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FUELS INTERNATIONAL PLC

MSAR® - a low cost substitute for heavy fuel oil
Power generation, Marine fuels, Refinery refuelling

2015 AGM Update





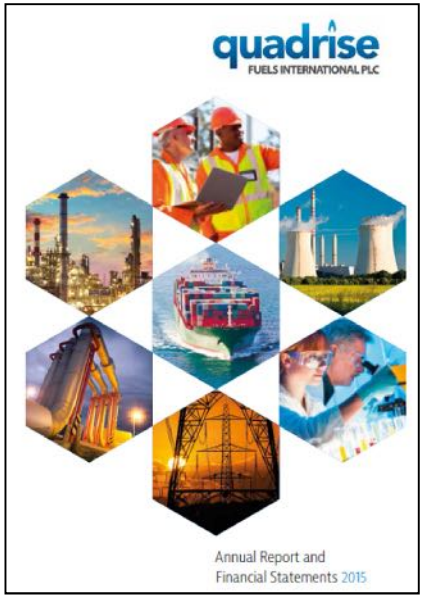
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"The Company is now more assured of progressing to the prime objective of sustainable commercial multi-source revenues than at any previous time".

Ian Williams
Executive Chairman
Annual Report and Financial Statements 2015



"The transition to operations and revenue"

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Highlights

- **Marine:** Contracts with Maersk & Cepsa to produce Marine MSAR® at San Roque Refinery to supply the seaborne Operational Trial and commence LONO Programme by engine manufacturer in H1 2016.
- **Saudi:** Major 'production to combustion' demonstration pilot project including extended trial for a 400MWe thermal power unit mid 2016.
- **Refinery Refuelling:** Feasibility Assessment with a mid-sized refinery aimed at a pilot plant installation during H1 2016.
- **Resourcing:** Three new executive appointments (Marine, Power & Refining) to address rapidly growing workload and conversion of two specialist executives (Operations & Quality) from consultants to full time employees.
- **Research & Development:** Consolidation & expansion of capabilities.

Marine MSAR® with Mærsk

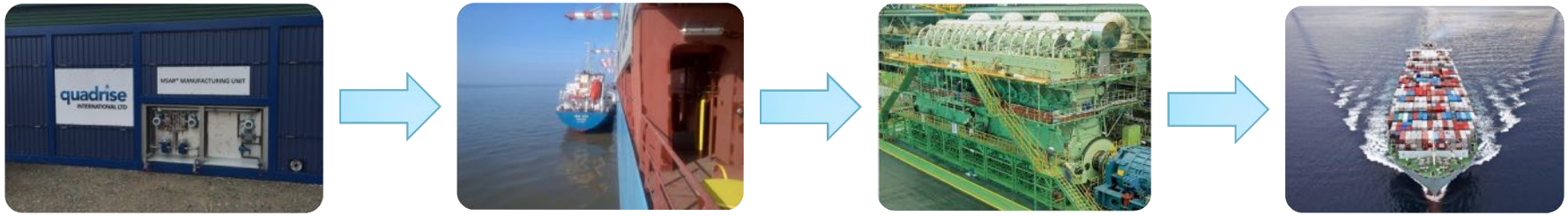


The Market:

- 200 million tons p.a. market ($40 bn p.a.)
- Increasing emission standards
- Intense competition on freight
- Fuel is the largest single operating cost

Quadrise / Mærsk Milestones:

- Marine MSAR®; a cost efficiency & environmental proposition
- Extensive Land & Seaborne trial programme with OEMs
- “Proof Of Concept” completed (MAN / Wärtsilä)
- Supply discussions held with potential NWE/Med refiners
- Final operational trial agreements (Mærsk/Cepsa) announced
- Refinery engineering and permitting well underway



Development & De-risking of Marine MSAR®

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Risk

Mærsk
Joint Development Agreement 2010

Marine MSAR®1 formulation

MAN
Land based marine engine tests

Mærsk / QIL Royalty Agreement 2011

MAN
Soroe Mærsk Seaborne trial 2012

Marine MSAR®2 formulation

ORLEN Lietuva / WÄRTSILÄ
Land based RTX4 2-stroke engine trials YE 2012

Manufacture of Marine MSAR®2 at Orlen Refinery 2013

WÄRTSILÄ / MAN / Lloyd's Register
Seaborne Proof of Concept Confirmed 2014

CEPSA / Mærsk
LONO supply contracts signed & Operational Trial announced 2015

WÄRTSILÄ / MAN / Lloyd's Register / ABS
Operational Trial starting 2016
LONO certifications & commercial roll-out 2017

Timeline

>5 year development programme

Revenue generation

Marine MSAR® - Next Steps



Operational Trial (Mærsk & Cepsa):

- Cepsa (Compañía Española de Petróleos, S.A.U.) is an integrated energy company 100% owned by IPIC (the Abu Dhabi sovereign wealth fund)
- One 6,000 BPD MSAR® system is to be installed at the 240,000 BPD Gibraltar San Roque Refinery (Cepsa's largest oil refinery)
- Current focus for Quadrise is completion of MSAR® engineering & permitting
- MSAR® system installation and production to take place 1H 2016
  - LONO volumes planned 2016 for ~4,000 hours testing
  - Commercial MSAR® volumes post-LONO from 2017
- Additional refineries at major bunker hubs targeted for global roll-out



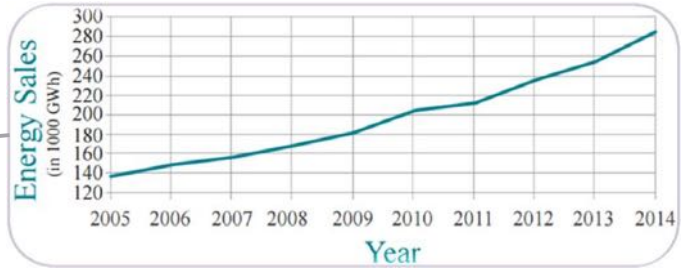
Saudi Arabia: MSAR® Production & Oil Substitution

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The Market:

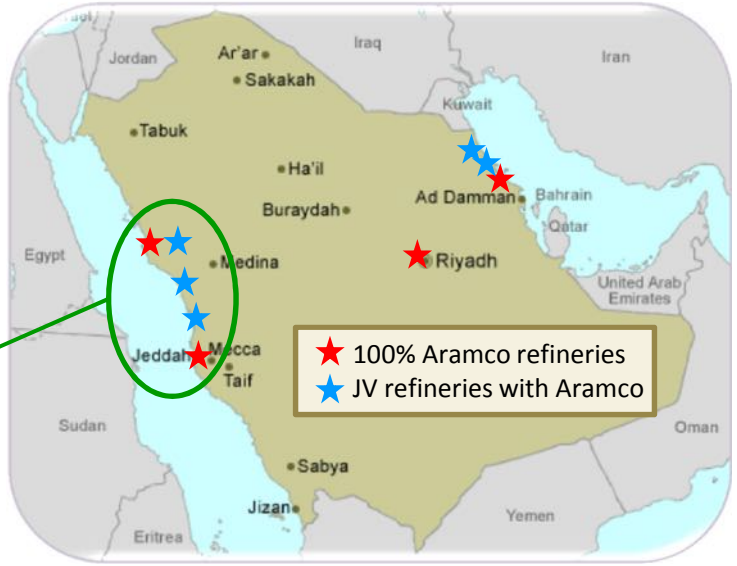


- One of the highest global energy consumers per capita
- Oil imports are subsidised for the domestic market
- Fuel mix for power*: Gas 32%, Crude 44%, HFO 13%, Diesel 11%
- Total oil use for power generation is currently ~30 mtpa
- +12 mtpa consumption of HFO in industrial/cement sectors
- National imperative to reduce domestic crude oil demand
- Power facilities owned by SEC (71%), SWCC (6%) and others
- Oil used predominantly in Western and Southern regions



For MSAR®:

- Scope: Replace crude oil / HFO use for power with MSAR®
- Candidate refineries are located coastally
- Both Aramco and JV refineries are potentially in scope
- Target power generation capacity in the Western region
- Select a refinery location to simplify logistics initially



Notes: * 2014 data (Source: ECRA)

Saudi Arabia: MSAR® Production & Oil Substitution



400MWe Demonstration Trial (Quadrise / Rafid / Refinery / Utility):

- West coast targets established:
  - Major integrated JV refinery complex with nearby utilities supply
  - Largest oil-fired power generation facility in region
- Scope of demonstration:
  - Refinery production of MSAR® & associated coastal supply to…
  - …a modern 400MWe baseload unit for combustion & boiler demonstration
- Current status:
  - Preliminary project budget submitted by client
  - Approval expected soon for 2016 test programme
  - Engineering design and site preparations have started







Other Projects

Refinery Power & Steam Refuelling



- Pilot at mid-sized refining company
- Approval received for detailed design feasibility study (target completion end 2015)
- Potential to meet needs of all refinery fuel users
- Scope to expand to local domestic power plants and marine

YTL PowerSeraya refuelling (Singapore)

- Former Orimulsion® consumer – 1.8M TPA
- MOU renewed in October 2015



Global Oil Majors

- Multi-site opportunities
- Technical scope extended
- Lab tests on residues completed/ongoing
- Both marine & power options for MSAR®
- Candidates for marine supply programme

Consolidation of Research & Development into UK

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- Quadrise Research Facility (QRF) UK – Recently Expanded
  - Product development to enhance economics & efficiency
  - Fuel emulsion testing from lab to industrial scale
  - Central service centre for operations support
- University of Surrey – Research Collaboration
  - Centre for Petroleum & Surface Chemistry, formerly with BP
  - 1st class facilities – ideally equipped ($7m hardware + expertise)
  - Primary research with Prof Spence Taylor aligned to business needs
- Protection of Intellectual Property to create competitive barriers
  - JDA patent protection and future joint patents with AkzoNobel









"…better placed than ever before"

- Industry game-changer with sound fundamentals
- Huge international market
- Partnering with major world class industry players
- Uniquely experienced & expanded management team
- Technically verified & commercial potential demonstrated
- Limited competition

Clear pathways to revenue:

- ✓ Marine MSAR® LONO production & Operational Trial leading to commercial rollout
- ✓ Saudi pilot programme with enormous scale-up potential
- ✓ Global oil major opportunities triggered by Marine progress
- ✓ Promising new refinery refuelling line of business

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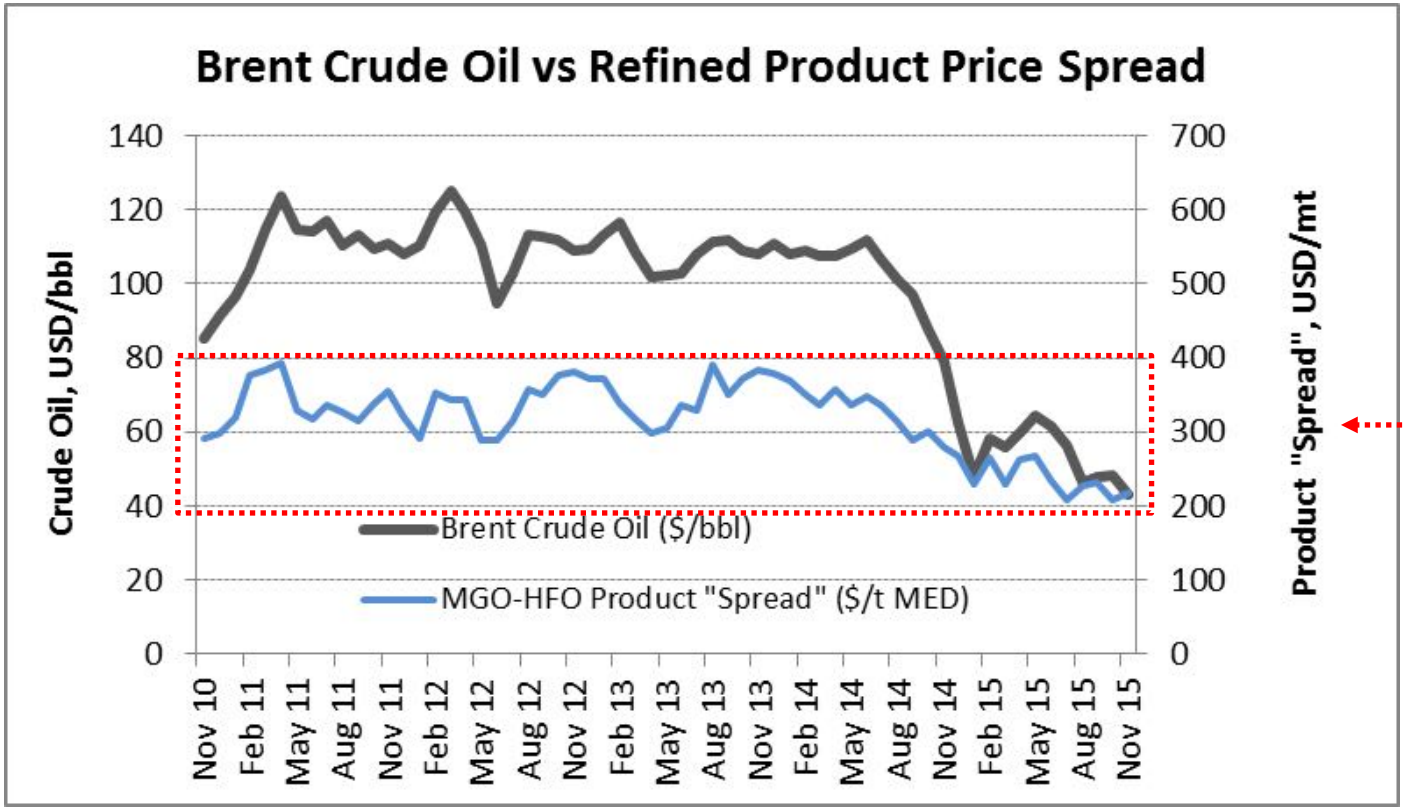




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The economic case for MSAR® is resilient to low crude oil prices



The economics of MSAR® are therefore driven principally by the "spread" in refinery Heavy Fuel Oil (HFO) and Gasoil (MGO) values and not the absolute crude oil price.

During the last 4 years the ~$200-400/mt range has supported the MSAR® case, this is still true today with crude oil at <$50/bbl and "spreads" at ~$200/mt...