
CLEANER FUEL
CLEANER PLANET
INVESTOR PRESENTATION
ANNUAL GENERAL MEETING
26 NOVEMBER 2021
Quadrise
Fuels International plc
MSAR®
BioMSAR™
quadrisefuels.com

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Agenda

1
BUSINESS UPDATE

2
RESOURCES UPDATE

3
SUMMARY
Q&A



Why Quadrise?

There's no 'big red button' to switch to net-zero.

QUADRISE MSAR® & BIOMSAR™ HAVE A KEY ROLE IN ACCELERATING THE ENERGY TRANSITION TO NET-ZERO

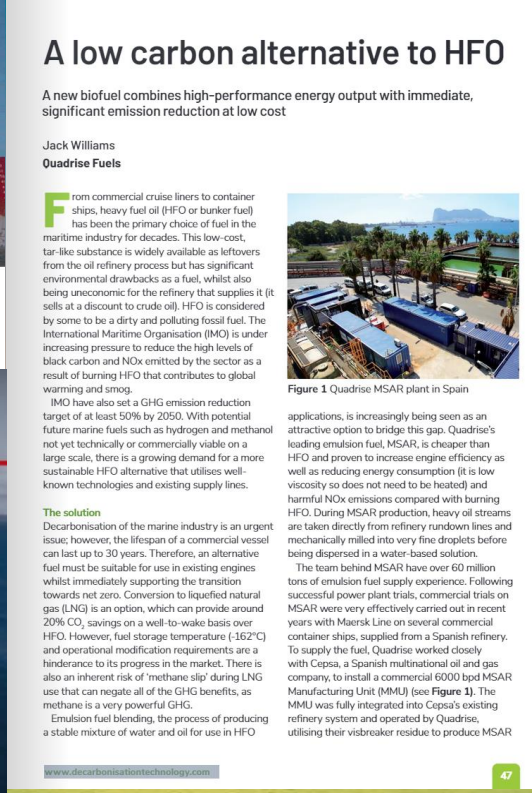


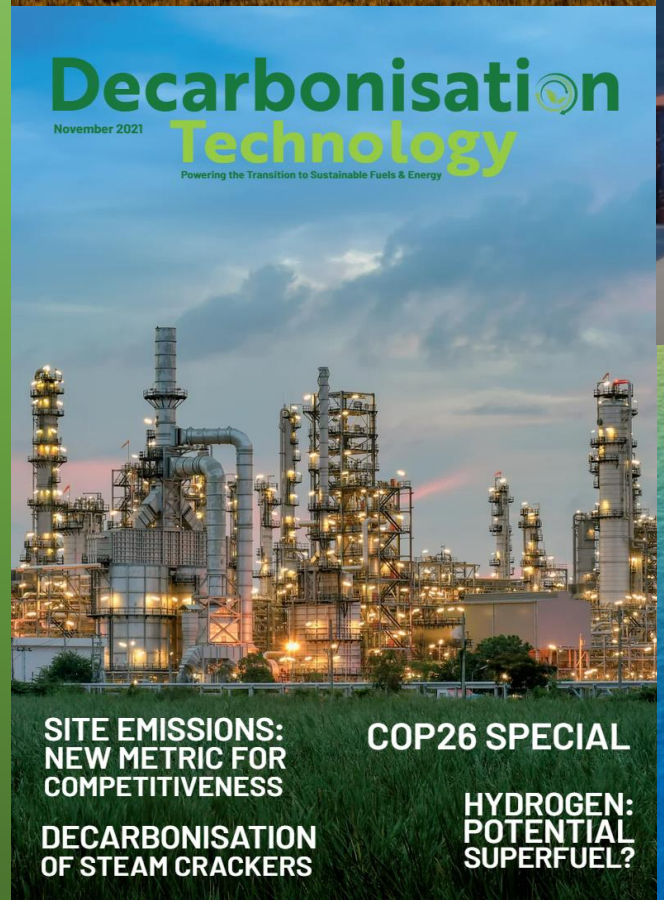
FURTHERMORE, WE'RE DEVELOPING NET-ZERO ENERGY SOLUTIONS FOR 2030

Changing the narrative













The economic case (1):

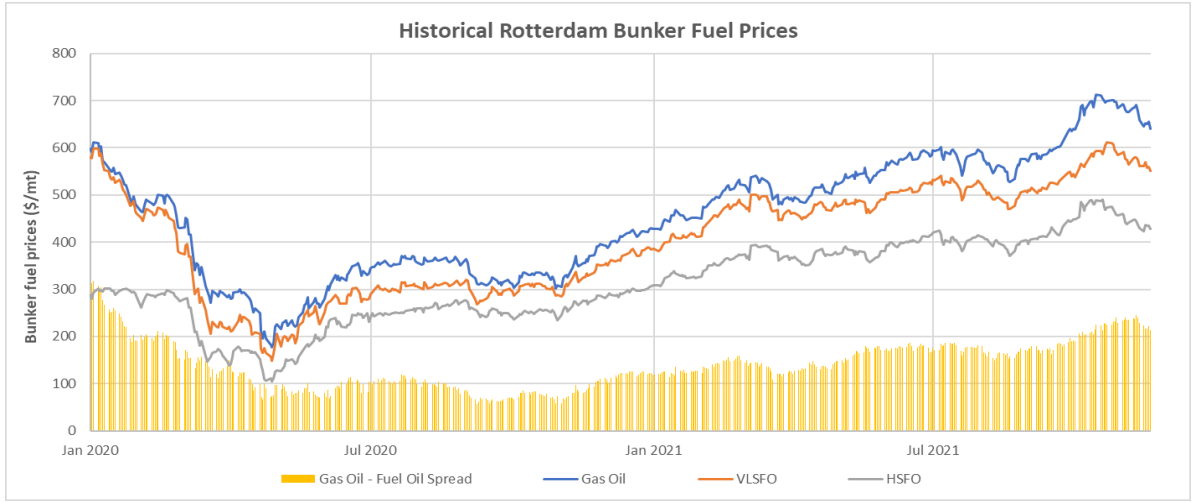
Bunker Fuel Prices

“Spreads”

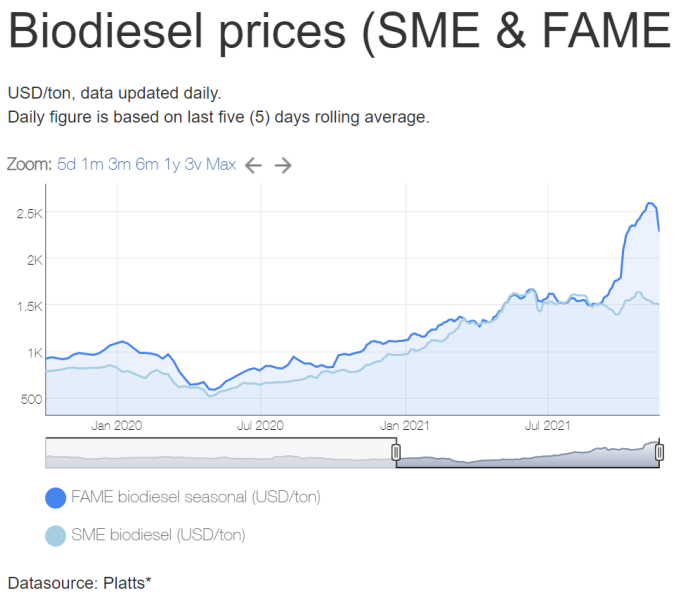
Biofuels

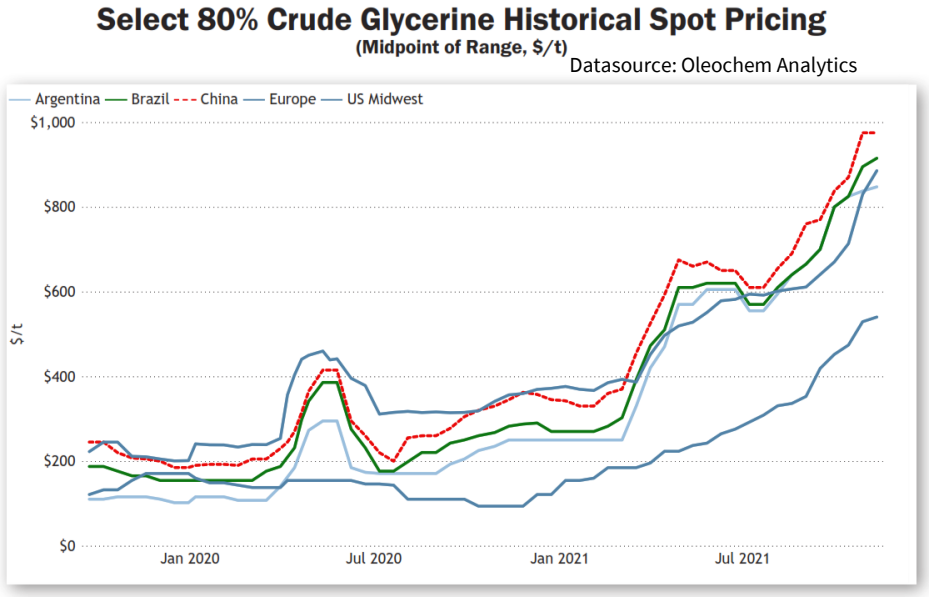
Fuel prices and spreads have recovered since early 2020.

Refinery economics are strengthening, which is good for Quadrise.



Post-COVID demand recovery has increased biofuel prices significantly.





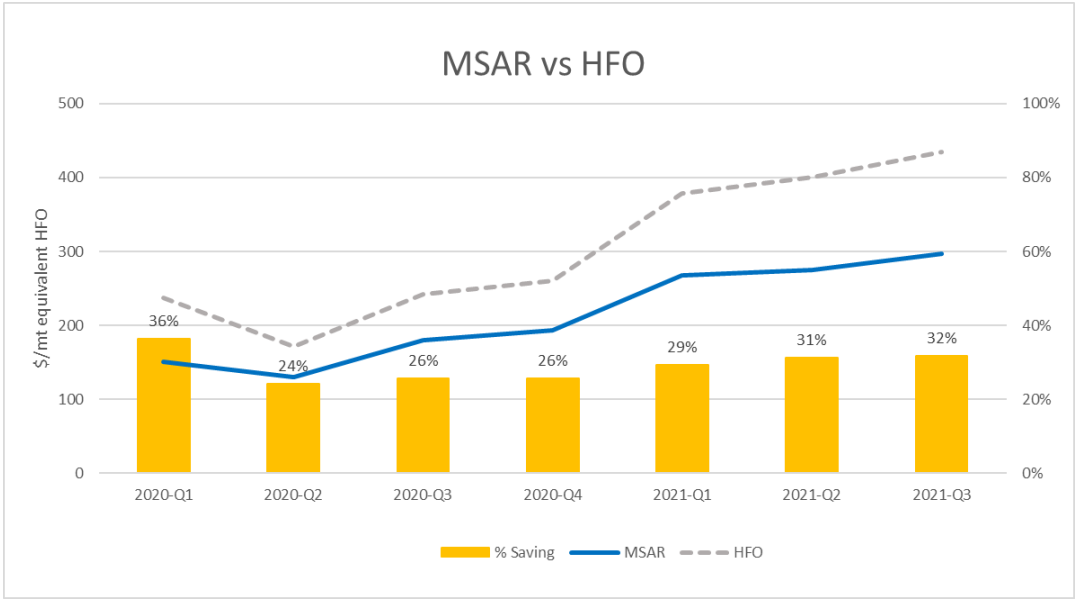
The economic case (2):

MED examples for

MSAR® Synthetic HFO

bioMSAR

Estimated MSAR® and bioMSAR™ savings are significant.

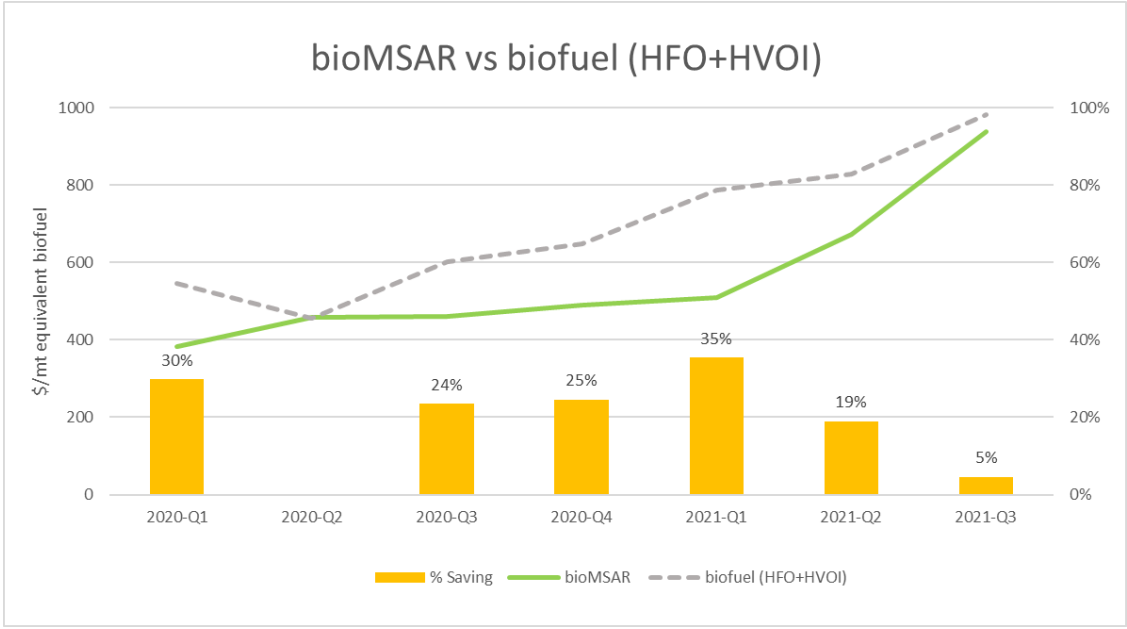


Average MSAR® saving since 2020 = 29%

(value to be shared)

Average bioMSAR™ saving since 2020 = 19%

(value to be shared)



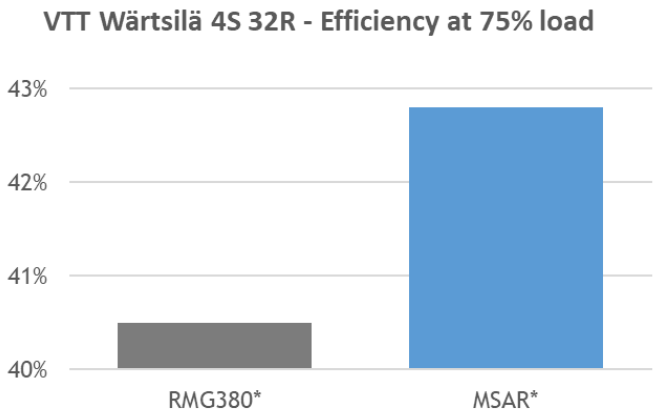
MSAR® efficiency benefits are up to 6-9% (4S/2S).

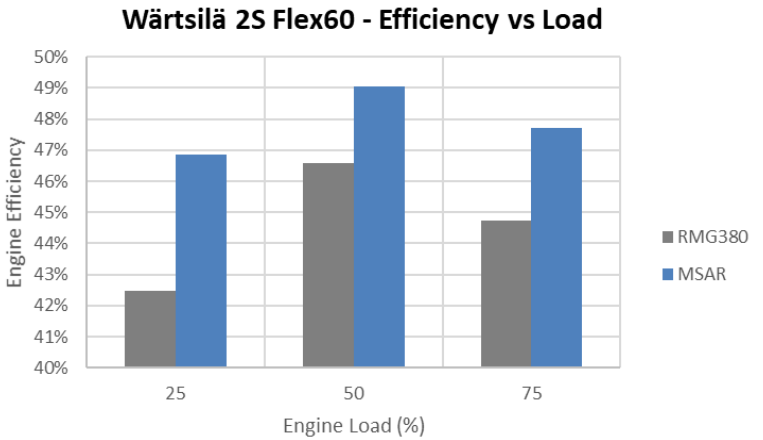
Has a key role in…

Improving energy efficiency

Lowering emissions

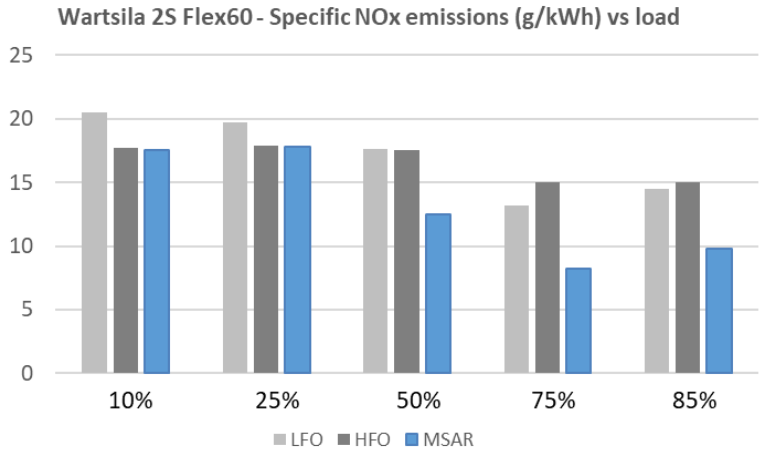
At lower energy cost





Result in 5-9% lower CO_2 & GHG emissions well-to-wake.





Plus… reduced smoke (black carbon) & NOx emissions.

Business update:

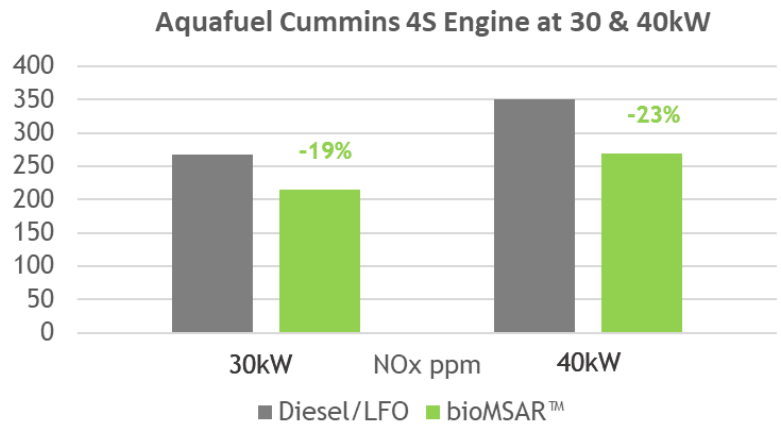
bioMSAR

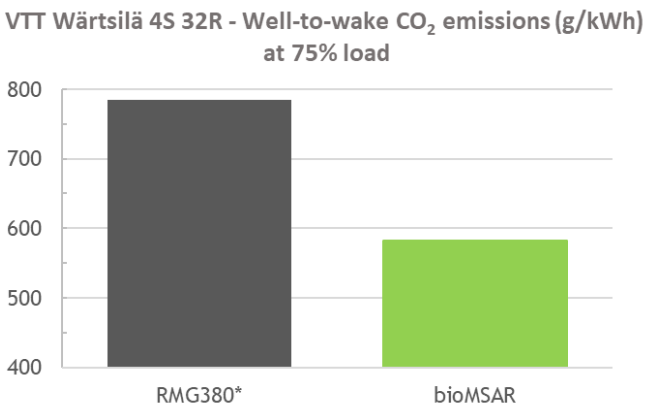
Launched Dec 2020

Recent bioMSAR™ tests on a Wärtsilä 4-stroke engine demonstrated well-to-wake average CO_2 savings of 26% versus marine diesel

Accelerating bioMSAR™ commercialisation:

- 4-Stroke ("4S") engine testing successfully completed at Aquafuel (02/21 and 11/21), VTT (07/21). Latest Aquafuel results to be published imminently.
- Next steps, commercial 2S/4S engine tests and combustion applications.
- Highlights to date:
  - Higher engine efficiency (~5%), leading to lower CO_2 / GHG emissions.
  - Low gaseous emissions (NOx, unburned fuel and smoke), as with MSAR®.
- bioMSAR™ development to focus on tailored CO_2 reductions of 10-50% for clients.
- Delivering commercial tests in 2022 are now a priority, using our global client network.







VTT Wärtsilä 4R32 LN DF E

Aquafuel™ VTT WÄRTSILÄ

Business update:

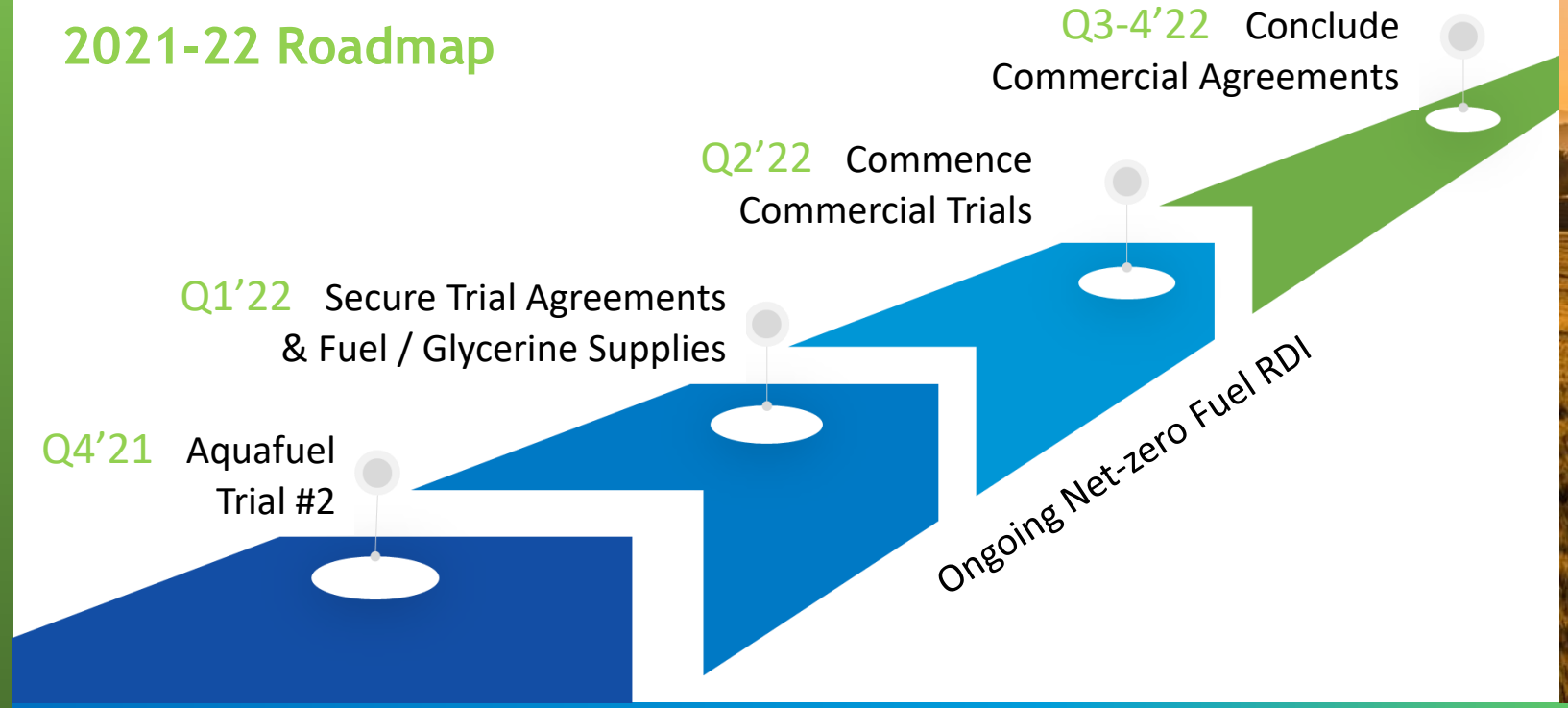
bioMSAR

Unlike other biofuels, bioMSAR™ is targeted to address new biofuel demand in global fuel markets such as marine & power generation

Accelerating bioMSAR™ commercialisation:

- Quadrise featured in “Making Waves: The Future of Shipping”.
- Commercial bioMSAR™ project opportunities are under development, including hybrid power generation.
- Discussions with crude glycerine suppliers, refiners & OEMs ongoing.
- Joint research underway on algal glycerine with UoG & Algae UK.
- Parallel testing of future fuels ongoing to achieve net-zero by 2030.

2021-22 Roadmap





Business update:

MSC Ship-management

Segment:

Marine
- HSFO
- VLSFO
- Biofuel

Multi-product opportunity with MSC (0.6kbpd/ship):

- MSC is one of the world's largest container shipping & cruise lines, operating 560 container vessels, >40% have exhaust gas scrubbers.
- Early adopters of environmental technology & biofuels (0.85m tpa).
- MSC plans to accelerate bioMSAR™ vessel testing ahead of MSAR®.
- Summarising relevance of 4S bioMSAR™ & 2S MSAR® results is done.
- QFI & MSC facing challenges with OEM R&D resource availability.
- Discussions re marine trials in other sectors are progressing.

2021-22 Roadmap

Q4'21 Finalise LONO Trial Plans

Q1'22 Secure Trial Agreements Equipment & Fuel / Glycerine Supplies

Q2'22 Prepare vessel for LONO, & bioMSAR™ supply

H2'22 Conclude LONO Trials & Commercial Supply T&Cs



Decarbonising the Marine Sector…

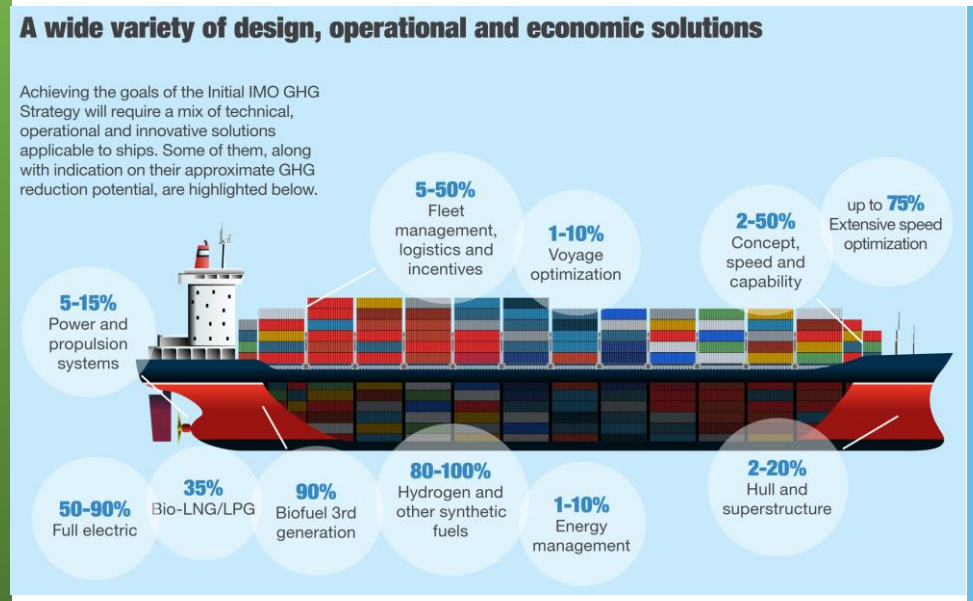
There's no 'big red button' to switch to net-zero.

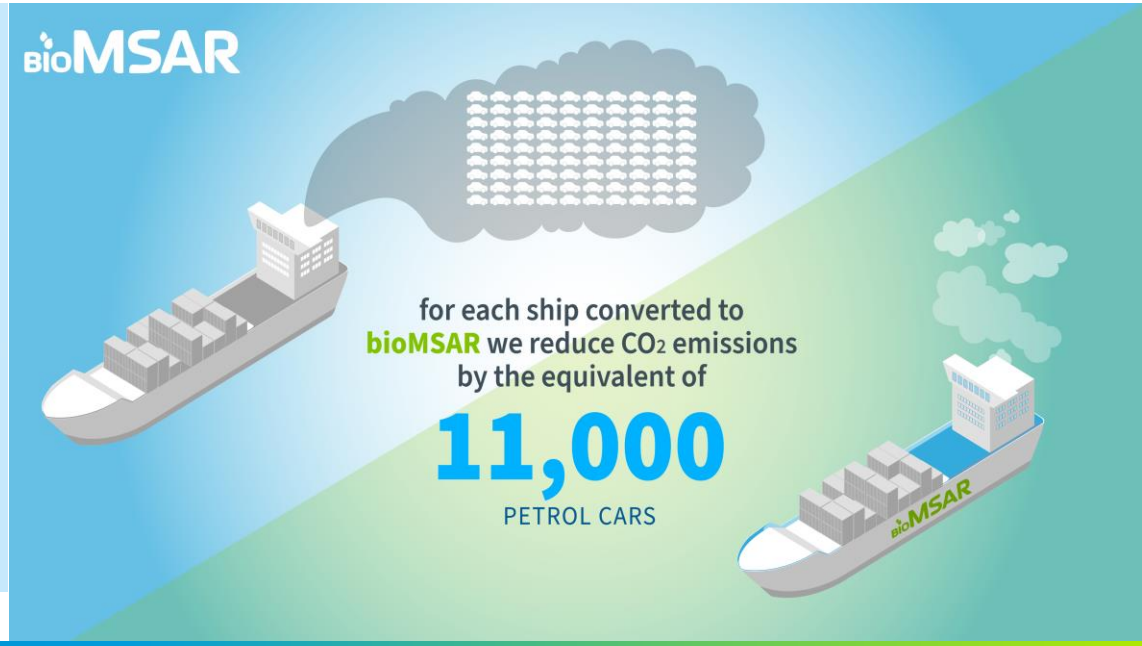
Large Container Vessel Example

using 25,000 tpa bunker fuel emitting ~89,000 tpa CO_2 "Well-To-Wake" (WTW)

Good options are available today to rapidly reduce CO_2 emissions:

- **MSAR®** is >**5%** more efficient, saving **>4,000tpa CO_2** and investing in newbuilds
- **LNG** conversion saves **14%** or **12,000tpa CO_2**, only if methane slip is negligible
- **bioMSAR™** and biofuel blends reduce CO_2 by >**25%**, saving **>22,000tpa CO_2**





COURTESY OF THE INTERNATIONAL MARITIME ORGANISATION

Decarbonising the Marine Sector…

There's no 'big red button' to switch to net-zero.

Large Container Vessel Example

using 25,000 tpa bunker fuel emitting ~89,000 tpa CO_2 "Well-To-Wake" (WTW)

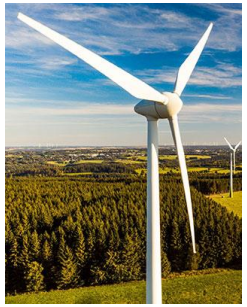
Future fuel options are dominating the headlines, but also require a paradigm shift in new renewable energy or CCS to be achievable:

CO_2 savings for Grey, Blue & Green* Future Fuels:

- **Methanol:** 15% worse, **63% saving**, 81% saving
- **Ammonia:** 48% worse, **57% saving**, 83% saving

Or CO_2 Scrubbers on vessels: 70-90% saving WTW?

"Green fuels" require ~50MW of new renewable power per vessel :



70-80 wind turbines
18-20km² area, or…



520,000-590,000
1kW solar panels
~4km² area

*** Terminology:** Grey = as produced today, Blue = CH_4 plus CCS, Green = using 100% renewable energy, CCS = Carbon Capture & Storage

Heavy sweet oil opportunity, 3-10kbpd oil per site:

Business update:

Greenfield Energy LLC (TOMCO-Valkor)

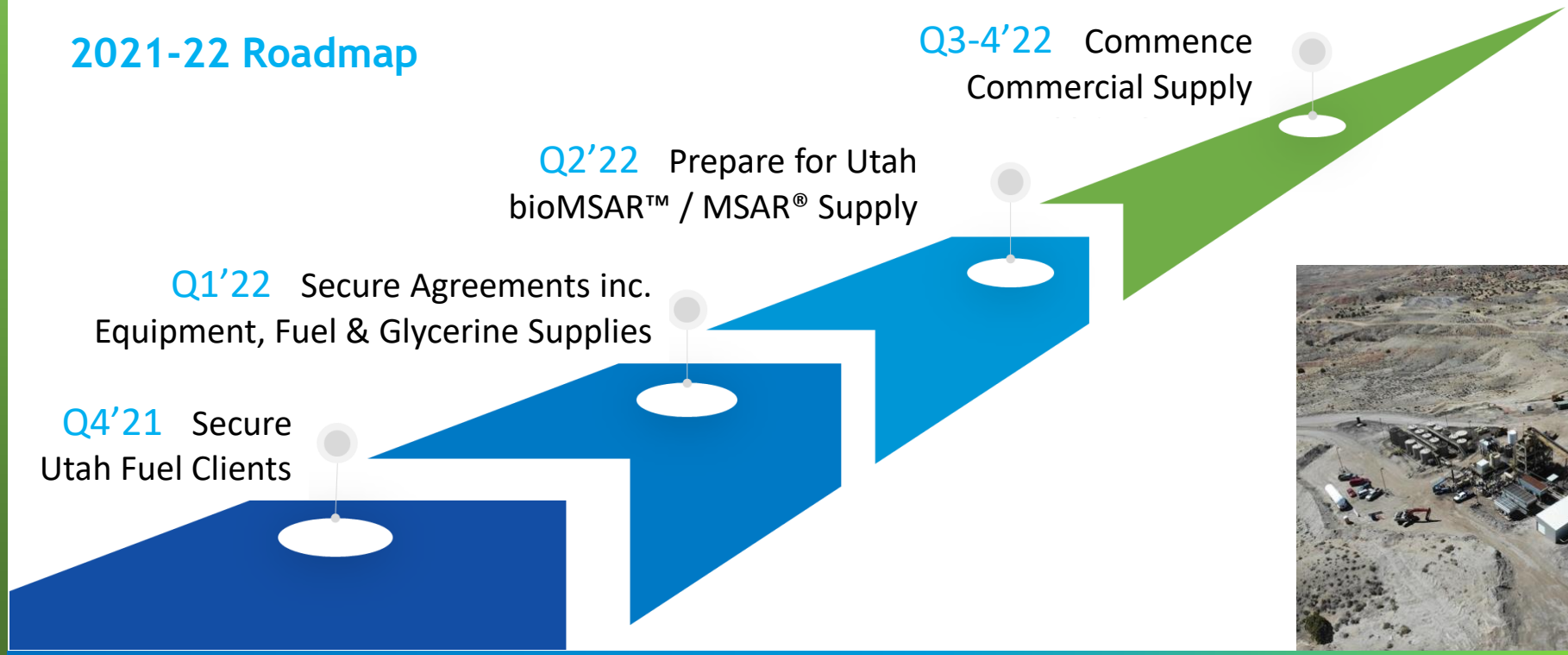
Utah, USA

Segment:

Upstream
- VLSFO
- Biofuel

- Opportunity for 0.5%S IMO compliant fuel from the Uinta basin, multiple site potential.
- Greenfield samples from Petroteq Oil Sands Plant ("POSP") were successfully blended into MSAR® and bioMSAR™ at QRF, negating the need for a site trial.
- Greenfield funding secured for 10% of potential TSHII site acquisition.
- Focus now on securing customers for MSAR® and bioMSAR™ with a view to initial commercial supply during 2022, subject to client progress drilling wells and securing sales.
- Potential fuel applications for <0.5%S product include; Stationary power generation (domestic & exports), marine (domestic & exports), future use with carbon capture (CCUS).

2021-22 Roadmap



Business update:

International Chemicals & Mining Group

Morocco

Segment:

Industrial
- HSFO
- (Biofuel)

2-5kbpd HFO replacement opportunity in Morocco:

- Plans for Q3'21 Site B trial were delayed due to client restrictions.
- Plans to complete the trial in Q4 have been further delayed by recent client management reorganisation, approval to proceed still pending:
  - Quadrise equipment is in Morocco, ready for Site B installation.
  - MSAR® fuel production in Northern Europe still ready to commence.
  - Quadrise have requested an extension of current agreement (MTA).
- Site A trial to follow Site B, pending successful results of former.
- Trials are a precursor to concluding a Commercial Supply Agreement.

2021-22 Roadmap

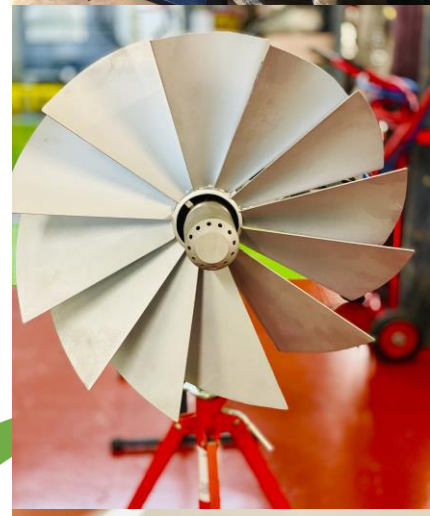
Q4'21 Site B Fuel Manufacture

Q1'22 Complete Trials at Site B & Site A, Negotiate MSAR® Supply Agreements

Q2'22 Sign Agreements & Prepare for MSAR® Supply

Q3-4'22 Commence Commercial Supply









Business update:

Other

Segment:

Refining
Power
- HSFO
- (Biofuel)

Panama:

- Powerplant opportunities for 4S and 2S trials being progressed using agents E&PC, future bunker hub.

Mexico:

- NOC Refinery & Powerplant opportunities being progressed using Redliner, future export location.
- Draft study prepared for three main NOC refineries.

Ecuador:

- NOC Refinery & Powerplant opportunities via Freepoint Commodities, future export location.

Central America:

- Powerplant opportunities in Guatemala, El Salvador, Honduras etc under investigation using agents E&PC.

Saudi Arabia:

- Meeting planned with the Ministry of Energy.



Agenda

1 BUSINESS UPDATE

2 RESOURCES UPDATE

3 SUMMARY Q&A



MSAR® BioMSAR™

quadrisefuels.com

Resources update:

Personnel

Excellent progress being made to fill executive and board positions.

Update on Quadrise human resources:

- COO, Mark Whittle, departed in September for Greenergy; the new COO will start formally from 1 Jan ’22.
- Chairman, Mike Kirk, stands down today after the AGM. The search process for a Non-executive Chairman has commenced with head-hunters, and expectations by us that a new candidate will be in place during Q1’22.
- Laurie Mutch (NED since 2006) will stand in as Interim Chairman following Mike’s departure until the NED Chair appointment.
- A transition plan for the progression to a Non-exec Chairman has been in effect since early 2020 and is now essentially concluded.
- The new Quadrise team, with supporting expert consultants, are fully equipped to take the company through to commercialisation.

Resources update:

Financials

Fully funded through to commercial revenues, forecast for H2 2022.

Cash resources in place to reach commercial revenues:

- £7m of cash at 30 June 2021 - representing 2 years of non-project costs*.
- One project utilizing 2 MMUs would allow the Company to break-even.
- Current projections forecast commercial revenues during H2'22 from key projects, with positive cashflows forecast to commence in Q1'23.
- Extra funding would only be required for activities beyond current active projects, or should delays continue to impact progress to commercialisation.
- Cumulative tax losses of £58m are available to offset against future profits.

** Based on £290k per month: Fixed + RDI + IP costs.*

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1
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2
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1

ENABLING A CLEANER ENERGY TRANSITION

- MSAR® technology makes oil burn like gas
- Reduces costs for consumers & producers
- Reduces NOx & CO_2, eliminates black soot
- New bioMSAR™ addresses increasing demand for renewable solutions.

2

GLOBAL ACTIVITIES, RAPID DEPLOYMENT

- Broad pipeline of projects & opportunities
- Using carefully selected partners globally
- Progressing projects to commercial phases is the focus for 2022.

3

FUNDED TO REACH COMMERCIAL REVENUES

- Fully funded to achieve commercial revenues during H2'22
- Achieving accelerated commercialisation of bioMSAR™
- Other BD activities include major NOCs, marine co's & new ESG opportunities.

Quadrise Fuels International plc

CLEANER FUEL
CLEANER PLANET

MSAR® Synthetic HFO

BioMSAR

CLEANER FUEL
CLEANER PLANET

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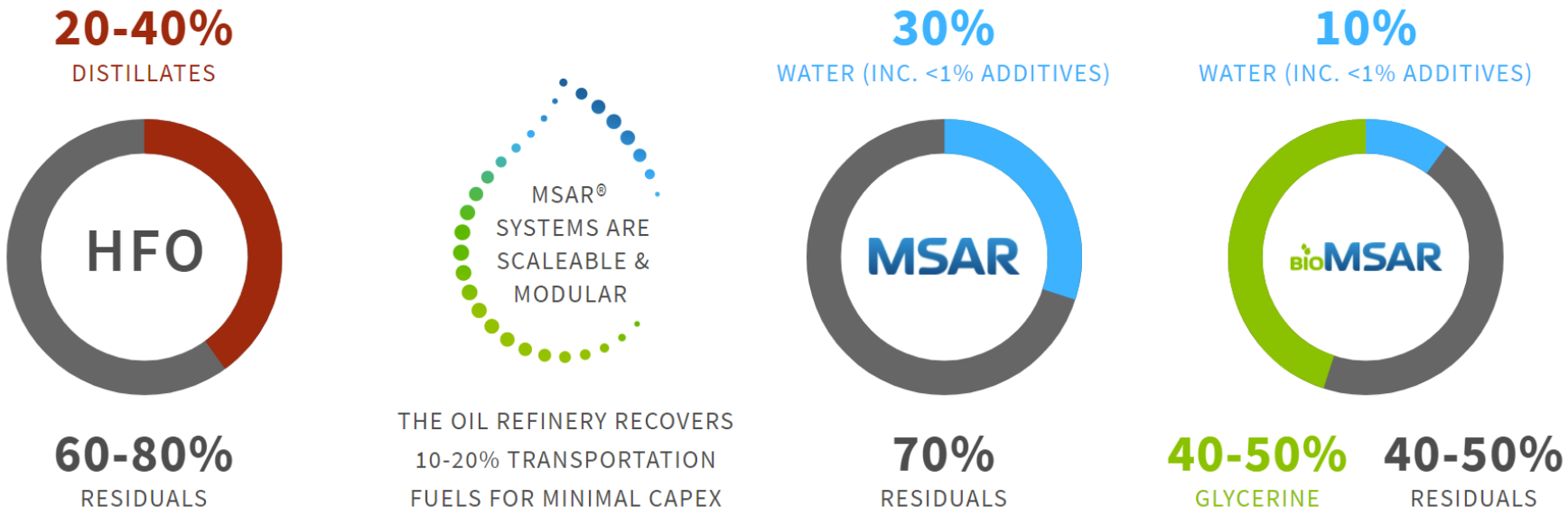
Q&A

Quadrise
Fuels International plc

MSAR® BioMSAR™

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HEAVY FUEL OIL (HFO) vs QUADRISE MSAR® & BIOMSAR™



- Crude oil production & refining often results in heavy products & residual oils respectively that require expensive refined distillates to reduce viscosity and meet pipeline and HFO specifications. HFO is sold at a discount to crude oil, resulting in a loss for the producer.
- Low-cost MSAR® technology uses additives and water to replace these distillates (which can then be sold at a premium) and produce MSAR® - a very efficient fuel that reduces emissions.
- MSAR® technology is also used to produce bioMSAR™, by incorporating renewable fuel-grade glycerine to provide a lower-cost biofuel solution offering over 20% lower CO_2 emissions.
- MSAR® and bioMSAR™ fuels are fully interchangeable with each other.