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A Global Overview and Outlook of Marine Fuel Regulations and Specifications

Stratas Advisors

This excerpt is from a report that is available to subscribers of Stratas Advisors' [Global Fuel Specifications and Global Marine/Bunker Fuel Outlook services](#).

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In October 2016, the International Maritime Organization (IMO) confirmed that sulfur content of marine fuel will be capped at 0.50 wt% globally with effect from Jan. 1, 2020. The new limit will replace the current global cap of 3.50 wt%. The 0.50 wt% cap and the start date of Jan. 1, 2020 have been written into IMO regulations for the last 10 years.

The global sulfur cap applies to all ships, unless they use abatement technology such as exhaust-gas scrubbing to achieve equivalent or lower emissions of SO_x. If using abatement, fuels with sulfur content greater than 0.50 wt% can be used. In IMO-designated Emission Control Areas (ECAs), the current ECA fuel sulfur limit of 0.10 wt% continues to apply, again with abatement allowed as an alternative. IMO-designated ECAs, along with other domestic ECAs (DECAs) imposed by national or local authorities that are mostly located in parts of North Asia, are shown in the figure below.

For a ship operator, the compliance options from 2020 onwards are:

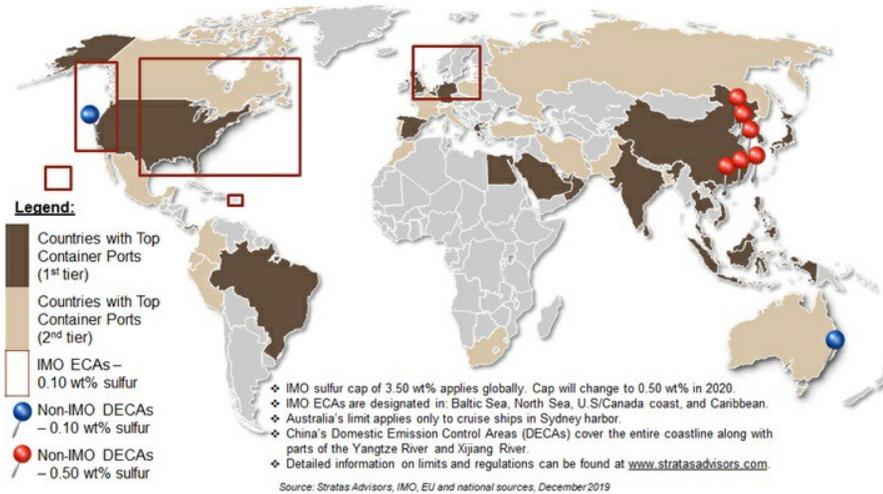
- Switch to low-sulfur petroleum fuel (< 0.50 wt%, or < 0.10 wt% in ECAs).
- Install an approved exhaust gas cleaning system to achieve equivalent or lower SO_x reductions than when using 0.50 wt% S fuel.
- Switch to alternative low-sulfur or sulfur free fuels such as Liquefied Natural Gas (LNG), methanol, biofuels etc.

Stratas Advisors first reported confirmation of the 2020 start date for the global cap in November 2016 (see Insights, [Nov. 3, 2016](#)). The full report looks in more detail at whether key IMO member states with major ports have enacted the cap into their national or port legislations as well as marine fuel specifications. This report also includes case studies focusing on current and upcoming regulations for major ports in China, Russia, U.A.E. and the U.S.

Mandatory IMO SO_x Emission Control Areas (ECA) and non-IMO Domestic Emission Control Areas (DECA)

Mandatory IMO SO_x Emission Control Areas (ECAs) and non-IMO Domestic Emission Control Areas (DECAs)

Call for new IMO ECAs to be considered in the Mediterranean Sea, North Asia, Singapore, etc.



Source: Stratas Advisors, IMO, EU and national sources, December 2019

In analyzing the trends for this report, Stratas Advisors focused on the top container ports of the world as well as the top 10 marine fuel markets (see table below). The world's top ports as well as marine fuel markets are mainly located in Asia Pacific in the countries / state territories of China, Hong Kong, Singapore and South Korea, as well as in Dubai, U.A.E. in the Middle East. In China, the top container ports are located in the cities of Guangzhou, Ningbo-Zhoushan, Qingdao, Shanghai, Shenzhen and Tianjin. Busan is the location of South Korea's top container port. The ports of Los Angeles and Long Beach in California are the top container ports in the U.S., while the Rotterdam port in the Netherlands is the top container port of Europe.

However, it is worthwhile to note that as of 2016, the top consumers of LSFO include the Netherlands, U.A.E., China and Spain, while Russia was by far the world's largest consumer of marine gasoil.

Countries and Territories with Top Container Ports

1stTier	2ndTier
Belgium	Australia
Brazil	Bangladesh
China	Canada
Egypt	Colombia
Germany	Ecuador
Greece	France

Hong Kong	Iran
India	Italy
Indonesia	Jamaica
Japan	Mexico
Malaysia	Morocco
Malta	Pakistan
Netherlands	Peru
Oman	Poland
Panama	Portugal
Philippines	Russia
Saudi Arabia	South Africa
Singapore	Turkey
South Korea	
Spain	
Sri Lanka	
Taiwan	
Thailand	
U.A.E.	
U.K.	
U.S.	
Vietnam	

Source: World Shipping Council, 2019; Lloyd's List, 2018

As the IMO's deadline of Jan. 1, 2020 draws near, it appears that so far 32 countries and territories out of the 177 IMO member countries and associate member countries have set regulations in place to meet the IMO sulfur cap of 0.5 wt%. Alongside the EU and the U.S., countries and territories with top ports including China, Hong Kong, Singapore, South Korea and the U.A.E. have set regulations in place to meet the IMO 2020 cap. Other countries and territories with major ports including Brazil, India, Indonesia, Japan, Malaysia and Taiwan also have regulations in place, while Panama and the Philippines are still in the process of drafting regulations. On the other hand,

other countries and territories with major ports including Egypt, Oman, Saudi Arabia, Sri Lanka, Thailand and Vietnam have yet to set regulations or plans to draft regulations.

In addition, it is worthwhile to note that a number of countries and territories with major ports including China, Hong Kong and Taiwan as well as EU member states of Belgium, Germany, Netherlands and Poland already set regulations to require early implementation of the cap as early as 2016.

Stratas Advisors will continue to follow on the development of regulations for marine fuels in the countries and territories with major ports, as well as in the remaining IMO member countries.

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