



BLUE WORLD LINE

Org No. 027574

A Non-Vessel Operating Common Carrier

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IMO 2020 Frequently asked Questions

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About IMO2020

From January 1st, 2020 onwards, all seagoing vessels will have to reduce sulphur oxides by 85%. The new regulation is set by the International Maritime Organization (IMO) with the aim of cutting sulphur oxide gas emissions, protecting public health and supporting the environment. Vessels must use marine fuels with a maximum sulphur content of 0.5% compared to the current limit of 3.5%

What is the scope of IMO 2020?

The regulation will apply globally and throughout the industry to fuels used in the open sea. It will affect vessel operators, refineries, and global oil markets. In the Environmental Control Areas (ECA zones) an even stricter regulation remains, limiting the sulphur content to 0.1% (Ultra Low Sulphur fuel – ULSF)

With the implementation of IMO 2020, the International Maritime Organization aims to reduce total sulphur emissions from ships by 77% from 2020 until 2025. The overall objective is to reduce the negative impact of shipping on human health by decreasing air pollution from sulphur emissions by 68% globally, in particular the coastal areas of Asia-Pacific, Africa and Latin America

Please note that the IMO 2020 regulation focuses on the reduction of sulphur emissions, not on the reduction of carbon dioxide emissions. So, there will not be a direct impact on the global warming but reducing sulphur emissions helps prevent acid rain and combats ocean acidification

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How can vessel operators comply with the IMO 2020 regulation?

1. Switch to a Very Low Sulphur Fuel (VLSF)

Switch to a Very Low Sulphur Fuel (VLSF) or MGO (Marine Gas Oil) that complies with the new rules (Most likely choice). However, the cost, widespread availability and specifications of a new fuel for use in marine engines are still uncertain. The petroleum industry needs to adapt refineries and supply chains and is likely to pass these costs on to the market.

2. Use Scrubbers

Use Scrubbers (emission cleaning technology) to remove pollutants from the ship's exhaust, which allows them to continue using higher-sulphur fuels. However, the process of installing Scrubbers is limited and expensive due to space and capacity constraints and will increase operating costs. In addition, the price and availability of higher sulphur fuels after 2020 remains uncertain.

There are two types of Scrubbers – an open scrubber system and a closed scrubber system. The open scrubber system prevents the Sulphur from being expelled to the atmosphere, but instead dumps it into the ocean. JAS does not necessarily promote this type of system.

3. Switch to non-petroleum-based fuels

Switch to non-petroleum-based fuels, such as Liquefied Natural Gas (LNG). This is feasible for newer vessels with appropriate specifications. However, the infrastructure to support the use of LNG is currently limited in scope and availability. Experts predict that by 2020 approximately 250-500 vessels, or a maximum of 10-12% of the global container fleet, will either be equipped with pollution cleaning technology or will be able to burn LNG.

What is a Scrubber?

Scrubbers are pollution control devices that use liquid to wash unwanted pollutants from a gas stream, or that inject a dry reagent or slurry into a dirty exhaust stream to "wash out" acid gases, but there are problems with the subsequent handling/disposal of the washing water containing the particles. Several countries, including Singapore and China, have established strict rules for the use of certain Scrubbers (Open Loop Scrubber) and for the treatment of the washed product as toxic waste, making the use of this technology more expensive.

Below is a link to have an overview of the Scrubber technology.

<https://www.youtube.com/watch?v=OjdGjkPOOYs>

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How long does it take to install a scrubber?

Installation takes between 4 and 6 weeks and will generally be done during the vessels schedule maintenance program

Which option will carriers take?

The majority of carriers will use IMO 2020 compliant fuels (VLSF / MGO) to meet legal requirements. Scrubbers are expected to be installed at approximately 10-12% of the global vessel capacity, while LNG technology is still in its early stages

Will vessel capacity be affected?

There may be minor impact in capacity as vessels have scrubbers installed or vessels have their tanks and pipes flushed in preparation for the VLSF

Can vessels mix High Sulphur and Very Low Sulphur in the same tank?

No. Once the tanks have been cleaned, the carriers must use the VLSF only, otherwise the tanks will need to be cleaned again

What are the impacts and risks?

The prospect of IMO 2020 has resulted in a high level of uncertainty about availability of petroleum products and prices. It is currently not possible to indicate an accurate future price level for IMO 2020 compliant fuels, as prices are affected by several factors. Geopolitical events such as sanctions and war, the actions of OPEC (Organization of the Petroleum Exporting Countries) and the general demand of the world economy for oil influence the price of crude oil and ultimately the price of fuel products. The IMO 2020 regulation will have another significant effect in addition to the regular volatility of global oil prices.

At this stage all we can predict is that it will cost more than currently used fuels. Today's forecast assumes a short- to midterm increase in bunker prices between US\$ 180 and US\$ 400 per TEU (incl. all implementation costs). This range is very wide, but cannot be specified any further at present, as the aspects mentioned have a large influence on the price development.

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Due to the significant increase in bunker prices, every company involved in sea freight will be confronted with rising and more volatile fuel costs

When will the higher costs go into effect?

From the fourth quarter 2019, in preparation for all vessels to be compliant as of January 1, 2020

Will there be a grace period after January 1, 2020 for carriers to convert to the new fuel?

No. All carriers must be compliant effective January 1, 2020

How is the JAS BAF cost calculated?

Fuel rates will be determined by a formula based on the recent historic price development (either monthly or quarterly): BAF per TEU = Fuel price per Ton x FUEL CONSUMPTION / Carried TEU

$$\text{BAF}_{\text{[per TEU]}} = \text{Fuel price}_{\text{[per TO]}} \times \frac{\text{Fuel consumption}_{\text{[TO]}}}{\text{Carried TEU}}$$

Does the new JAS BAF calculation include the ULSF pricing in the ECA areas?

No, the ECA fees will be priced separately

Does the new JAS BAF calculation vary depending on carrier?

No, the BAF formula is applicable, irrespective of underlying carrier

Will the increase in fuel prices affect me?

Yes, the regulations apply equally to everyone

Will my fuel rate vary depending on the technology or fuel used onboard ship?

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No, the JAS BAF formula is based on using IMO2020 compliant fuel

Will transit times increase because of the implementation of the IMO 2020 regulations?

So far, we have not heard of any long-term changes in timetables or transit times

Who controls the implementation of the IMO 2020 regulation?

The Port State Control of the respective state is responsible. They will check logbooks, use sniffer devices and sniffer drones

What will be the fine if a carrier does not comply with IMO 2020?

Depending on the jurisdiction, the penalties are high fines, ship arrest or even imprisonment of the captain

What is JAS's position towards IMO2020

JAS welcomes any industry approach to improve environmental protection and fully supports this initiative. The shipping industry must prepare for a future with lower transport emissions. IMO 2020 will ensure that ocean transportation remains the most environmentally friendly and carbon efficient mode of transportation

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