



SHIP EFFICIENCY 2017

by STG

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Presentation on:

New environmental Regulation and a broader view on impacts for efficient shipping

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**The German Society for Maritime Technology
Schiffbautechnische Gesellschaft e.V.**



New environmental regulations A broader view on impacts for efficient shipping

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**We are a global classification, certification, technical assurance
and advisory company**

OUR PURPOSE

**TO SAFEGUARD
LIFE, PROPERTY
AND THE ENVIRONMENT**

Global reach – local competence



300+
years

100+
countries

100,000+
customers

12,000+
employees

This takes detailed knowledge and diverse domain competence



Highly skilled people all around the world

EMPLOYEES' LEVEL OF EDUCATION

87%

have a PhD, Master or Bachelor degree



Master	41%
Bachelor	40%
Basic education	8%
Doctorate / PhD	6%
2-year college	3%
Technical / professional	2%

EMPLOYEES BY NATIONALITY

117

nationalities



Norwegian	1,860	Danish	239
German	1,610	Singaporean	230
American	1,493	Malaysian	184
British	1,109	Swedish	178
Chinese	1,002	French	162
Dutch	829	Japanese	137
Indian	667	Greek	133
Korean	454	Canadian	127
Polish	420	Egyptian	119
Italian	404	Mexican	117
Brazilian	288	Australian	112
Spanish	285		

The „Regulatory Triangle“

Global



Regional



Local

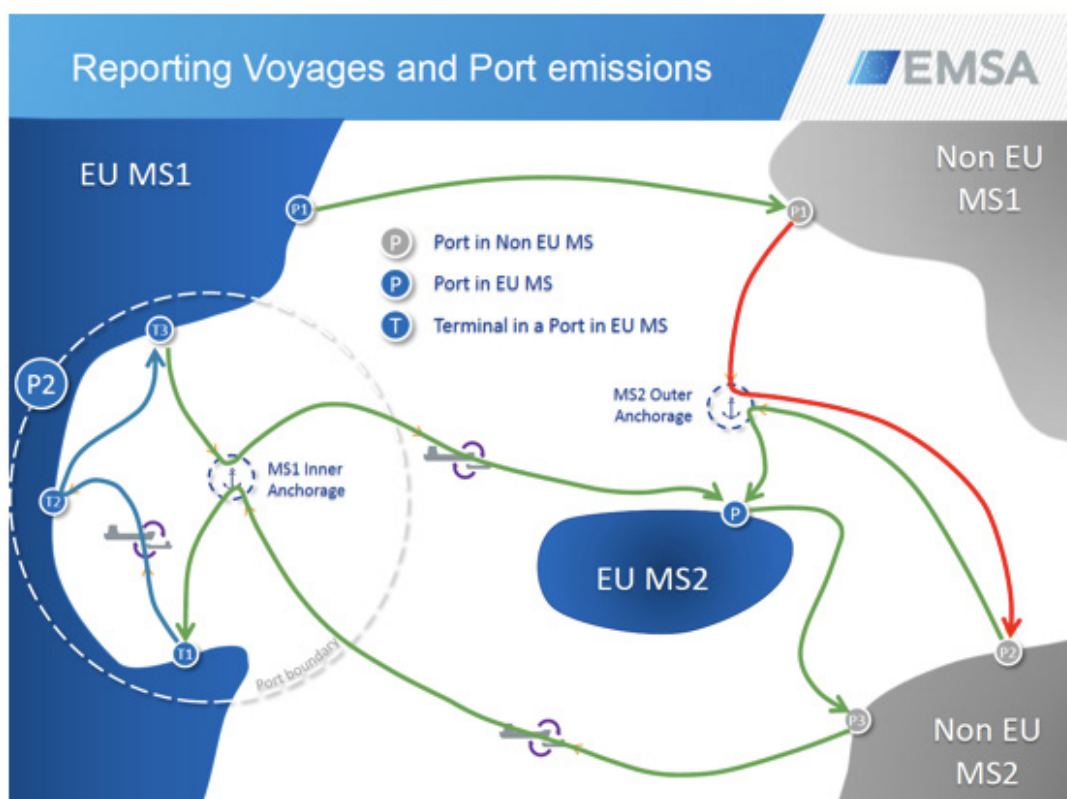




MARITIME

EU Monitoring, Reporting, Verification of CO₂ (MRV) Overview

Voyages under MRV



A broader thought

on:

- The environment
- Technology
- Financial aspects
- Other thoughts



BALLAST WATER MANAGEMENT

DCO
|

History

On the agenda for almost 20 years



1997



IMO's "Guidelines for Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens", Res. A. 868(20)

Ungraded

2004



IMO's BWM Code adopted

2008-2010



The first systems installed...

2012



USCG adopted and implemented its own Ballast Water regulations

2016



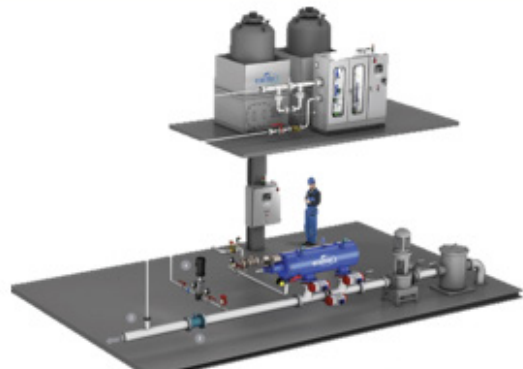
IMO Ballast Water Convention ratified 8th Sep 2016

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Technologies

Elektrolysis, UV, Ozon, Chemicals



Ungraded

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How to proceed and minimize risk?

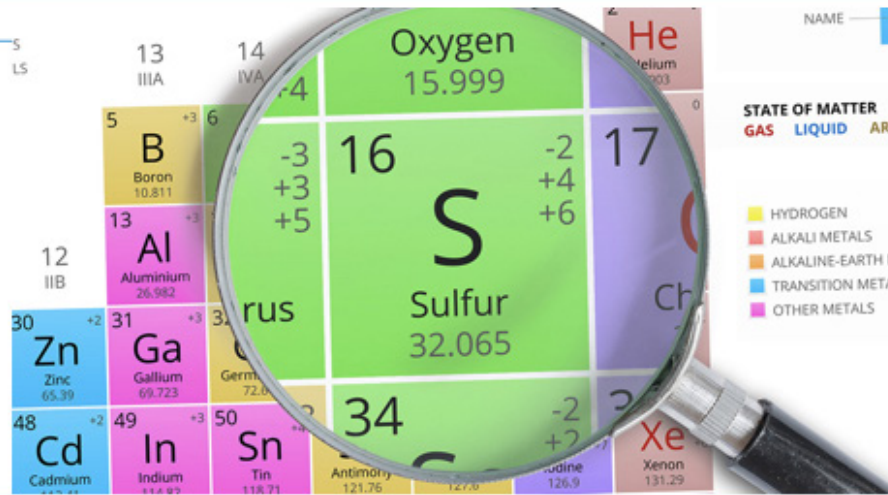


A broader view

On:

- The environment
- Financial aspects
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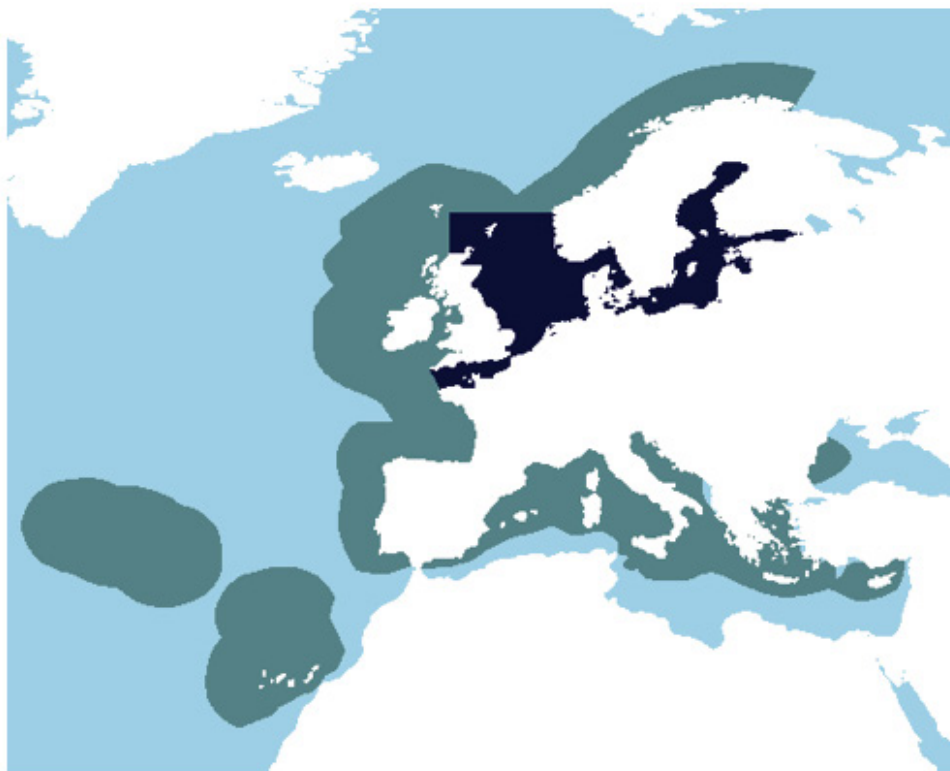
MARITIME

Sulphur

A geographical view

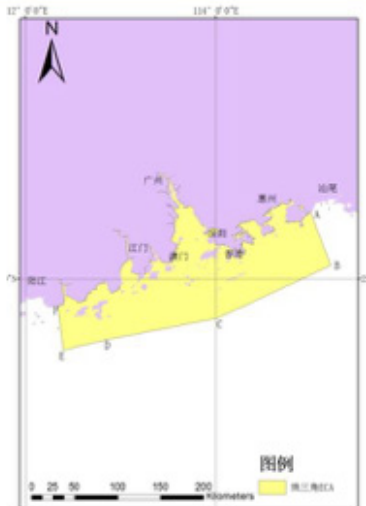
Ungraded

EU sulphur Directive





Sulphur limits in Chinese waters



Hong Kong/Guangzhou



Shanghai



Tianjin/Dalian/Sea of Bohai

- 1 January 2016:** Core ports can voluntarily impose 0.5% sulphur limit;
- 1 January 2017:** Mandatory 0.5% S limit for core ports in areas
- 1 January 2018:** Mandatory 0.5% S limit for all ports in areas
- 1 January 2019:** 0.5% S limit in all sea areas, may decrease to 0.1% pending decision end 2019

National Chinese regulations, applicable to all vessels in relevant areas.
 Voluntary from 2016 and mandatory from 2017

Supporting your business – DNV GL

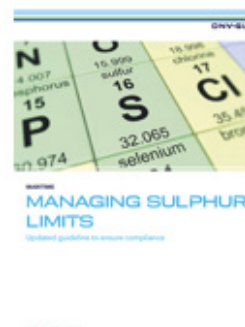
MRV



Ballastwater treatment



Sulphur



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Or come for a visit to Brooktorkai 18, Hamburg

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