New IMO2020 regulation will come into force as of 1 January 2020

IMO Initiative

The International Maritime Organization (IMO) has introduced new regulations to reduce marine pollution caused by the shipping industry.

IMO2020

is the first in a series of steps by the IMO to reduce emissions in response to climate change.

All vessels will be required to use fuel with only 0.5% sulphur content (today the cap is 3.5%).

Three promising solutions

for reducing sulphur emissions and becoming compliant.

Option 1
Compliant fuels

Option 2
LNG

Option 3
Exhaust Gas Cleaning Systems

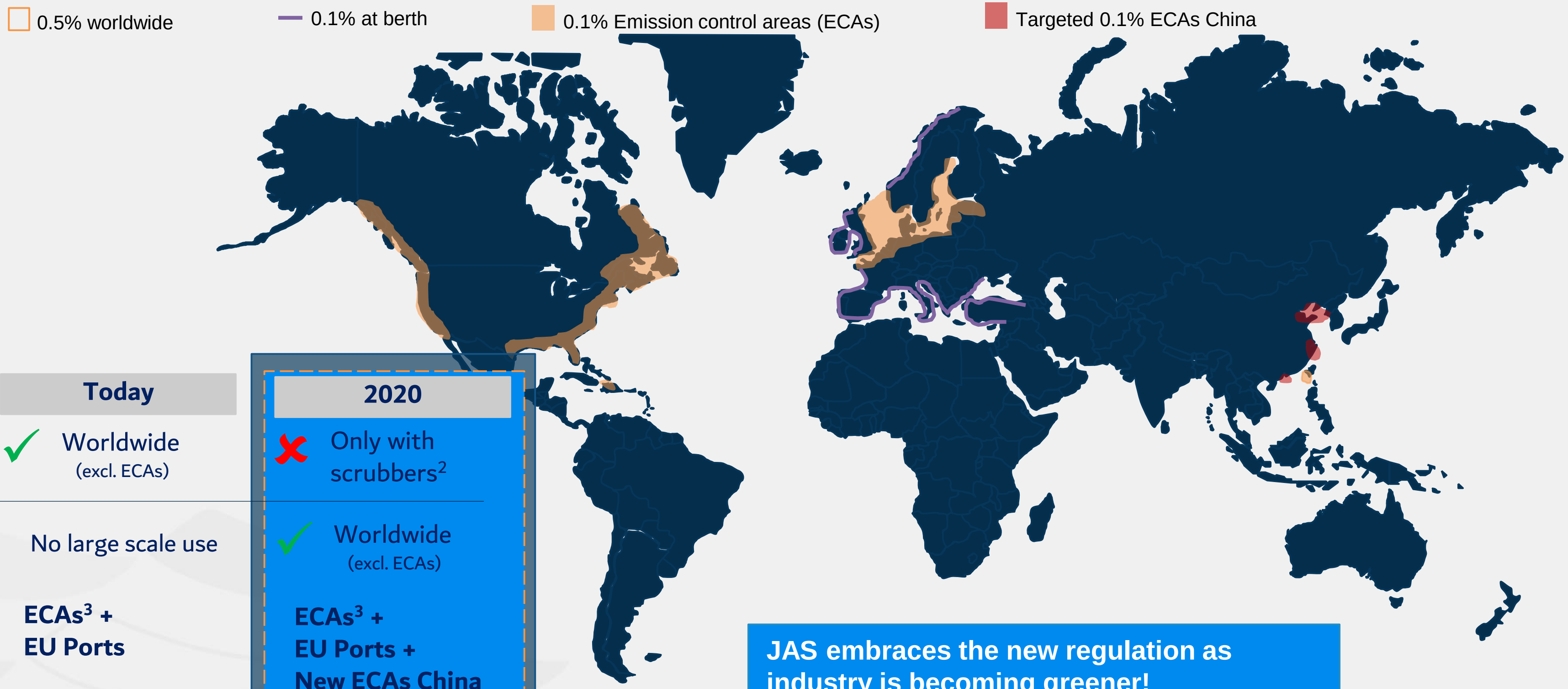
JAS embraces the new regulation for a cleaner, healthier environment

For a more sustainable future

The IMO2020 emission regulation means that ships will significantly reduce emissions on the high seas as well as in coastal areas resulting in much greener shipping.

PEOPLE MAKE THE DIFFERENCE

As of 2020, all ships will be required to use fuel with 0.5% sulphur content or less on all the world‘s oceans



Fuel type	Today	2020
HSFO 3.5%	✓ Worldwide (excl. ECAs)	✗ Only with scrubbers[2]
LSFO 0.5%	No large scale use	✓ Worldwide (excl. ECAs)
MDO 0.1%	ECAs[3] + EU Ports	ECAs[3] + EU Ports + New ECAs China

JAS embraces the new regulation as industry is becoming greener!

1) Marine Diesel Oil (0.1% sulphur) 2) Possible use of scrubber for So_x post-treatment 3) Emission Control Area (ECAs) = The Channel, North Sea, Baltic Sea, North America, US Carribean

Financial impact of IMO2020 for the shipping industry

- Complying with the new low sulphur regulation will make the industry significantly greener, but compliance will have a significant cost impact on the industry, and our customers
- To comply with the regulation, the industry will have to either start using low sulphur fuels or invest in new technologies that have yet to be thoroughly tested in practice
- In either case the costs will go up, because compliant fuels as well as investments to new technologies will be expensive
- The industry is estimating an additional initial fuel cost of USD 60bn based on the assumption that the spread between HSFO and LSFO 0.5% will be USD 250 per ton
- To recover fuel related costs caused by the IMO2020, JAS is introducing a transparent and fair BAF fuel formula as per below
- Fuel price per ton will be based on average fuel price from different locations from the previous quarter (Source Platts)

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

IMO2020 starts already in Q4 2019

Starting Q4 2019

In order to comply with the IMO regulations all carriers must start fueling their vessels with LSFO0.5% in Q4 2019

IMO

Jan 1st 2020

All ships not fitted with scrubbers will be required to use fuel with 0.5% Sulphur content or less

IMO

Mar 1st 2020

Ban of HSFO on all vessels unless they are fitted with scrubbers (<10% of world's container vessel fleet)

How will this be done in practice?

The exact refueling schedule will depend on...

- Rotation & Route of the vessel deployment, which determines the available fueling stations
- Vessel tank capacity
- Stock of HSFO on board the vessel
- Cleaning of tanks: all residues must be cleaned from tanks and piping systems before fueling with 0.5% Sulphur

The refueling plan will therefore foresee a continuous and successive refueling of all vessels (owned and chartered) in Q4 2019 in order to be ready and fully compliant for IMO2020.