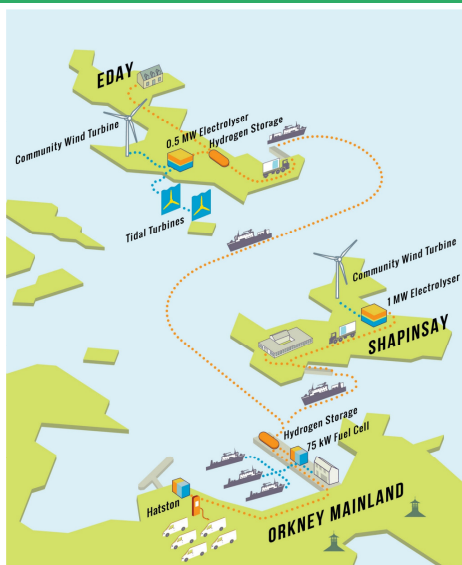
Hydrogen – What for?



Source: Hydrogen Council © www.emec.org.uk

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H2 at EMEC

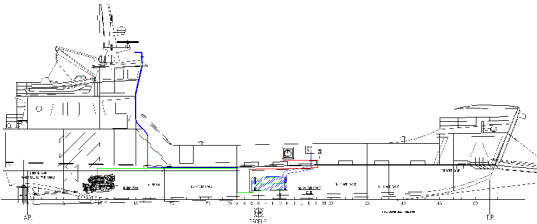


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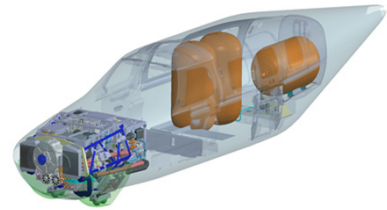
Boats

Surf n Turf – cold ironing
Big Hit – (+vans and boilers)
Hydyme – auxiliary power - afloat



Planes

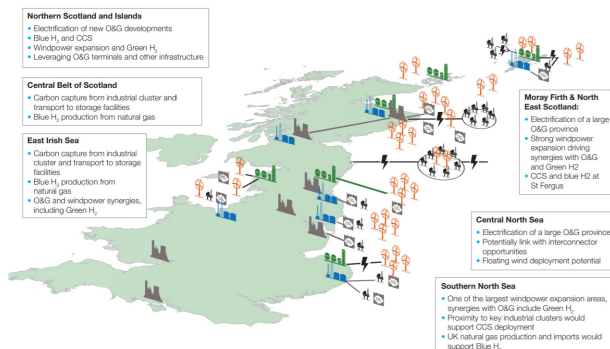
HyFlyer



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Topsides 2050?



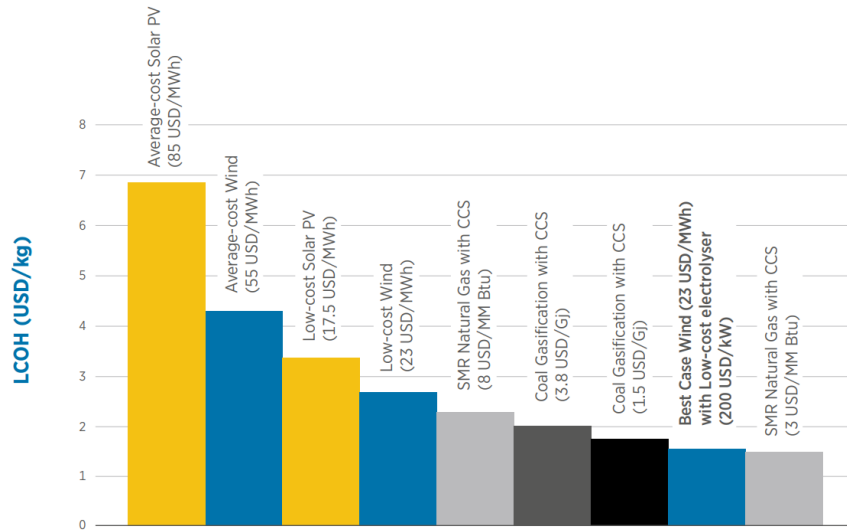
Source: OGA

- Will platforms still be producing oil and gas?
- Will there be a topsides? Or will everything have gone subsea?
- How will assets be powered?
 - Traditional natural gas and reinjecting CO₂ produced?
 - Renewables? – perhaps, offshore wind very likely but will still be intermittent
 - Could produce, store and consume H₂, but only adds to inefficiency
- Supply of oil will probably continue largely in present form
- Gas
 - Stripped of CO₂ at source? Steam Methane Reforming with CCS – export hydrogen or derivative?
 - Onshore or offshore conversion?
 - Will demand emerge too late for 'blue' hydrogen?
 - Will green hydrogen undercut it?

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Green Competition

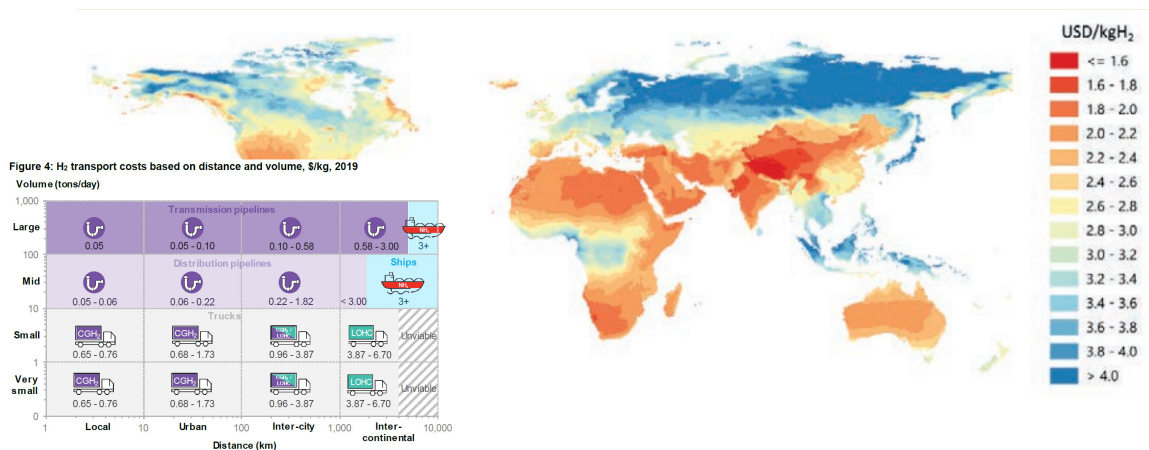


Source: IRENA

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Huge Potential



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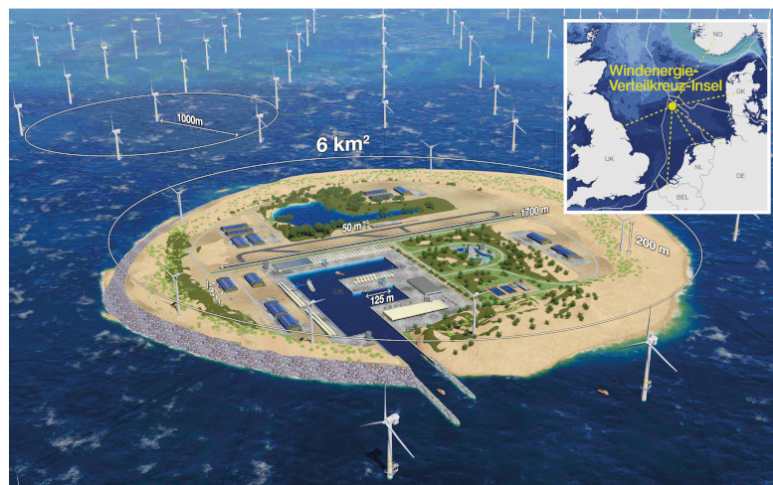
Where do we start? Safety 1st



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The future really is bright for the sector



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