

A dark, atmospheric photograph of a sailboat's deck and rigging against a stormy sea. The image is in black and white with a dark, moody tone. The foreground shows the wooden deck of the boat, with various pieces of equipment and rigging visible. The background shows a turbulent sea with white-capped waves under a dark, overcast sky. The overall mood is one of resilience and adventure.

Sailing away from fossil fuel

Methanol conversion of a trawler

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An aerial photograph of a fishing vessel, likely a trawler, sailing on a dark blue sea. The vessel is white with a dark hull and is moving away from the viewer, leaving a white wake. The ship's deck and superstructure are visible, and the water around it is slightly churning.

UR Seafood

Icelandic seafood company

One of the largest seafood companies in Iceland

Strong focus on sustainability

UNBROKEN[®]
Real time recovery



RAFNAR

UR seafood

- UR innovation

**ÚTGERÐARFÉLAG
REYKJAVÍKUR HF.**



43.97%

- Investments in the seafood industry

Sustainability

GOVERNANCE

SOCIAL

ENVIRONMENTAL



Recent
development in
the Icelandic
Seafood &
Fishing industry

Reduced CO2

- Better engines
- Improved design
- Higher catch kg/hour

Fish meal plants

- Electrification of:
 - Boilers
 - Dryers

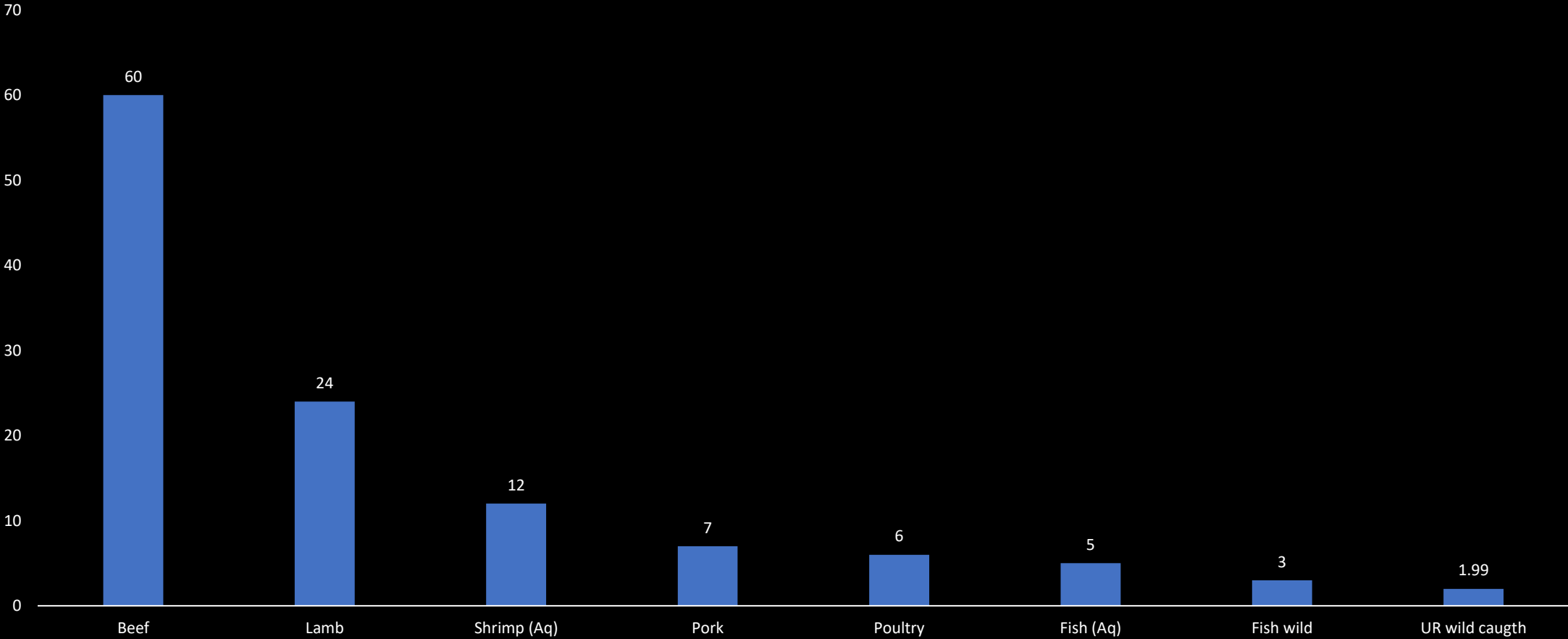
Gudmundur í nesi

- Built 2000
- 66m long & 14m wide
- Crew of 24

- Focus on deep water fishing,
Greenland halibut



Total CO₂ Emission kg/kg



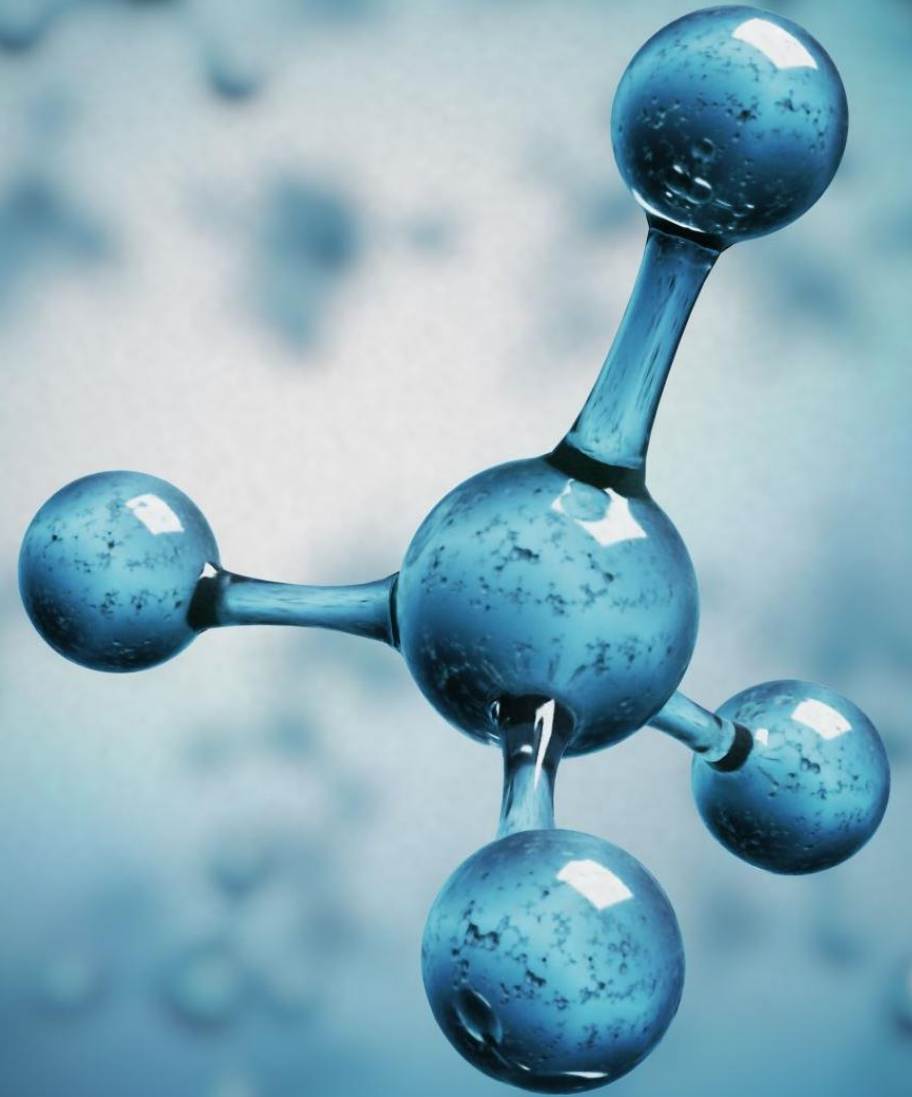
Sailing away from fossil fuel

- Objectives
 - Reduced CO2
 - Increase knowledge on operating a vessel using eFuel
 - Strengthen our position as a leading seafood company



eFuel options

- Hydrogen H_2
- Ammonium NH_3
- Methanol CH_3OH



eFuel uncertainties

- Supply
 - Both quantity and service locations
- Pricing
 - Fluctuation
 - Correlation with other energy prices
- Carbon taxation
 - No Official Policy in Place

Operational Constraints

- Safety
- Trip length, approx. 30 days (Max 40)
 - Cargo Space
 - Fuel tanks
- Financial sustainability
 - Current fuel cost approx. 15%

Options

- Current Ship
 - Methanol for three to four days
- Current ship, extended 16-18m
 - Methanol
 - Ammonia
 - Hydrogen
- New ship
 - Methanol
 - Ammonia
 - Hydrogen

Methanol

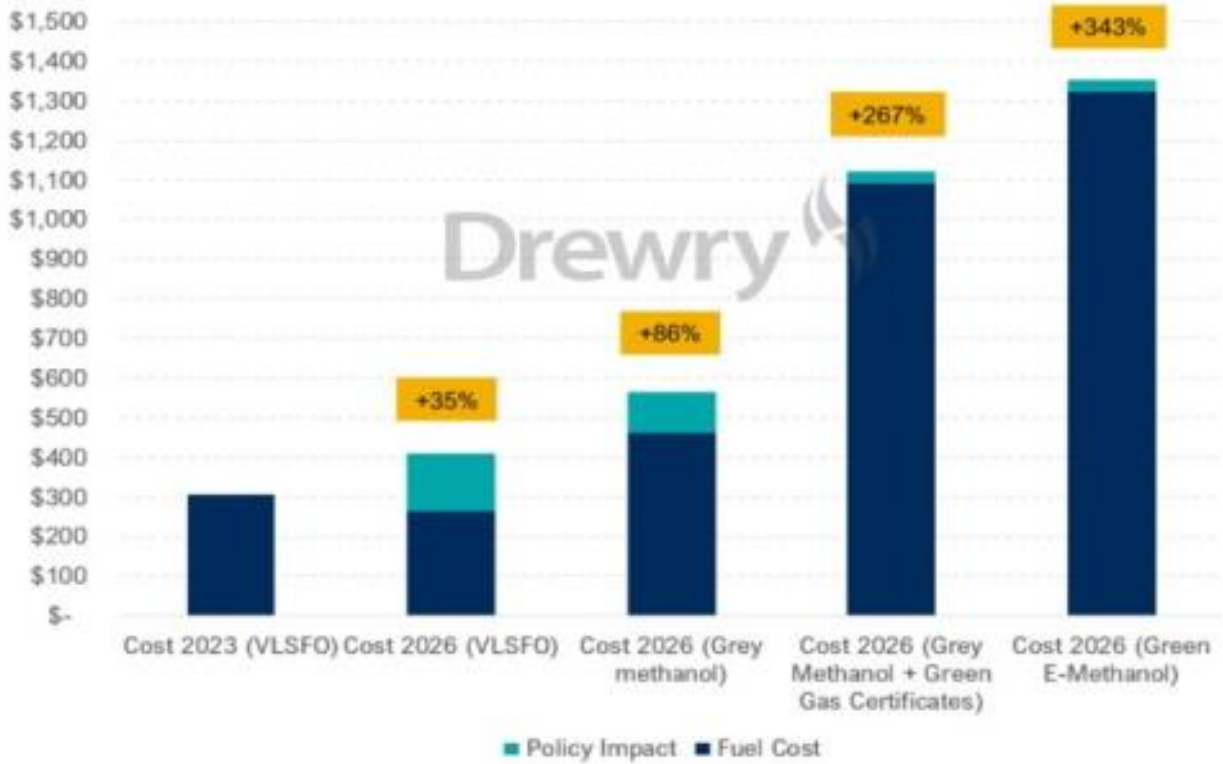
- Available technology
 - Wartsila modification
 - On board storage
 - Safety
 - Bunkering, pumping
- DNV, Den Norske Veritas
 - Rules on low flashpoint fuel
 - Approval of Wartsila engine modification

Pricing



€/MWh

Green Methanol



<https://www.hellenicshippingnews.com/switch-to-green-e-methanol-would-raise-bunker-costs-by-340/>



Modification of a Gudmundur í nesi

- Phase one, completed
 - Installation of tanks
 - System design
 - Engine software updated
 - Auxiliary Engine
- Phase two
 - Bunkering station
 - Installation of pump room
 - Engine upgraded for dual fuel

Modification of a Gudmundur í Nesi

- Phase three
 - Procurement of methanol
 - Trials
 - Evaluation
- Phase four
 - Suggestions for future operation



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Thank you

