



Marine fuels: a market in full transition awaits the IMO's decision on sulphur limits

The global shipping industry is undergoing a radical transition towards lower pollutant emissions, a reduction in CO₂ emissions and greater efficiency. New regulatory frameworks introduced by the UN's International Maritime Organization (IMO) and local bodies such as the EU are set to have a decisive impact on the bunker fuel industry.

A global governance framework

Contrary to most fuels, maritime fuel requirements for the most part are not set by national governments or regulators.

Shipping's international scope implies that marine fuels are used on the high seas and across many jurisdictions, calling for a coordinated approach.

Fuel used in international maritime transport is regulated by the International Maritime Organization (IMO) Convention on the Prevention of Pollution from Ships, known as MARPOL. Its Annex VI sets limits on ship exhaust emissions and also limits the sulphur content of fuels.

Since the 1980s, the International Organization for Standardization (ISO) has been the standard setter for marine fuels. At the local level, port authorities rely on fuel testing agencies to ensure that suppliers and shipping firms comply with the fuel specifications.

Towards tougher "Global IMO" limits for sulphur in fuels

International shipping is subject to the "global IMO" limit, unless more restrictive local regulation applies (see below).

The maximum "global IMO" sulphur content was lowered to 3.50 % in 2012 and a further reduction to 0.50 % is due to enter into force on 1 January 2020 or 2025. The IMO has commissioned research on the availability of 0.50% marine fuels. As the results of this July 2016 study indicate an absence of supply constraints, the specification change could be applied as of 2020.

A decision is expected to take place at the next IMO's Marine Environment Protection Committee meeting in October 2016.

The impact of this decision will be very important and will influence refinery upgrades worldwide.

The special case of Sulphur Emission Control Areas (ECAs)

The Baltic Sea, the North Sea, the English Channel and the coastline of North America are now Emission Control Areas (ECAs) where special emission limits apply. On 1 January 2015, the maximum permitted sulphur content for marine fuel dropped from the previous 1.00% to 0.10% in the ECAs.

The European Union has adopted its own sulphur limits (see Directive 2012/33/EU) that will apply in European waters regardless of international developments. Fuel for inland waterways must meet ultra low sulphur standards.

Other regions enforce sulphur regulations such as Hong Kong (since 2015), while China will create 3 ECAs with 0.5% maximum sulphur content in bunker fuels, effective on 1 January 2019.

Evolutions in the bunker fuels market

Marine fuel is traded around the world, with a concentration in ports such as Singapore and Fujairah, strategically located along major transit routes.

ISO standard 8217 distinguishes between distillate-based and residual "bunker" fuels based on their viscosity:

- Bunker A, a diesel fuel oil (also ultra-low sulphur fuel oil, ULSFO)
- Bunker B, called "navy special" (a little-used middle distillate)
- Bunker C, made of heavy fuel oil, the most commonly used fuel

The residual fuel oil segment which comprises intermediate fuel oils (IFOs) accounted for around 75% of global bunker consumption in 2013 but its share is steadily decreasing. The rules applicable in ECAs imply the use of marine distillate fuels corresponding with Bunker A specs (such as grade DMA) or LNG.

The rapid transition towards cleaner fuels is also a result of massive investments in modern refineries in India, the Middle East and China. Even Russian refineries, historically big suppliers of fuels for shipping, are producing far less residual fuels following extensive upgrades.

The challenge of reducing pollutants emissions

The price of the fuel can account for up to 70% of the entire voyage expenses of a vessel. This makes shipping companies very fuel price sensitive, particularly when freight rates are depressed.

The shipping industry is looking at several options to limit sulphur emissions: ships must either filter their exhaust gases, switch to a sulphur-free fuel or convert their fuel supply to gas (LNG).

Low-sulphur fuels, like marine diesel or ULSFO, are currently an economically viable alternative to exhaust filtration ("scrubbing") despite costing 60-70% more than those traditionally used by commercial ships. Long-distance freight ships from Asia or Africa are expected to switch to a low-sulphur fuel when they enter the Channel or other ECAs and should carry multiple fuel reserves, which is not always the case.

Efforts to reduce shipping's contribution to global warming

If left unchecked, shipping could be responsible for as much as 17% of global emissions in 2050. Following the Paris agreement on climate change, policymakers are discussing ways to lower CO₂ emissions attributable to shipping activities. The IMO is currently defining shipping's "fair share" contribution, and shipping could be included in the EU's emissions trading scheme from 2021 onwards.

Decisions to be taken at the IMO meeting on 24-28 October 2016 should mark an important new milestone towards a cleaner, more energy efficient shipping sector that is accountable for its environmental externalities and contributes to global efforts.