



Air Quality and NEC Directives

Sulphur Content of Marine Fuels *Preparation Steps for the Energy Community*

**Rosa Antidormi
Policy Officer
European Commission,
DG Environment, Clean Air Unit**

Outline

1. Introduction: why is air pollution a problem in the EU and EnC ?
2. EU Clean Air Policies & funding to non-EU countries
3. Implementation and Enforcement of the Sulphur Directive in the EnC – EMSA assistance
4. Further reducing air pollution from ships, EnC support

RELEVANCE TO THE ENERGY COMMUNITY



Why is air pollution a problem?

Europe's air quality is slowly improving, but fine particulate matter and ground-level ozone in particular continue to cause serious impacts on health.

Estimates point to well about 400.000 premature deaths in EU-28 each year due to particulate matter; and more than 13.000 due to ground-level ozone.

1 out of 10 EU citizens are exposed to particulate matter concentrations above the EU limit value; with 9 out of 10 exposed above WHO guidelines.

Assessed against EU Limit Value



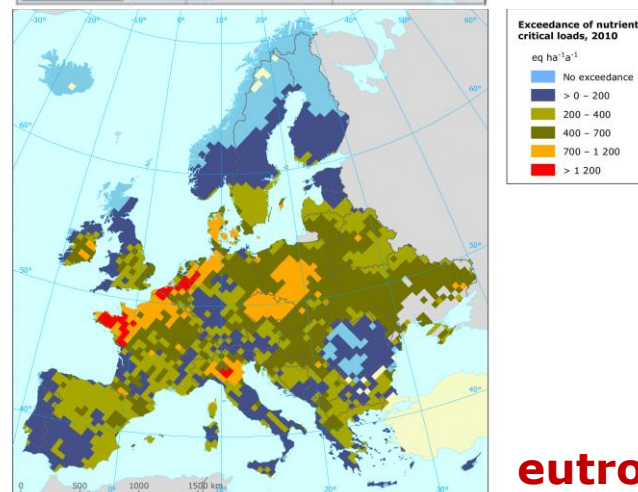
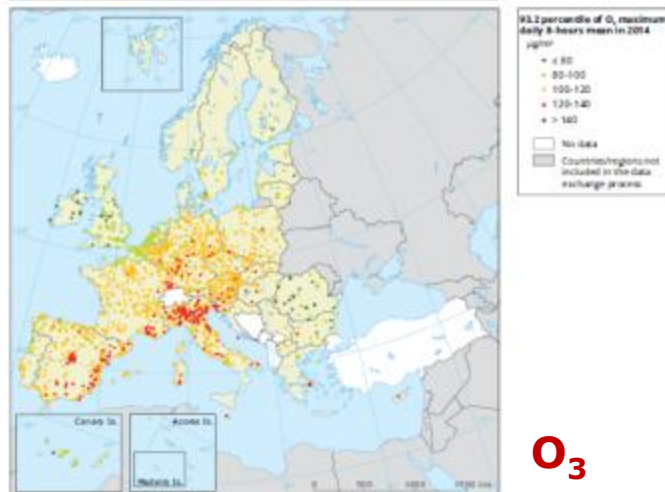
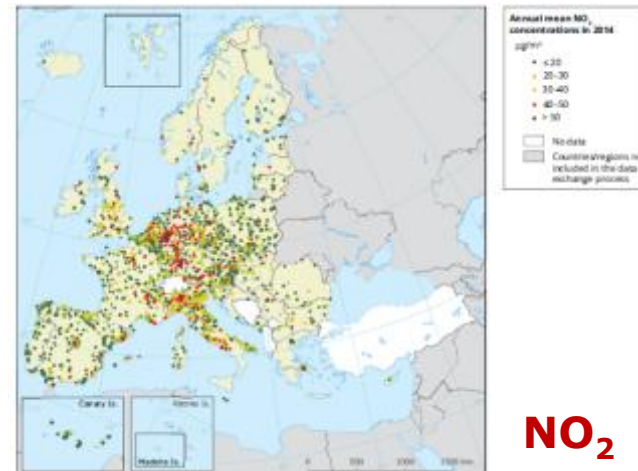
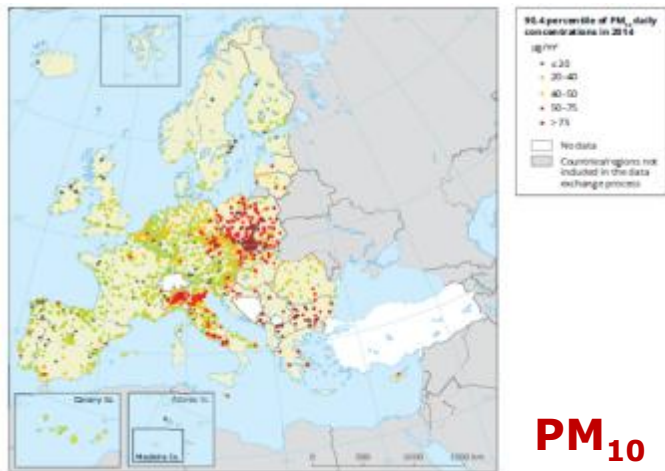
Assessed against WHO Guidelines



63%

Air pollution exceeds **eutrophication limits** in 63% of ecosystem area, and in 73% Natura 2000 areas.

Where is air pollution a problem?



Clean Air Policies in Europe – An Overview



Ambient Air Quality Directives

Maximum concentrations of
air polluting substances

National legislation
and action

CONCENTRATIONS
EMISSIONS

National Emission Ceilings Directive

-2020-30 reduction of National
emission totals (SO_2 , NO_x ,
NMVOC, $\text{PM}_{2.5}$, NH_3)

-Inventories, projections,
reporting

Source-specific emission standards

-Euro and fuel standards (FQD road,
non-road, ships: **Sulphur Directive**)

-Energy and Industry (IED, en.
efficiency, **Woodstoves Eco-design**)



Main Clean Air Legislation in Europe

National Emission Ceilings Directive

- 2020-30 reduction of National emission totals (SO₂, NO_x, NMVOC, PM_{2.5}, NH₃)
- Inventories & projections
- Reporting
- National Air Pollution Control Programmes
- Eco-system monitoring

Ambient Air Quality Directives

- Ambient air quality standards
- Air quality monitoring networks
- Reporting.
- Air quality plans (for compliance to standards)
- Information to the public



EU funding

European Neighbourhood Instrument (ENI)

- Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine

Instrument for Pre-Accession (IPA)

- Albania, Bosnia and Herzegovina, the former Yugoslavian Republic of Macedonia, Kosovo, Montenegro, Serbia and Turkey

Priority both directly to air pollution and indirectly through transport, energy and climate change.



Questions

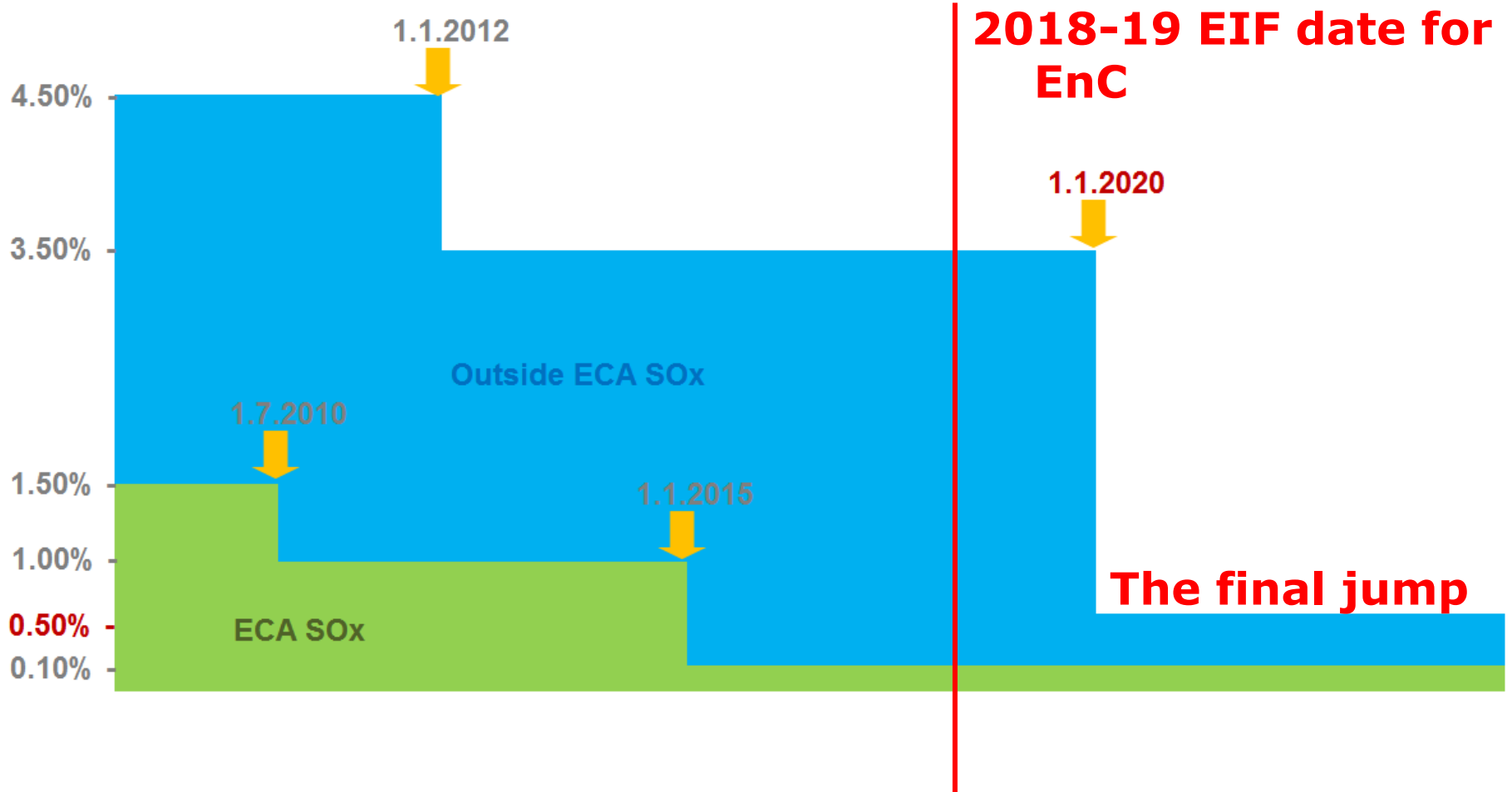
- What are the barriers for reducing air pollution and improve air quality?
- How can the available EU funding support further?
- Are policies on transport, climate change and energy used as drivers for air quality?
- Would it add value to include Air Quality and NEC Directives into the Energy Community Treaty?



Main Elements of the Sulphur Directive

- Reduction of ship emissions to protect human health and the environment
- Designation of SO_x-ECAs in EU waters (0,10% sulphur content)
- Use of 0,10% sulphur content while in port **[in EnC as of 30/6/2018]**
- Use of 1.5% by passenger ships on regular journeys e.g. ferries, cruise ships **[in EnC as of 30/6/2018]**
- 0,50% max. sulphur content as of **2020** in all EU waters and globally
- Stronger monitoring and enforcement regime **(COM report to EP and Council due for adoption!!!!)**

MARPOL VI Sulphur limits time evolution



Implementation and enforcement of the Sulphur Directive

- **Ministerial Council Decision 2016/15/MC-EnC (2016)** will ensure robust enforcement by **the EnC coastal states**:
- **Harmonised rules concerning on-board fuel (spot) sampling**
- **Binding** minimal number of annual inspections and fuel sampling:
 - 10 % of the total number of individual ships calling in the relevant EnC coastal state, of this 20% of sampling or analysis or both **as of 1/1/2019 but 30% as of 2020**
- **Rules for use of alternative enforcement technology**
- **Enhanced controls of bunker suppliers**
- **Union information system for inspectors (THETIS-EU)**



EMSA support to the enforcement of the SD in the EnC

ENV-EMSA signed last week Cooperation Agreement for dedicated support to EU neighbouring countries in approximating relevant legislation to the Union acquis;

- EMSA Technical Workshops, **Trainings for Member States** (EMSA Guidance document for sulphur inspectors, e-learning)

Energy Community's is to Contact EMSA focal points below 1/ to have sulphur trainings and technical assistance) and 2/ to support their inclusion in the relevant action plan (IPA (Enlargement) AP will be agreed at EMSA on 3 May 2018!)

Enlargement countries: <http://emsa.europa.eu/ipa-countries/ipa-contacts.html>

SAFEMED IV: <http://emsa.europa.eu/focal-points.html>

BCSEA: <http://emsa.europa.eu/focal-points-in-beneficiary-countries.html>

- **WHAT ARE THE ADDITIONAL NEEDS to BE FULFILLED in the EnC ?**



WHAT CAN I DO TO PREPARE?

Operations should ensure that appropriate compliance arrangements are in place and that the crew is familiar with their duties and should be paid for the extra completion of the regulatory, including the time when flag changeover operations are performed. Ships using operational fuel oils in compliance with the sulphur requirements should carry a certified petroleum inventory for the flag changeover. The oil record book should be updated accordingly. This information should allow a sufficient time for the flag changeover to be fully completed before the next applicable sulphur content, pending any other flag changeover arrangements.

In addition, the volume of services for flag states at each port, as well as the date, time and location of the ship when a flag changeover operation has been completed prior to the entry into the EEA or non-EEA waters, should be recorded in the logbook.

Also, ships provided with an Oil Record Book Part B should ensure that the relevant part of the logbook is updated for the relevant flag changeover.

PENALTIES

Penalties may be imposed by the Member States for violation of the sulphur content adapted limits set in Directive 2005/33/EC as amended.

USEFUL LINKS

Further information on the 0.50% SO₂ as amended can be found at the following websites:

IMO: www.imo.org
 EEA: www.eea.europa.eu
 EMSA: emsa.europa.eu

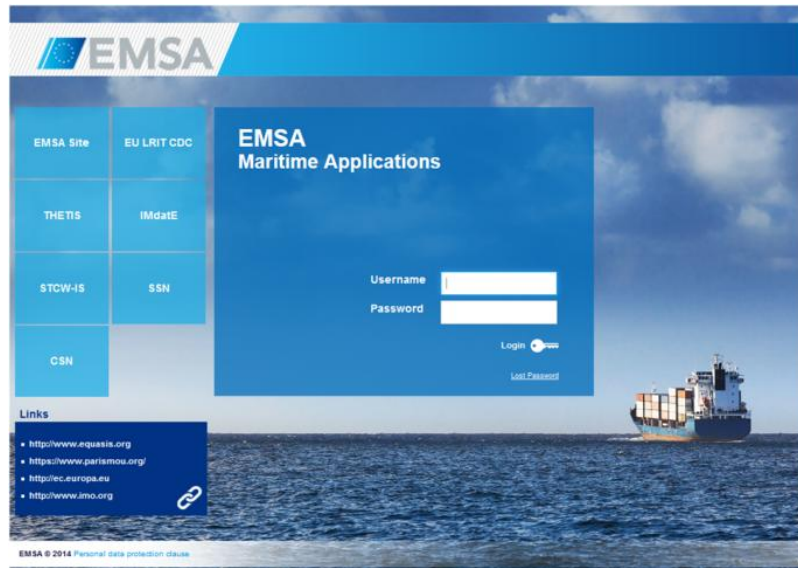
NEW LIMITS FOR THE SULPHUR CONTENT OF MARINE FUELS

INFORMATION FOR STATE AUTHORITIES, SHIP OWNERS, MASTERS, FUEL SUPPLIERS, AGENTS, OIL OPERATORS OF SHIPS ON DIRECTIVE 1989/33/EEC AS AMENDED

EMSA
European Maritime Safety Agency

Thetis-EU: the Union Key enforcement tool

- Findings of each sulphur inspection + sampling recorded
- All findings are exchanged between Member States
- Possibility to insert 'alerts' that trigger targeted inspections
- Follow track-record of ship(s)(types)
- Developed and managed by EMSA **EnC access to Thetis-EU**



<https://portal.emsa.europa.eu/web/thetis-eu/home>

[Edit Inspection](#)

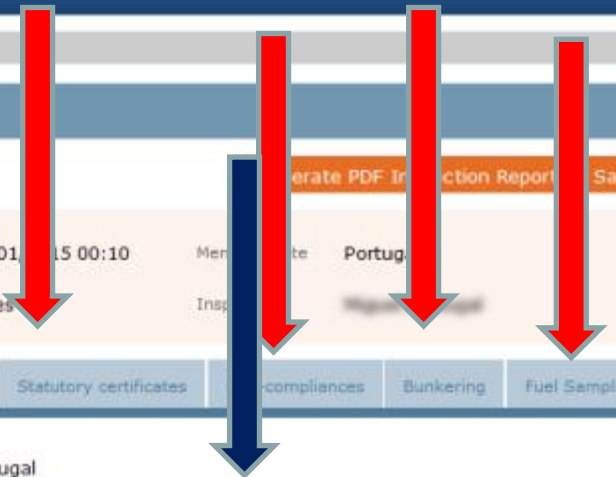
[Generate PDF Inspection Report](#)
[Save](#)
[Delete](#)

[Back to Search Ships](#)

IMO	6020808	Ship type	Chemical tanker	Inspection date	30/01/2015 00:10	Member State	Portugal
Name	HELIOS	Flag state/Registry	Italy	Port	Sines	Inspector	Rui Miguel

- Inspection particulars**
- Ship particulars
- Fuel tanks
- Combustion machinery
- Active alerts (0)
- ISM Company
- Statutory certificates
- Compliances
- Bunkering
- Fuel Sampling
- Support

Inspection date	30/01/2015 00:10	Port	Sines	Member State	Portugal
Outcome	Inspected	Start of inspection	30/01/2015 09:09	Organization	EMSA - Portugal
Port in SECA area?	No	Inspector	Rui Miguel		



Node: qwls11.emsa.local

Node: qwls11.emsa.local

Consult

Select

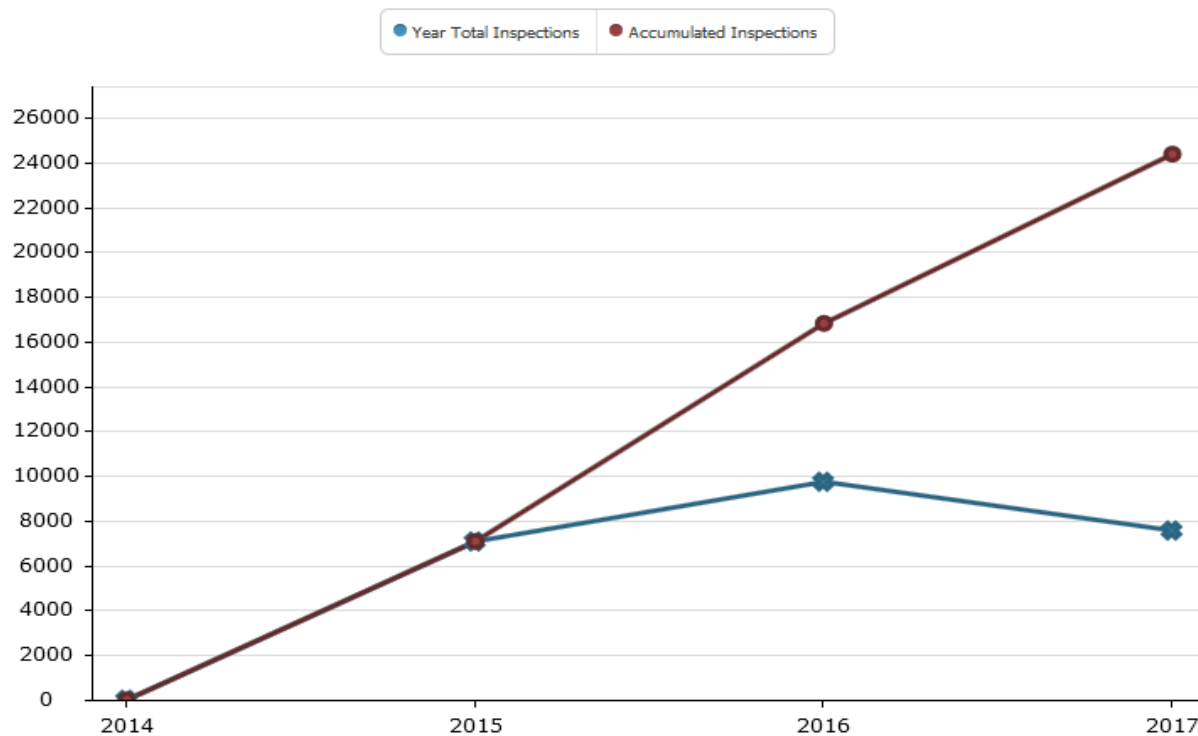
Inspect

Report

Actions																			
			Islands																
			Liberia	Container			Lisbon	PT IS	02-02-2015 15:00	02-02-2015 13:00	05-02-2015 08:00							Active	

Inspection data as recorded in Thetis-EU

Since start of Thetis-EU



Year Total
Inspections

2

7068

9732

7556

Accumulated
Inspections

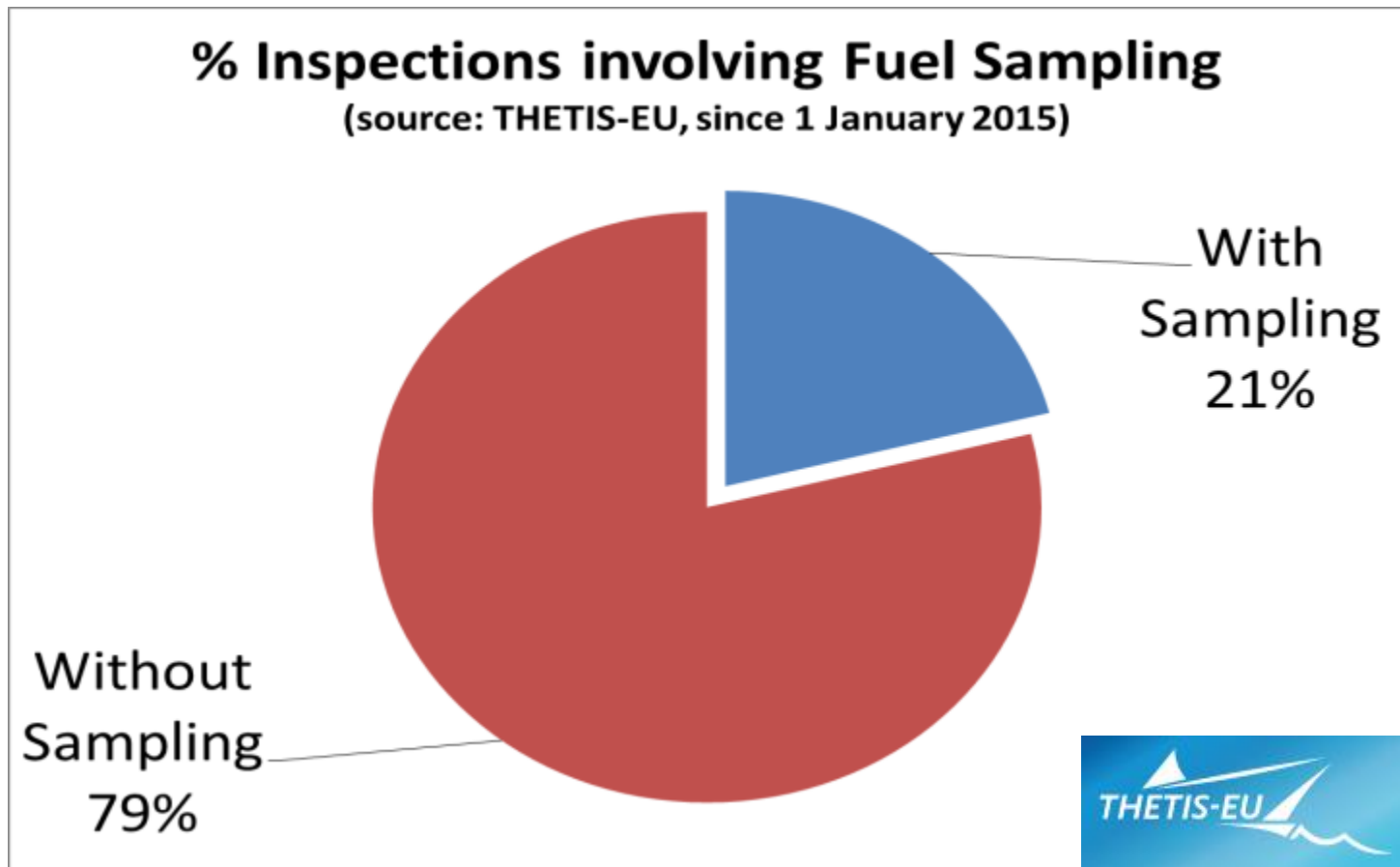
2

7070

16802

24358

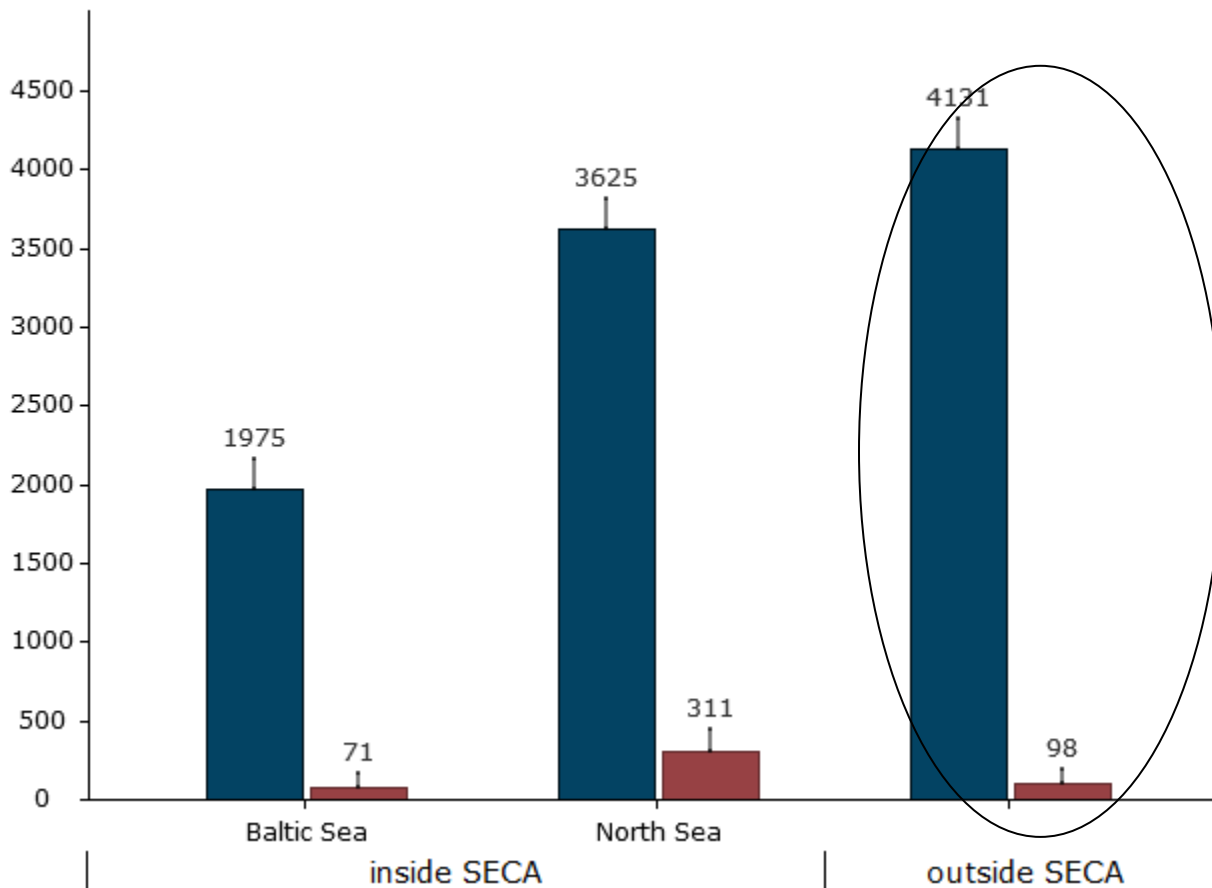
Inspection data as recorded in Thetis-EU



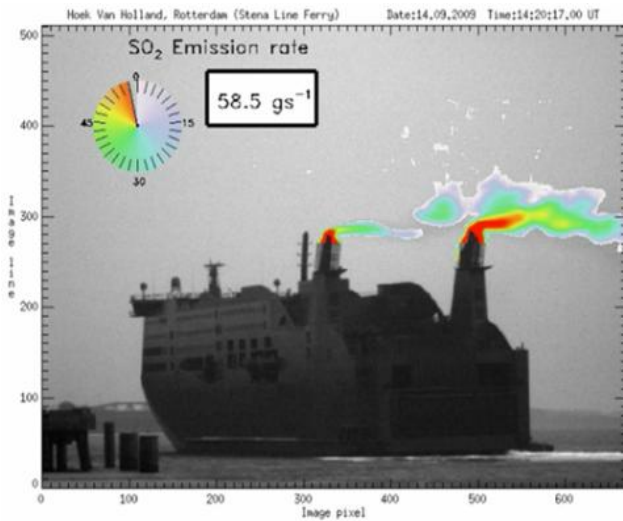
Inspection data as recorded in Thetis-EU

2017

● Inspections ● Non-Compliances



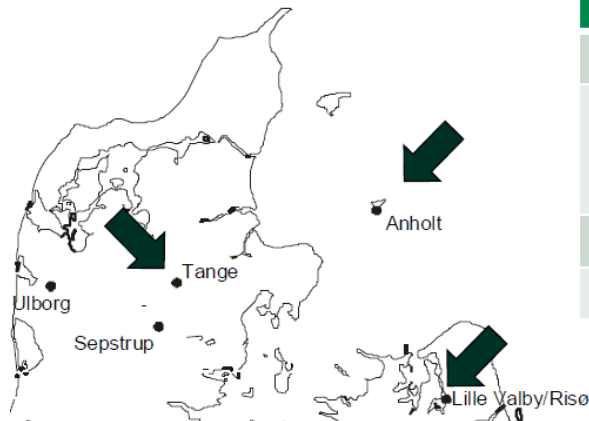
Supporting the use of new emission detection technology



Measurement position at the Great Belt Bridge

Further work on reducing air pollution from ships

COM report on the implementation of SD HIGHLIGHT: Low sulphur requirements proven to improve ambient air quality around SO_x-ECAs:



	Anholt	Risø	Tange
	µg/m ³	µg/m ³	µg/m ³
Average 2011-2014*	0,33	0,34	0,22
2015*	0,13	0,18	0,10
Reduction	60 %	47 %	63 %

*) January - May

Source: Danish Centre for Energy and Environment

Additional work to reduce ship emissions outside SO_x-ECAs

- 1. Preparing for the global sulphur cap in 2020**
- 2. Cost-benefit analysis of additional SO_x-ECAs in EU waters (role of EnC Coastal States?)**
- 3. Assess effectiveness of current and the need for further action needed to address other emissions from ships (NO_x, black carbon,...)**



Preparing for the global sulphur cap in 2020

- **Cooperation with EU MS, EEA/EnC, Industry and other global partners (ESSF)**
- **Sharing EU experience of enforcing the SOx-ECA requirements (2015):**
 - intensified and 'smart' sulphur inspections
 - 93% compliance by ships across EU
- **Further/Ongoing work needed to enhance cost-effectiveness implementation:**
 - EU (risk-based) targeting system for selecting ships for inspection
 - Adapting Enforcement Tools and Measures to check compliance by ships while in trade at 'open sea':
 - IMO **global fuel ban on board ships for combustion purposes (support needed at IMO meeting in April!!!!!!)**
 - Ensure quality of new 0.50% fuels entering the market across whole fuel cycle (supply, storage, delivery, on board fuel management, fuel standards)

Conclusions

- Improving air quality in the EU and EnC remains essential in view of resulting health and economic benefits
- All sectors, should contribute to **reducing harmful air emissions** within the overall transition towards a low carbon and energy efficient economy.
- EU counts on the EnC to prepare for 2020 consistent implementation of the **0,50% sulphur cap (ban)** and progress on the feasibility of designating ECAs in the Mediterranean sea
- **COM will channel technical assistance via EMSA in 2018 to the EnC to be able to comply with the obligations of the SD and its cost effective enforcement to ensure health benefits and the level playing field of maritime industry PLEASE REQUEST IT AND MAKE SURE IPA COVERS YOUR NEEDS IN THIS CONTEXT**





**Thank you for your attention,
rosa.antidormi@ec.europa.eu**

