

Customer Information: Sulphur Regulation

CMA CGM deems it important to update its customers on the recent developments regarding **Sulphur Oxides (SOx) regulation**.

Ocean Going Vessels are subject to stricter regulations both at global or regional level for 10 years since the creation of the first **Emission Control Area (ECA)** in the Baltic Sea.

Since, **ECAs have been enlarged to The Channel and North Sea, as well as North America** and the **maximum sulphur content** has been reduced gradually from 4.5% to 1.5% and 1% up to this date, while the regulations set new limits in **2015 at 0.1% sulphur**, which presents significant challenges for the industry including Oil Majors, Shipping Lines and Shippers.



CMA CGM enforces its long-term commitment about protecting the environment, makes sustainable development one of its main focuses and will do its utmost to **comply with the new regulation set in place as from January 1st, 2015**.

CMA CGM is confident with its customers' full support during the implementation of this policy.

Sulphur Regulation

Year	Global (Out of ECA)	In ECA
2007	4.5%	1.5%
2010	4.5%	1.0%
2012	3.5%	1.0%
2015	3.5%	0.1%
2020	0.5%	0.1%

IMO Marpol Sulphur Limits

The **International Maritime Organization, IMO**, the legal governing body for International Shipping and a subsidiary organ of the United Nations, sets global sulphur limits for marine fuels as per the International Convention MARPOL Annex VI Regulations for the Prevention of Air Pollution from Ships. Besides, the directive sets the areas, called Emission Control Areas, where stricter sulphur limits apply, and following a process where all states concerned shall reach an agreement.

Stricter regulations covering the sulphur content of fuel oil are transposed into national states and flag regulations, and further may also be enforced at regional (i.e. European Directive 2012/33/EU) or local (i.e. California Code of Regulations section 2299.2, title 13) levels.



SOx – THE WORLD IN 2015



0,1 % in 2015

IMO Emission Control Areas

Technical Solutions to Comply with

To deal with **IMO sulphur regulation**, i.e. **0.1% sulphur fuels** in ECAs as from **January 1st, 2015**, there are today 3 potential solutions for ship-owners:

1. Burn marine diesel,
2. Install scrubbing systems,
3. Switch to liquefied natural gas - LNG.

Burning Marine Diesel is the only short term and available solution to deal with the sulphur regulation requirements and deadlines.

Significant works remain to be done regarding LNG and scrubbers, not talking about the investment and retrofit programs related to such solutions.

Solution	Issues and Challenges
Marine Diesel	<ul style="list-style-type: none"> • Bunker over cost • Technical issues (viscosity and temperature) • Fuel switch Operations and procedures
Liquefied Natural Gas	<ul style="list-style-type: none"> • No safety standards and regulations • No LNG supply chain and Infrastructures • Lack of experience in LNG Containerships ops • Significant investments and retrofits
Scrubbers	<ul style="list-style-type: none"> • High investment and retrofit costs • Lack of technical maturity and experience • No legal standards for open loop scrubbers

Impacts of the Sulphur Regulation: Shipping Lines

To deal with **IMO sulphur regulation**, i.e. **0.1% sulphur fuels** in ECAs as from **January 1st, 2015**, Ocean Going Vessels have no option but to **burn marine diesel fuels (0.1% sulphur)** instead of actually low sulphur fuels (1% sulphur). There is no other immediate alternative as so called scrubbers systems and liquefied natural gas are not mature enough technologies with a lot of uncertainty on legal safety, and technical aspects.

As of today, the **cost differential** between low sulphur and marine distillate fuels is about **USD 300 per ton**.

From a technical perspective, burning Marine Diesel presents operational issues such as difference of viscosity (which can lead ultimately to black out or propulsion issues), temperature (instead of heating, marine diesel need to be cooled to avoid risk of fire, leading to extra piping works and upgraded procedures on board), and finally bunker storage capacity on board and fuel purchasing strategy globally need to be reviewed.

Impacts of the Sulphur Regulation: Customers



For our customers, a **sulphur surcharge has to be anticipated**, effective as from **January 1st, 2015**, as a response to the sulphur regulation.

CMA CGM is actually working on a sulphur surcharge and will inform all customers as soon as possible.

In between, CMA CGM recommends the following:

- Integrate the sulphur surcharge in the frame of tenders for shipments as from January 2015
- Review routings possibilities looking at alternatives routes and intermodal possibilities

Should you have any question, please contact your account manager or directly ho.environment@cma-cgm.com.

More information on CMA CGM Environmental Policy on www.cma-cgm.com.