World Bunkering Scene

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Gibraltar
Marine and Energy Consulting Limited (MECL) was established 12 years ago

Consulting Services

Ship Owners
- Fuel Strategies
- Scrubber Selection
- Compliance Options
- Technology investments

Bunker Suppliers
- Supply Strategies
- Investment Evaluation
- Strategic Development
- Organisation

Investors
- Vessels
- Terminals
- Bunker Suppliers
- Finance

MARINE + ENERGY TRAINING
- Bunker for Managers
- Blending
- Claims

Abatement Technology and Finance Limited
- Leasing Scrubbers
- Hedging Sulphur Premium

Publishing
“Outlook for Marine Bunkers and Fuel Oil to 2035”
“Bunkers to 2035 - Technical and Environmental Issues”
The industry has recently been hit by

**Price Collapse**
- Will prices return to previous levels and if, when
- Will LNG prices track fuel oil
- Will the market stand speeding up
- Should actions on fuel efficiency investments be reassessed
  - New builds and retrofits

**Sulphur Regulations**
- 0.10% in ECA
- Scrub
- LNG – new build / retrofit
- Risk non compliance
- Timing of global cap

**OW Bunkers Collapse**
- Seek new T&C’s for bunker purchases
- Change the ratio of Contract to Spot purchases
- Vet suppliers more carefully
What is pushing prices?

- **Supply issues**
  - Fracking avails significant at prices above $60/bbl
  - Hence future term ceiling price set by modern fracking at $60/bbl
  - Short term floor set by producer country economic and political survival - $30/bbl
  - OPEC less influential in medium term
  - Greater price volatility but faster realignment

- **Demand issues**
  - Longer term global economic recovery slowed to less than 3.5% pa
  - Most existing energy efficiency technologies will continue to be implemented
  - And improved
  - No obvious increase yet in demand resulting from lower energy prices
  - Paying to emit GHG will eventually further inhibit demand
Where will Crude Oil prices go?

• Over supply reduced by
  - OPEC changing stance
  - US shale production falls in H2 2014
  - Canadian tar sands production falls 2016
  - Reduced investment in exploration

• Some initial forecasts
  - BP suggest 3 years before prices rise
  - OPEC next regular meeting in June 2015
    o OPEC secretary – prices could start upwards within a month
    o Prices will not fall below $30/bbl
  - Low prices for 4 or 5 years then $200/bbl – ENI
  - Prices will be lower longer – Goldman Sachs
Predictions of spot annual average Brent $/bbl
Perception of little increase in crude prices in constant terms Brent $/bbl
380 cSt ARA annual average prices range between $250 to $350/ton.
MGO ARA annual average prices range between $450 to $1,000/ton
ARA bunker prices $/ton

- **BFO $/ton**
- **MGO $/ton**
- **0.50% S**
- **MGO - BFO Differential $/ton**
- **0.50% S - BFO Differential $/ton**

- 380 – LSMGO differential between $230 and $280 over the next 20 years
- 380 – 0.50% S differential between $140 and $200 over the next 20 years
Rotterdam 380 cSt monthly $/ton

Source: Bunkerworld
Future Rotterdam 380 cSt monthly $/ton

Might history repeat itself?

Less likely with changed supply scene
Comparative into ship prices $/mmBtu

**Assumptions**
- Scrubbing BFO $2.4/mmBtu consumed
- LNG liquefaction costs $3.0/mmBtu
- LNG bunker delivery $6/mmBtu now reducing to $3/mmBTU

**LNG prices**
- ARA = NBP - $0.35
- USGC = HH + 15% + $3.0/mmBtu
- ASIA = Japan spot LNG $/mmBtu

LNG may not be so attractive price wise in Europe or Asia
But should take off in the US
Will speeds increase?

• Practical all types of ships above 6,000 dwt have slowed down over the last 5 years

• Most owners perceive the lower bunker prices as short term and are waiting

• T/C rates remain relatively low for most vessel types

• Increasing speed will only exacerbate the over supply keeping rates down

• Many owners will be reluctant to reverse relatively recent investments in enabling vessels to persistently steam more slowly

• Many eco designs do not have the flexibility to speed up significantly

• Immediate exceptions are
  ➢ VLCC’s where the T/C rates have improved due to
    o Lower reordering
    o Current take up for floating storage

• Larger liners on key routes with some improvement in rates may speed up but not yet

Assuming
- Bunker prices remain above $200/t
- T/C rates for most types of vessels remain flat

Very little increase in average speeds this year

Minimal impact on global bunker demand
Demand growth will slow over the next decade with distillate becoming the dominate fuel

Demand growth suppressed by
- Slower economic growth in next decade
- Reduced trade per $1 of GDP
- Greater energy efficiency

Two key influences
- Global cap
- Use of alternatives

As a result future bunker costs will be much more influenced by inland markets
The product balances are changing with implications for the Mediterranean bunker business

Residual will continue to flow into the Middle East and Asia from western sources

Future price differentials between major markets will not change significantly

Distillate surpluses in Asia and the Middle East will see lower prices than in Europe

Once the global cap is instigated distillate bunker prices will be higher in the ARA than Singapore

The East Med may become more competitive than Gibraltar
Scrubbing remains financially viable even with lower prices.
Scrubbing will really take off once the Global Cap is enforced even with lower prices

Take up is inhibited by a lack of
- Ship owners’ funds and obtaining a return
- Lack of confidence in future price differentials
- Technology confidence
- Certainty on future environmental regulations and enforcement
The future role of LNG as a bunker fuel in non LNG tankers is not straightforward. However by 2035:
- 32 millions tons pa of LNG used as bunkers
- By 3,500 mainly smaller ships
- Accounting for 10% of bunkers consumed
- Accelerated growth thereafter.
Sufficient distillate avails to implement the
- ECA 0.10%S during this year
- EU EEZ 0.50%S in 2020

Probably only sufficient avails to implement
0.50%S global cap in 2020 if
- Annex VI avails analysis results are announced in 2015/6
- Immediate very fast uptake of retrofitted scrubbers
- Refiners commission sufficient hydro-treating and conversion capacity in short term running at high levels of utilisation
- Inland demand for distillates grows at reasonable levels

Take up of LNG will not have a significant impact on the decision to implement the Global Cap in 2020

Global Cap implementation definitely feasible in 2025

Possible between 2020 and 2025 but requires amendment to Annex VI
Demand

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<tr>
<th>Demand</th>
<th>2020</th>
<th>2025</th>
<th>Impact of the 5 year delay</th>
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<tbody>
<tr>
<td>Distillates mill tons</td>
<td>3,560</td>
<td>2,743</td>
<td>Decrease of 817 mill tons</td>
</tr>
<tr>
<td>Residual mill tons</td>
<td>2,187</td>
<td>3,044</td>
<td>Increase of 858 mill tons</td>
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<tr>
<td>Total tons</td>
<td>5,747</td>
<td>5,787</td>
<td>Increase of 40 mill tons</td>
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Abetment

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<tbody>
<tr>
<td>LNG mill tons</td>
<td>320</td>
<td>292</td>
<td>Decrease 16 mill tons</td>
</tr>
<tr>
<td>Scrubbers installed</td>
<td>17,101</td>
<td>16,683</td>
<td>418 less</td>
</tr>
<tr>
<td>Scrubber investment $ billion</td>
<td>38.7</td>
<td>37.7</td>
<td>$1.0 billion less</td>
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Marine emissions

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<tr>
<td>SOx mill tons</td>
<td>125</td>
<td>164</td>
<td>39 mill tons more</td>
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<tr>
<td>PM’s 1,000 tons</td>
<td>17.1</td>
<td>22.2</td>
<td>5,100 tons more</td>
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<tr>
<td>Global cost of bunkers $ billion</td>
<td>3,552</td>
<td>3,390</td>
<td>$162 bill decrease</td>
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Delaying the Global Cap until 2025 decreases owners’ costs by $162 billion equivalent to 4.6% but increase SOx emissions by 39 mill tons over the next 20 years.
Summary

• We are in a new mind set with respect to future prices

• Lower prices will not significantly accelerate demand for bunkers

• Distillates and LNG differentials above BFO prices will be lower marginally reducing the attractiveness of scrubbing and slowing the uptake of LNG

• The introduction of the global 0.50% S cap is likely to be delayed to 2025

• After the introduction of the global cap the Eastern Med will be more competitive than Gibraltar

• Over the next 20 years emission regulations increase owners’ costs by some $600 billion

• As well as a myriad of over costs and management issues

• Delaying the global cap to 2025 will
  ➢ Reduce bunker bills by $160 billion
  ➢ Increase SOx emissions by 39 million tons
  ➢ And PM’s by 5,000 tons

• The past four months have increased fiscal uncertainty and reduced confidence in planning decisions

Most of us will wait and see for a few months but the increase in crude oil avails with relatively rapid start up suggest future oil prices will be lower
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