



Roadmap towards a zero-emission Danube fleet

7th Oct 2024



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Introduction to Vitol

Vitol group overview

Vitol is the world's largest energy trader and is increasingly active across the energy transition value chain; our business is built on long-term partnerships, a focus on delivering solutions and prudent financial management

Vitol



56 years

Serving the world's energy markets



40 offices

Worldwide



1,600+

Vitol employees



65+

Nationalities

Trading



~7.4mn+

Barrels of crude oil /
products traded per day



1,500+ TWh

Natural gas traded



1,500+ TWh

Power traded



13.7 mt

LNG traded annually

Assets¹



~7,000

Service stations
globally



500k b/d

Refining capacity across 4
continents



100 kbpoed

Oil and gas
production daily



17mn+ m³

Oil and products
storage worldwide

Energy Transition



\$2.5bn+

Capital committed to
sustainable projects



1.2 GW

Wind and solar
generation projects



300+ GWh

Biomethane capacity



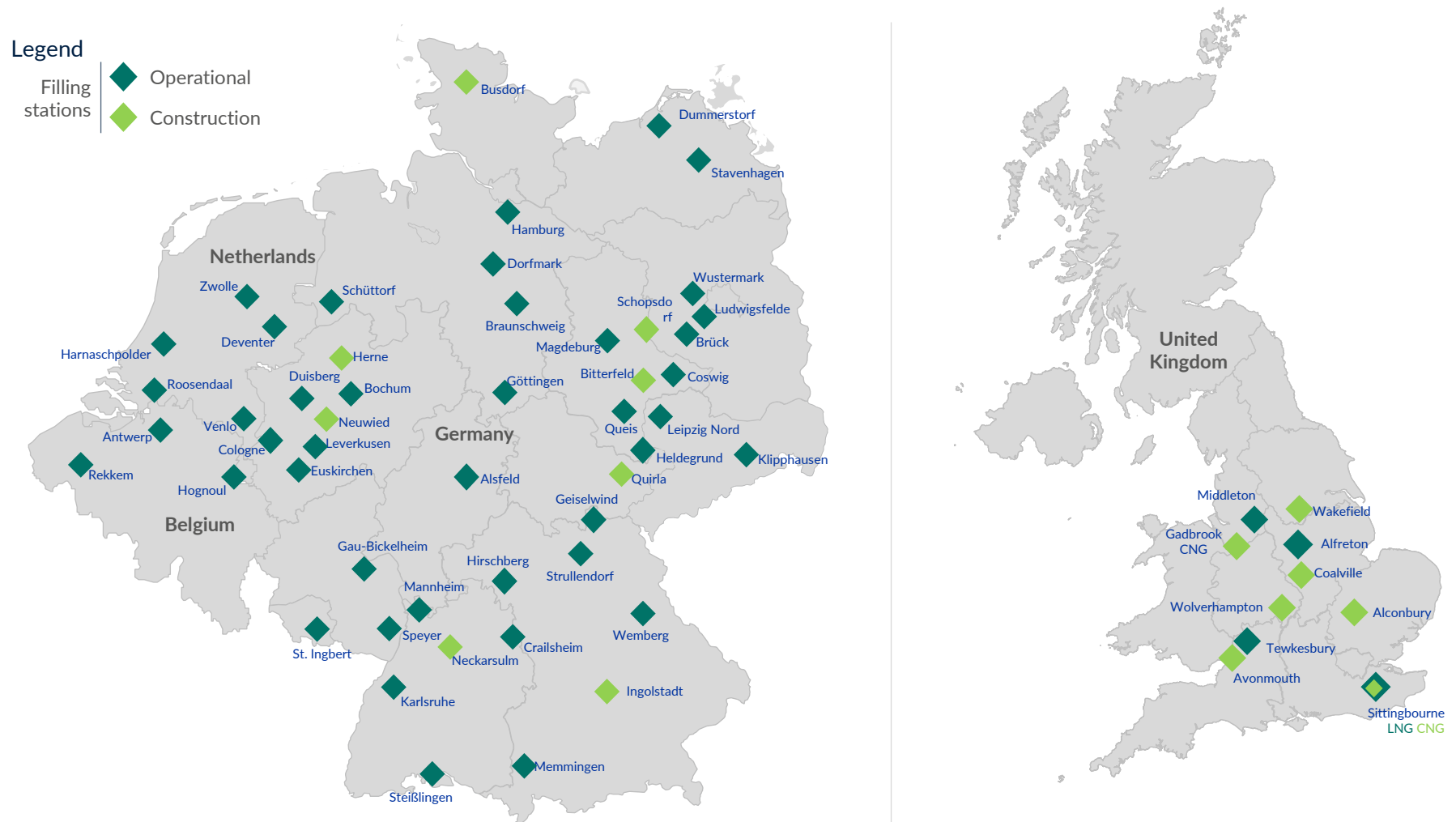
~80mn tonnes

Carbon traded annually



Vitol biomethane: Overview of downstream (road)

Today ViGo Bioenergy is a leading supplier of bioLNG to trucks in Germany, Netherlands, Belgium and the UK with 46 stations in operation, with a growing presence in biomethane production



Vitol biomethane: Overview of downstream (inland shipping)

We also have the largest LNG bunkering station on the Rhine supplying inland barges and aim to start supplying bioLNG bunkers through this station

LNG bunkering for inland shipping

- We also have the largest LNG bunkering station on the Rhine supplying inland barges
- The shore-to-ship LNG bunkering station is situated in the Niehler Hafen in Cologne and has been operational since October 2019
- It is strategically located along the Rhine between Basel and Rotterdam
- We aim to start supplying bioLNG bunkers to inland shipping through this station

Legend

Bunkering station

- ◆ Operational
- ◆ Construction



Largest LNG bunkering station on the Rhine

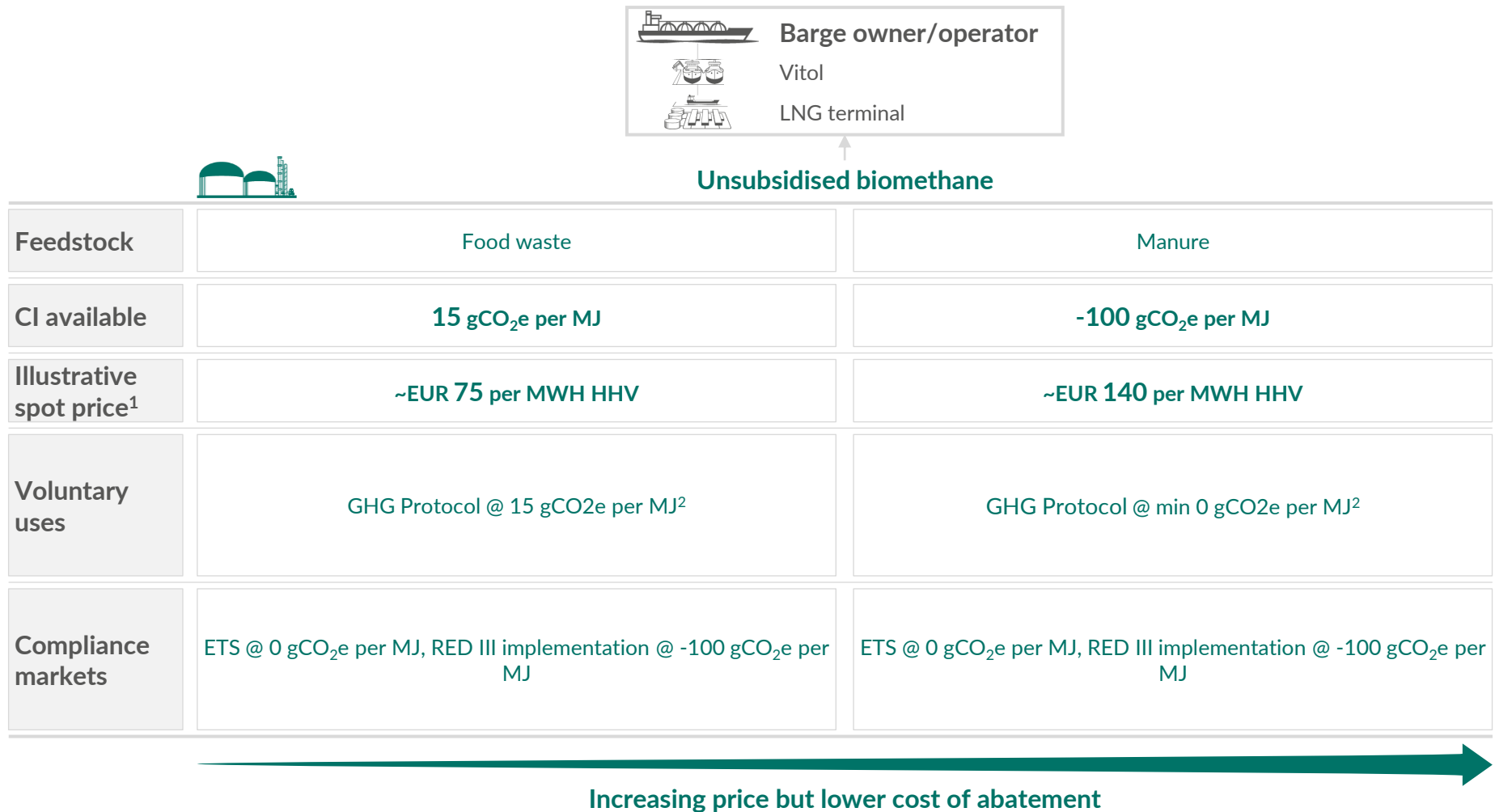




bioLNG bunkers

Options for purchasing bioLNG bunkers

RED III implementations require unsubsidised bioLNG, but the cost, carbon intensity and feedstock of this bioLNG can vary widely leading to an array of different options for barge owners/operators



Notes: ¹ All in biomethane spot price assessed by Argus on 8th May 2024, includes TTF at 31 EUR per MWH HHV; ² Also claiming voluntary benefit if a compliance market has been accessed depends on the GHG accounting standard used by

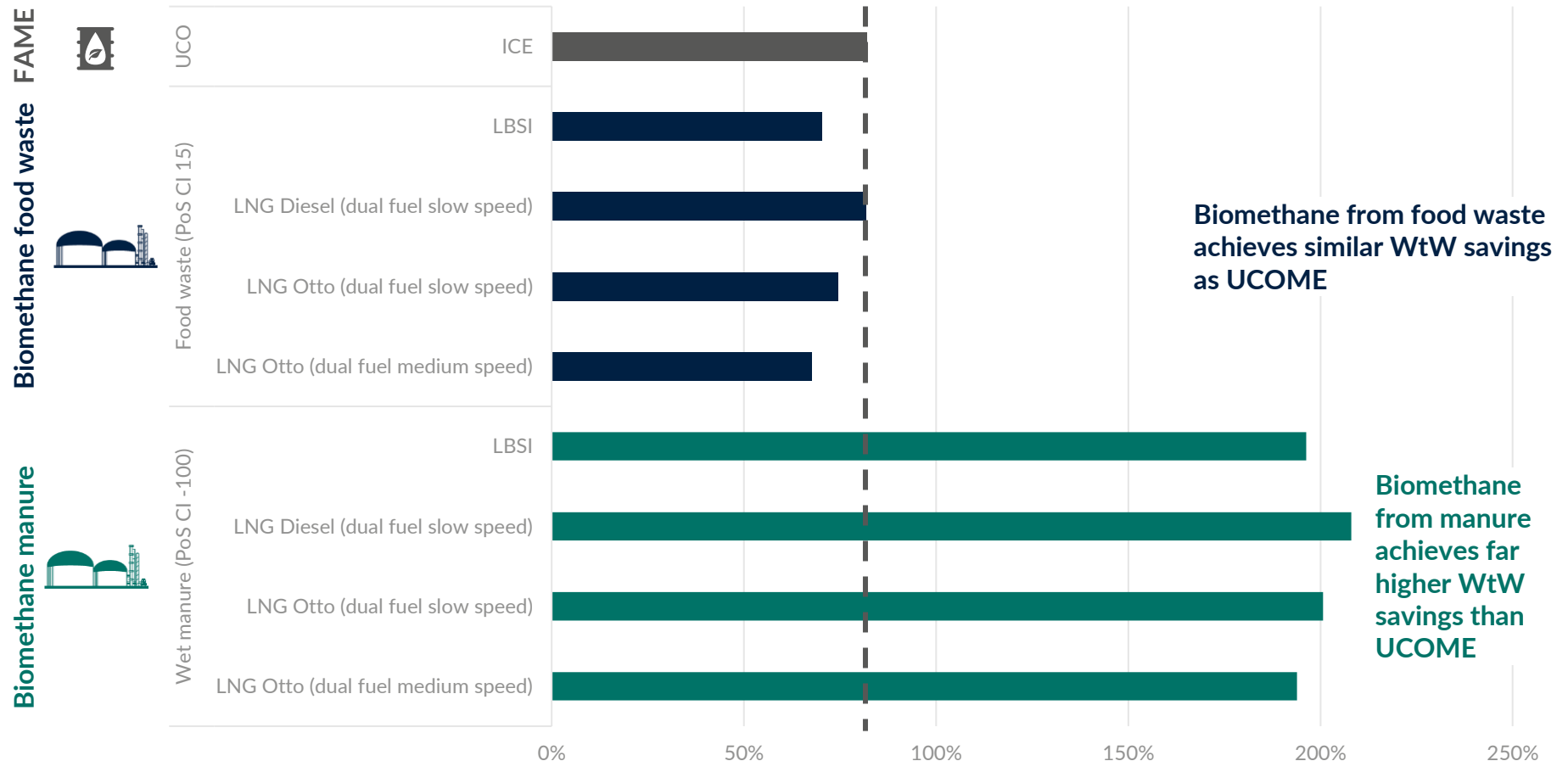


BioLNG's negative CI enables far greater WtW GHG savings than biodiesel

Even when methane slip is accounted for using a well to wake (WtW) methodology manure based bioLNG achieves far higher GHG savings than biodiesel while bioLNG from food waste achieves similar savings to biodiesel

WtW GHG savings of bioLNG vs biodiesel

Percentage saving on baseline

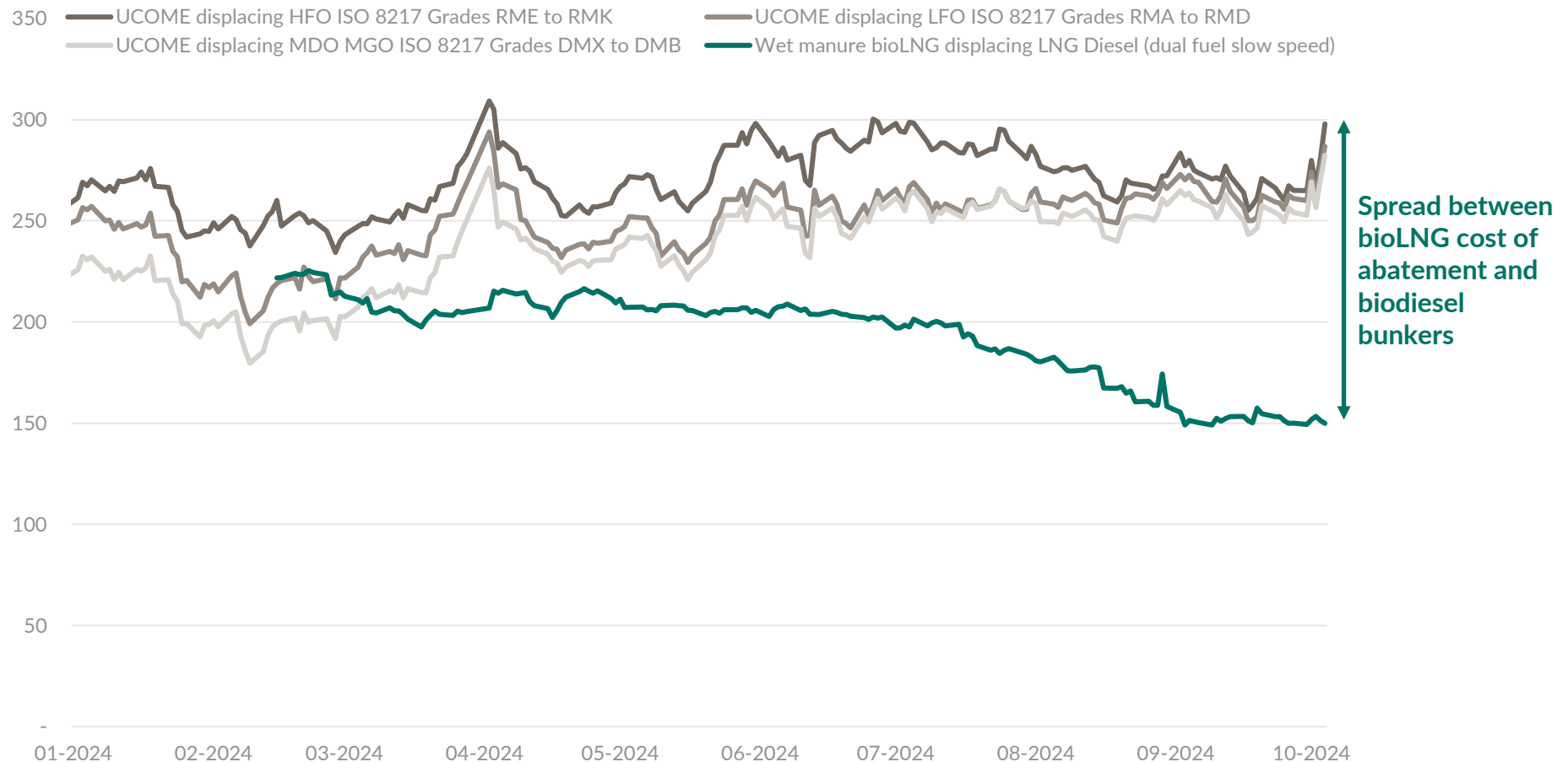


This enables a far lower cost of abatement than biodiesel

BioLNG offers a consistently lower cost of abatement than that of biodiesel displacing marine gasoil; currently bioLNG's cost of abatement is approximately half of biodiesel

BioLNG vs biodiesel cost of abatement , Jan 2024 to Oct 2024

EUR per tonnes CO₂e





Pillars of an effective RED III implementation

Pillars of an effective RED III implementation for bioLNG

Our experience supplying bioLNG across the EU has taught us that the most effective RED implementations at delivering low cost decarbonisation are tradable GHG intensity schemes that do not erect barriers to cross border trade



Tradability

Standardised tickets representing renewable fuel supply (in tonnes of CO₂ abated) that can be traded among market participants.

CO₂

GHG intensity scheme

Obligations placed on fuel suppliers to ensure that a specified reduction in GHG intensity on a baseline is achieved with reductions increasing year on year.



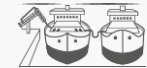
Imported biomethane allowed (both grid and segregated)

No barriers to cross border trade enables a more efficient market delivering the lowest cost of decarbonisation to consumers.



Mass balanced liquefaction allowed at LNG terminals

Existing infrastructure should be repurposed for the energy transition. Liquefaction of bioLNG from biomethane in the grid should be permitted on a mass balance basis at LNG import terminals according to EU law.



Inland and ocean bunkering also covered by obligations

RED III cover inland and ocean going bunkers as well as road fuel. As such, renewable fuel obligations should be extended to bunker fuel suppliers and it must be possible to generate tickets through the supply of renewable fuels to shipping.





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