

Alternative fuels, an alternative to electrification?

Topsides UK 2023 - Techbyte

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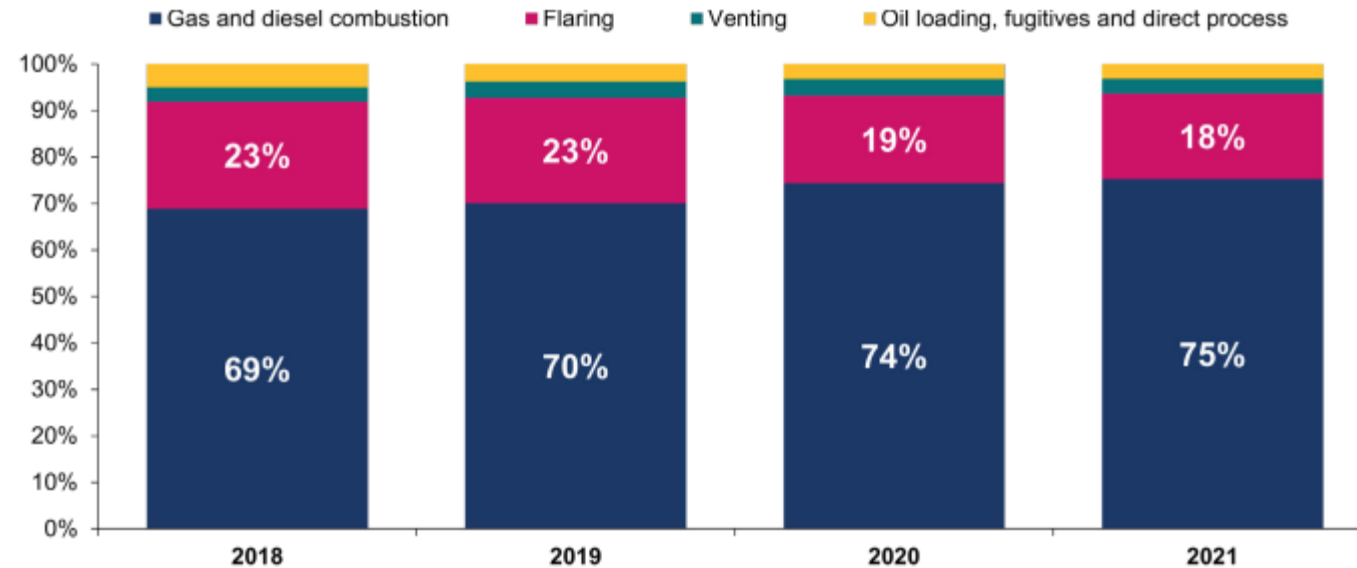


Oil and gas decarbonisation



- Asset located around 350km Northeast of Aberdeen
- Power is currently provided by 4 diesel/gas dual fuel engines
- Switching to an alternative fuel viewed as potential option to decarbonise power generation
- Project considered hydrogen, ammonia, methanol and alternative diesel

Industry GHG emissions per source 2018-2021

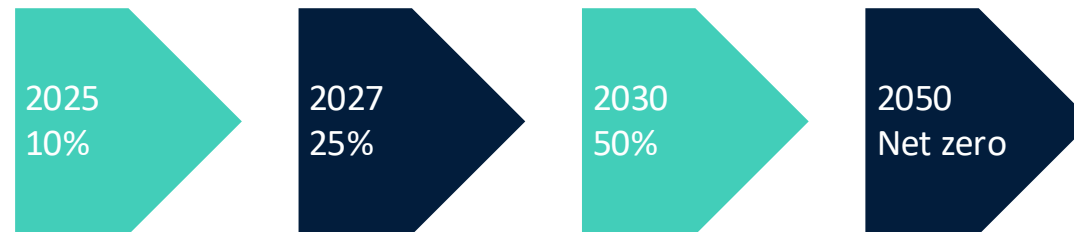


Source: NSTA Emissions Monitoring Report 2023

Motivation

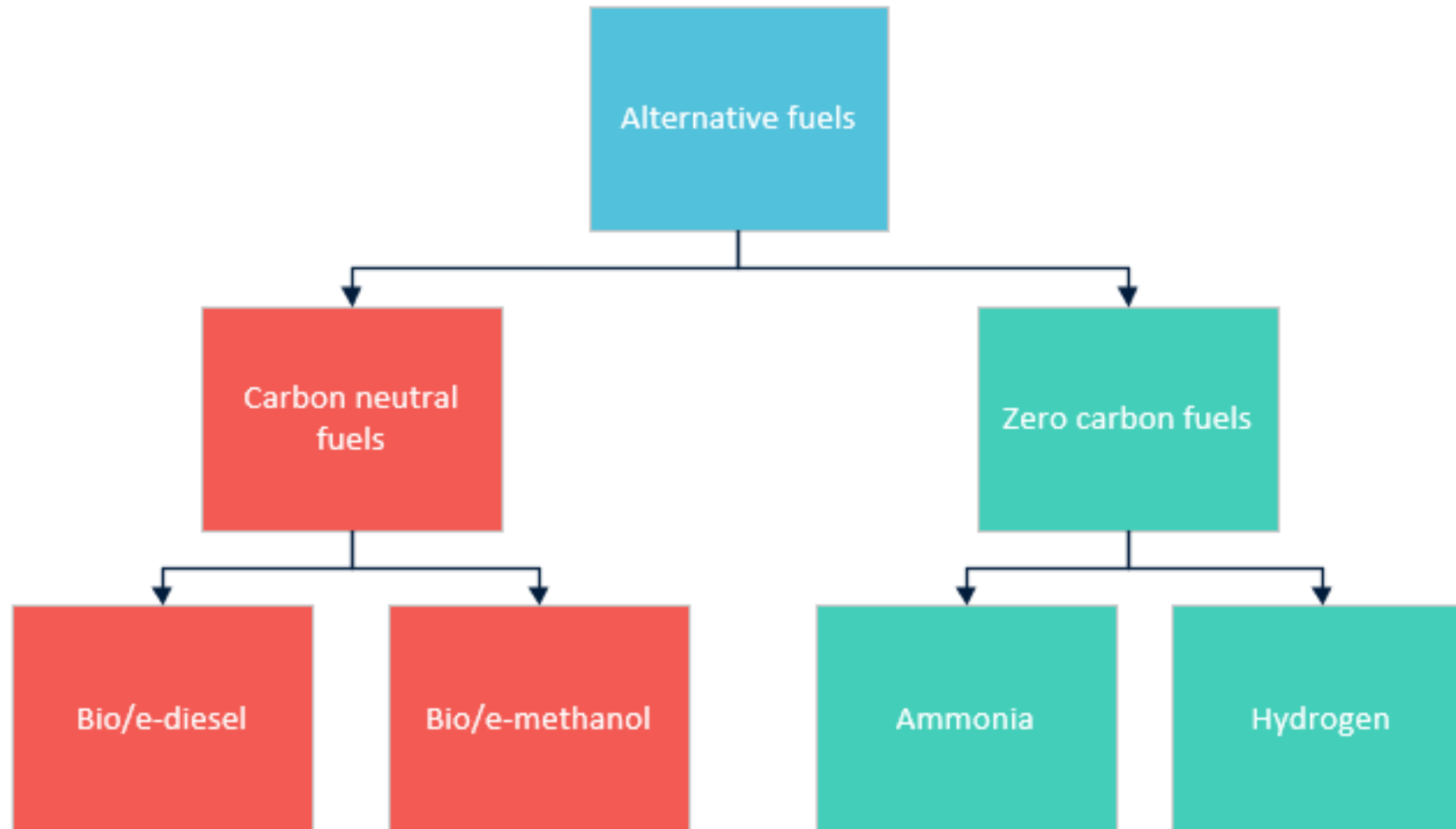


- The North sea Transition Deal has outlined stringent targets to slash emissions.
- Growing public sentiment towards oil and gas is driving operators to reduce emissions to maintain their social license to operate.
- Easy to implement measures for reducing emissions are becoming exhausted.
- To achieve the targets set out in the NSTD measures such as electrification or switching to low carbon fuels will be required.
- Electrification is not a feasible option for all assets.
- Power is the single greatest contributor to GHG emissions in the sector



North Sea Transition Deal emission reduction targets

Alternative fuels



Study results



Table 1 Scenario Ranking

Fuel Option	Cost	Emissions	Technology
Bio/e-diesel	Green	Orange	Green
E-methanol	Red	Orange	Orange
Ammonia	Red	Green	Red

Table 2 Scenario Ranking Criteria

Item	Cost (£10 ⁶)	Emissions	Technology
Green	<5	Zero carbon emissions	Commercially available
Orange	5-10	Carbon neutral	Nearly commercially available (within 2 years)
Red	>10	Minor carbon emission reduction	Early development stages

Next phase



Objective – To provide all the information required to make a go/no-go decision on the use of an alternative diesel on the asset

Ambition – Carry out a field trial using an alternative diesel during 2024

Project elements:

- Fuel blending evaluation
- Evaluate operational impacts
- Determine logistics and supply chain
- Techno-economic assessment

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