QUADRISE FUELS INTERNATIONAL PLC (QFI.L)

OIL AND GAS PRODUCERS

05/04/2017

SHARE PRICE	52 WEEK LOW
8.5p	6.8p
MARKET CAP	**52 WEEK HIGH**
£73.3m	15.4p
NAV	**NET DEBT**
£8.2m	£0.6m

Fuelled For Growth

Quadrise Fuels International Plc ("Quadrise") is a London (AIM) listed company engaged in the manufacture and marketing of a low viscosity oil-in-water emulsion fuel (MSAR®) for use as a synthetic, low-cost and environmentally friendlier substitute for conventional heavy fuel oil, in power generation and marine diesel engines as well as in on-site utility applications in refineries and industrial applications. Quadrise is the licensor of the MSAR® technology to refining partners who sell the fuel to end customers. Subject to continued positive results from current commercial-scale trials, Quadrise could start delivering early-stage commercial revenues during 2017/18. We believe that at 10p per share, a price very close to a 3-year low, the market is pricing-in a rather conservative production ramp-up.

MAJOR SHAREHOLDERS

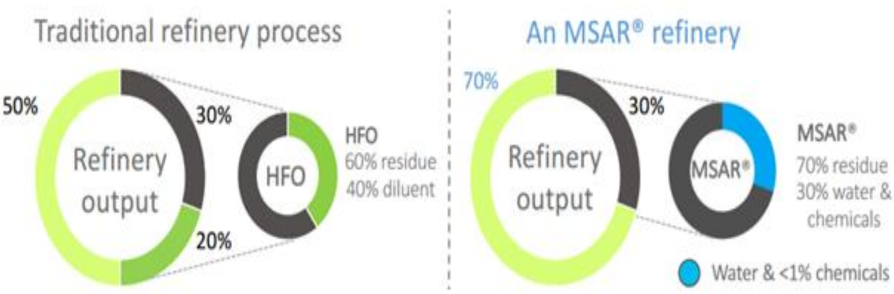
1) Intertrust Trustees Limited – 6.99%
2) Ruudowen Limited – 6.35%
3) Phibatec Limited – 5.98%

Shares in Issue	862.21m
Avg Volume	1.83m
Primary index	AIM
EPIC	QFI.L
Next Key Announcement	-
Sector	Oil and Gas Producers

A WINNING COMBINATION

The MSAR® fuel is value accretive to refiners and offers material cost savings and enhanced environmental performance to consumers than heavy fuel oil (HFO). Compared to a traditional refinery process where refiners dilute residues to create HFO by using a portion of the higher value distillates slate as diluents and therefore reducing higher value distillate products' sales, the MSAR® technology enables refiners to produce a synthetic HFO using water and a small amount of speciality chemicals. This provides refiners with a low cost, scalable upgrading technology that enables refiners to sell all the higher value distillates, rather than using some of them as diluents to create HFO. (Figure 1).

Figure 1: Creating value for refiners



Source: Quadrise

The difference between the corresponding increase in revenue and the variable cost of the MSAR® process to the refiner is positive and represents a benefit to be shared between the refiner, the customers and Quadrise as licensor of the technology.

The environmental benefits of MSAR® fuel manifest themselves by the ability of customers to remain compliant with ever stringent environmental regulations, with respect to Nitrogen Oxides (NOx) and carbon particulate emissions. This is in addition to the cost advantages of MSAR® versus HFO which we believe provide definite pricing power to the MSAR® supply chain providers.

SHARE PRICE CHART

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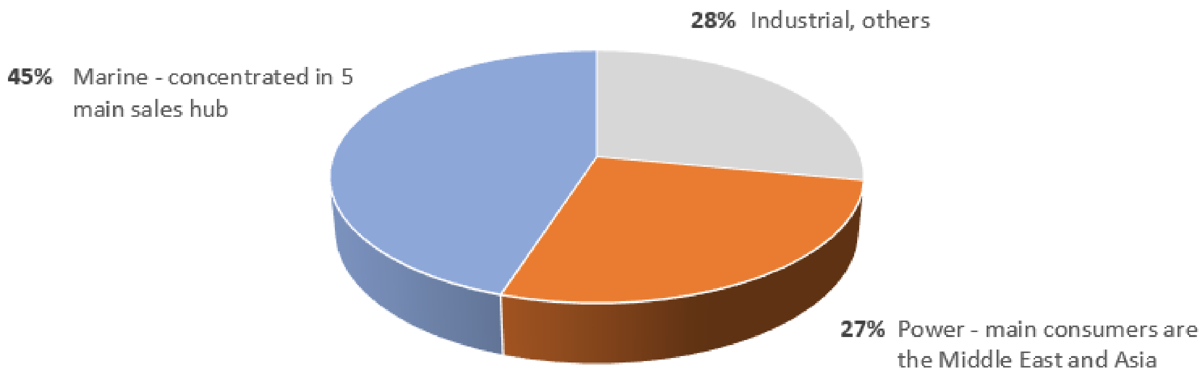
MSAR TECHNOLOGY

MSAR® stands for Multiphase Superfine Atomised Residue and is manufactured using proprietary technology to mix heavy residual oils with small amounts of specialist chemicals and water to a bespoke formulation. The resulting emulsion contains approximately 30% water and less than 1% chemicals. The emulsion is a low viscosity liquid at room temperature, which makes it easier to handle and reduces the heating costs for storing, transportation and use in comparison to HFO. The hydrocarbon droplets are pre-atomised within the emulsion and are significantly smaller than the droplets formed from atomising HFO, which means that when used MSAR® burns almost completely, leaving virtually no particulate carbon in the exhaust and making it more environmentally friendly. The IP is protected jointly with AkzoNobel through a long-term partnership and agreements which originated in 2000 and are regularly extended, with a recent extension to at least November 2018.

MARKET POTENTIAL AND OPPORTUNITY

Heavy fuel oil is a $106bn global market, with some 455 million tonnes sold annually. Marine use is the larger segment with a 45% share, whilst Industrials and Power represent 28% and 27% of the market respectively. Management expects the marine segment to grow to 320 mtpa by 2020 (including distillates), which we estimate to equate to a 12% CAGR (Figure 2).

Figure 2: The HFO market



Source: Quadrise

Quadrise is targeting the Marine and Power segments and is currently conducting, together with partners, two commercial-scale trials whose successful outcomes are key to potentially establishing contracts for commercial production in 2017/18.

The Marine operational trial with Spanish refiner Cepsa and the world's largest container-shipping company Mærsk commenced in July 2016 and has progressed well to date – though due to an operational issue unrelated to use of MSAR® fuel is currently suspended.

An interim inspection, has been carried out by Wärtsilä and a positive Interim Inspection Report is due to be produced in about 4-5 weeks – following which an Interim Letter of no Objection (LONO) should be issued by Wärtsilä, confirming that MSAR® fuel is safe to use in the engine type on which it was trialled. This should enable discussions to be progressed for the commercialisation of MSAR® in the global marine industry.

The fuel for this trial is supplied by a 6,000 b/d MSAR® system installed at Cepsa's 240,000 b/d San Roque refinery in Gibraltar.
An MoU was signed in August 2016 with major clients the Kingdom of Saudi Arabia ("KSA") and discussions have continued to define the scope of this major production to combustion trial involving a major refinery complex and one of the country's largest oil-fired power generation facilities. Plans are progressing to enable the trial to commence during the second half of 2017. The trial will be conducted on a 400MWe boiler which, at 75% capacity, would consume c.a. 1 mtpa of MSAR®.

THE VALUE OPPORTUNITY

Quadrise is not yet at the commercial production stage and has therefore virtually no revenue and a negative free cash flow. Management reckons that some £30m have been invested in aggregate, since listing in 2006, to bring the company close to commercial production. The question is - how much value can be generated from this point onward?

The answer to that question depends on the probability of success of the ongoing trials as well as the adoption ramp-up of the MSAR® fuel by customers. Given the optional nature of this investment proposition we decided, for this short note, to assess the stock market's expectations implied in the share price rather than derive a DCF value from a comprehensive bottom-up model based on inherently uncertain forecasts of Quadrise's potential future share of the HFO market.

We estimate the EBITDA, production volume and corresponding share of the HFO market, implied in the 10p current share price as well as in the all-time low and high price range of 2-45p (Figure 3).

Figure 3: Implied stock market's assumptions

	29/03/2017	All-time Low (27/02/2009)	All-time High (31/12/2013)
Share price	0.10	0.02	0.45
GBP/USD	1.24	1.24	1.24
Market value ($m)	109.1	21.8	491.0
EV/EBITDA (Spec. chems)	9.5	9.5	9.5
implied EBITDA	11.4	2.3	51.9
implied volume (mtpa)	1.7	0.7	5.7
implied market share	0.5%	0.2%	1.7%
Probability of success	67%	67%	67%
production volume (mtpa)	2.5	1.1	8.6
market share	0.8%	0.3%	2.6%
MSAR® units	7-8	3-4	25-26

Source: Capital Network

We use management guidance of an average gross margin for future MSAR® production and a corporate costs structure according to that of year ended 30 June 2016. We also use an EV/EBITDA equal to the mean of a peer group made of a universe of European and US Specialty Chemicals stocks.

We apply a probability of success of 2/3, reflecting a balance towards a positive outcome for the ongoing commercial-scale trials and the company moving towards commercial production, while acknowledging the remaining level of risk of further delays or failure.
Based on this analysis, we estimate that the current 10p share price implies that a yearly production volume of 2.5mtpa is achievable, resulting in an EBITDA of $11.4m growing in-line with the median of the peer group. There is obviously a trade-off between EBITDA absolute level and growth rate, with a combination of a lower EBITDA/higher growth rate being potentially consistent with our use of a sector median EV/EBITDA.

We estimate that the yearly production of the MSAR® unit used in the maritime trial unit is one-third of a million ton and therefore 2.5mtpa is equivalent to the yearly production of 7-8 such units, whilst we estimate that the all-time low and high prices discount 3-4 units and 25-26 units respectively.

We conclude that the current share price discounts conservative assumptions given the size of the market and the evident competitive advantage of the MSAR® technology.

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