



## **IMO commits to 0.5% sulphur global cap from 2020**

After much deliberation and expensive consultancy work, the IMO has finally decided that the Global Cap on ship's fuel oil sulphur be set at 0.5% max. This limit shall come into force from 1 January 2020.

Furthermore in a parallel action, the Chinese authorities have decided to implement the 0.5% sulphur limit at 11 major Chinese ports with effect from 1 January 2017. These include Shenzhen and Shanghai. It would be interesting to see if this is followed by others.

As always this 2020 limit will apply to signatory states. We have not yet seen the full list of signatory states, but at the last round in the application of Annex VI we noted that Russia was a significant non signatory.

The implications of this global cap are very significant and will have a number of unintended consequences which will only emerge after the passage of time.

### **Refiners**

The refining industry will make every endeavour to meet the demand for 0.5% sulphur bunker fuel and this will probably be achieved by changing crude oil slate, rather than investing in very expensive heavy fuel oil desulphurisation. The reason for this is, that history has shown that where margins between grades of oil have been high, they gradually get reduced over time. Therefore any economic assessment will have to factor in such degradation and unless resilience to this vulnerability can be proven, the project economics do not always stack up.

The current sulphur content within the defined ECAs was set at 0.1% max in 2015. There was a lot of debate as to how this was to be met at the time. However the oil industry coped and some of the demand was met from the distillate stream and other refiners were able to extract a compliant fuel from residues via the vacuum distillation route.

### **Crude oil producers**

Changing the crude oil slate will have implications for the crude oil producers. With increased demand for sweet crudes increasing at the expense of sour grades, the sweet-sour differentials could widen substantially giving the sweet producers a boost to income at the expense of the sour producers.

This will mean that demands for Algerian, Libyan, Nigerian and Caspian Blends will gain and the Middle East grades will suffer, except for the condensate producers. It will also benefit the remaining N Sea grades and the WTI exporters.

### **Bunker Blenders**

It could also mean that bunker blenders who are currently supplied by refineries that run sour grades may be affected as against those that are closer to the sweet crude oil supplies. Thus a port such as Fujairah may become disadvantaged when compared to a Houston or Rotterdam.



## Condensates

We see a major role for condensate refiners in this regard; as the role of liquid hydrocarbons transitions more and more towards road fuels and chemicals feedstocks, large condensate fields such as the S Pars region of Iran and the Qatar adjacent fields, will be sought after once the bunker markets demand lower sulphur fuel.

## Alternatives – LNG, Methanol and Scrubbers

Alternatives to low sulphur fuel are being sought and these are mainly driven by LNG or methanol or by the addition of flue gas scrubbing technology.

### LNG

The proposals for LNG are well advanced and a number of ports are gearing up to supplying LNG bunkers. The use of LNG is particularly suited to point to point business, such as ferry routes and in river transportation. We think this is a very fertile field for the oil companies, as they have the technology and the investment capability. It will be a long haul, as it takes some 30 years to change the world's shipping fleet. However should the price of crude oil rise out of line with LNG, it might be worthwhile to ship owners in retrofitting their fleet. We do not see this happening soon but work on ferries and coasters could be relatively easy to justify.

*It is worth noting that it took more than 30 years to change from coal to oil.*

### Methanol

Methanol is in its infancy and a lot of safety issues are involved that may not be easy to overcome. However it is a liquid, it is easy to produce from methane and is sourced from the same fields as the LNG currently being mooted.

### Scrubbing

Finally we come to flue gas scrubbing. On current price differentials between 3.5 % S and 0.5% sulphur the manufacturers of scrubbing units forecast a payback in 2 years. This is fine except, that as we said above, there is no guarantee that the current differentials will stand the test of time. Crude oil differentials would encourage more production of HFO and thus we would see the HFO differentials narrowing as fuel oil demand remains solely the province of the bunker grades. Almost all of the world's primary energy needs are likely to be produced more and more from renewables and or nuclear in the future and the demand for fossil fuels will end up largely in road and aviation transport fuel and chemical feedstock demand. Most forecasters see this transition happening between 2030 and 2050.



The big question hanging over scrubbing technology is what to do with the liquor that will have scrubbed out the pollutants extracted by the scrubbers? There is no coordinated view on this and unless this issue is solved we could end up with this material ending up in our seas in high concentrations. This would surely be an issue of robbing Peter to pay Paul, that is, *take it out of the atmosphere and dump it in the sea.*

Until such time as this issue is resolved we see very little incentive for principled ship owners to install scrubbers.

We believe that the fears of shortage of HFO supply are somewhat overdone and that given a value, refiners will make the grade.

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