



European Sustainable Shipping Forum and implementation of the new Sulphur Directive

Agnieszka Zaplatka
SNE/Policy Officer
DG MOVE/D1

Maritime transport & logistics Unit
Directorate-General for Mobility
and Transport
European Commission

**Joint SSS and MoS focal
points and Short Sea
Promotion Centers
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European
Commission



ROADMAP TO A SINGLE EUROPEAN TRANSPORT AREA —
TOWARDS A COMPETITIVE AND RESOURCE-EFFICIENT TRANSPORT SYSTEM

EU 2011 White Paper – Roadmap to a Single European Transport Area:

The environmental record of shipping can and must be improved by both technology and better fuels and operations.



COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

*Strategic goals and recommendations
for the EU's maritime transport
policy until 2018*

[21 January 2009](#)

EU Maritime Transport Strategy 2009-2018:

European Commission, EU Member States and EU maritime industry should work together towards the long term objective of 'zero-waste, zero-emission' maritime transport

2014 – Athens Declaration – mid-term review – i.a. importance of SSS and importance for financial support





Clean Power for Transport

EU Policy Framework

- 1) COM European alternative fuels strategy
- 2) A Staff Working Document setting out the needs in terms of market conditions, regulations, codes and standards for a broad market uptake of LNG in the shipping sector
- 3) Impact Assessment
- 4) A Directive on the deployment of alternative fuels** (adopted on 29/09/2014)

By 31 December 2025 Member States in their national policy frameworks shall assess that **(as a priority in ports of the TEN-T Core Network):**

- 1) shore-side electricity supply is needed**
- 2) an appropriate number of refuelling points for LNG**





Sulphur Content of Marine Fuels

EU Policy Framework

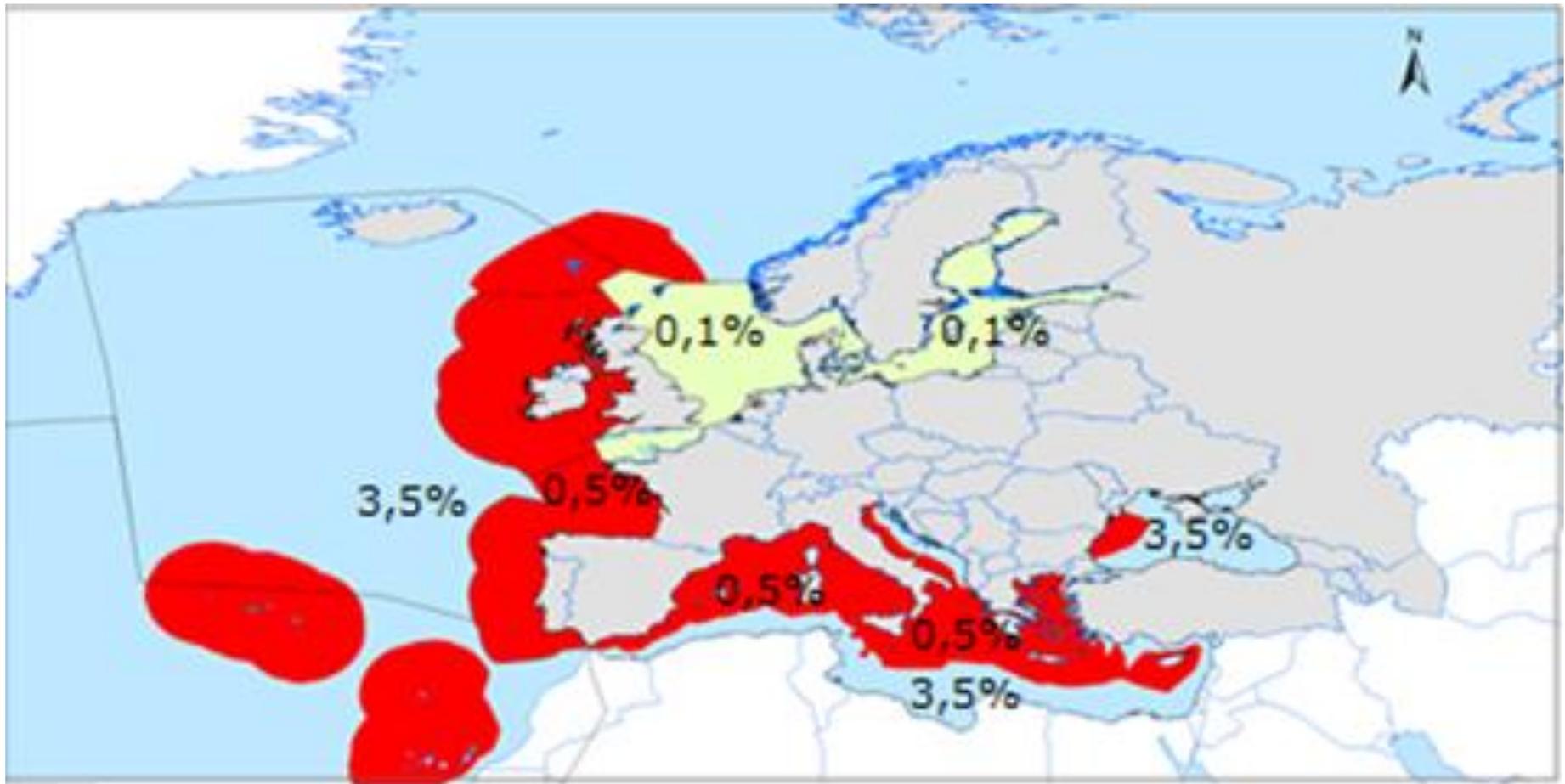
The EU 'Sulphur Directive' (1999/32/EC)

- ❑ Sulphur content in heavy fuels and gas oil, including marine gas oil and diesel oil, is regulated in the EU since early 2000
- ❑ Amendments **Directive 2005/33/EC** & **Directive 2012/33/EU** brought EU legislation in line with the MARPOL revisions (1997 and 2008 changes)
- ❑ **Integral part of EU policy on Air Quality control:** To curb at global level shipping emissions due to combustion of marine fuel with high sulphur content and prevent their contribution to air pollution of SO_x and PM which harm human health and the environment (acid deposition) becomes higher than the one from land-based sources

Sulphur limits in marine fuels

Outside an Emission Control Areas (SECA) established to limit SOx	Inside SECA
3.50% m/m on and after 1 January 2012	1.00% m/m on and after 1 July 2010
0.50% m/m on and after 1 January 2020*	0.10% m/m on and after 1 January 2015

Sulphur directive = landscape after 2020



Compliance methods:

Change to low sulphur fuel

Use of on-board exhaust gas cleaning systems (scrubbers)

Change to alternative fuels (esp. LNG)

Sustainable Waterborne Transport Toolbox 2011



Sustainable Waterborne Transport Toolbox



28 June 2013 Commission published the first Progress Report on the implementation of the Toolbox...

The Progress Report outlines accomplishments as well as challenges hampering the implementation of the measures and provides a means for developing additional measures where appropriate.

Sustainable Waterborne Transport Toolbox

The European Commission published on 24.9.2013
a Decision on setting-up the group of experts on
maritime transport sustainability –

The European Sustainable Shipping Forum (ESSF).

The **ESSF** is to advance the Sustainable
Waterborne Transport Toolbox's efforts for a cost-
efficient and coherent implementation of the
provisions of the Directive 2012/33/EU as regards
the Sulphur content on marine fuels.



Medium and
Longer-Term
accompanying
measures

The European Sustainable Shipping Forum (ESSF)

VISION

Sustainable Shipping

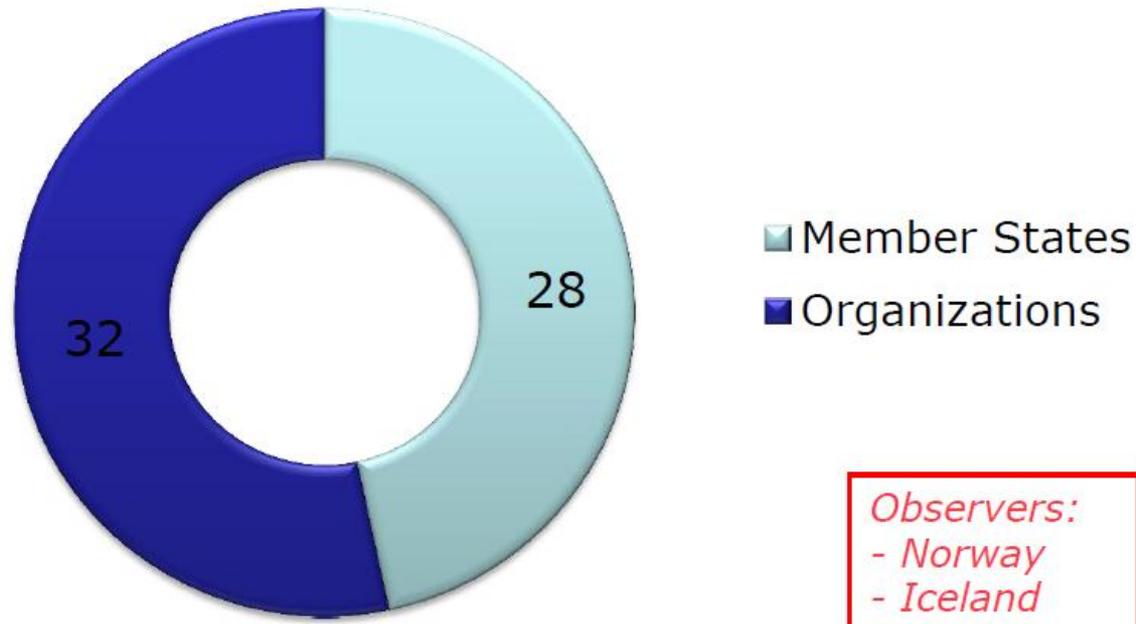
Clean-Competitive-Quality

MISSION

- ✓ Assist the European Commission in implementing the EU's activities and programmes aimed at fostering sustainable maritime transport
- ✓ Provide a platform for structural dialogue, exchange of technical knowledge, cooperation, and coordination between EU Member States, and relevant EU maritime transport stakeholders

The European Sustainable Shipping Forum (ESSF)

ESSF Plenary – 60 Members

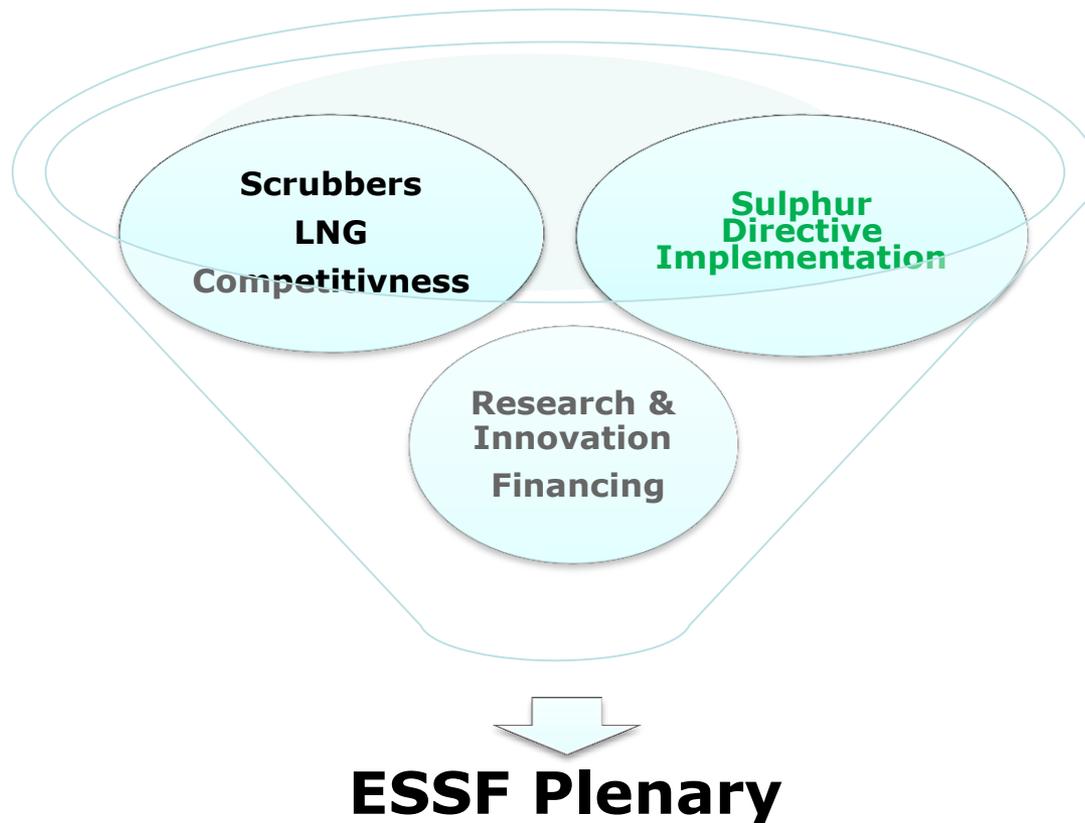


The European Sustainable Shipping Forum (ESSF)

28 Member States Representatives 32 Organizations (Companies / Associations / Non-Governmental Organisations / Trade Unions / Universities / Research Institutes) active in the following maritime transport related areas:

- ship owning, management and operations**
- short sea shipping**
- maritime transport use and services provision**
- sea ports management and administrations**
- terminal management and operations**
- shipbuilding and marine equipment**
- ship safety and environment protection**
- maritime transport research and innovation**
- investment and financing**
- energy and fuel supply**
- technical standardisation**

The European Sustainable Shipping Forum (ESSF)



The objectives of the ESSF

- ❑ provide guidance on the overall implementation of the Sulphur Directive aiming to reinforce the monitoring of compliance in the EU
- ❑ create the framework conditions for the use of marine LNG as marine fuel
- ❑ promote the use of scrubbing technology in shipping by addressing its technical, economic and operational aspects
- ❑ coordinate research and development activities and encourage innovation
- ❑ explore all available financing opportunities
- ❑ identify potential improvements in sustainability and competitiveness.

The first ESSF high level plenary meeting was held on the 27th of November 2013 and the second one planned on 26 June 2014. The ESSF Sub-Group meetings are taking place every 3-4 months and have to address specifically identified technical priorities.

ESSF Sub-groups

Activities

The sub-group members jointly work on formulating recommendations (preferably international) with regards to overcoming identified obstacles

(e.g. 5 submissions to IMO)

1. Members have identified priorities of work (work packages) + coordinators for that work within the remit of the terms of reference of the subgroup.
2. For each of the work priorities a small group of experts was established which have shared relevant information, defined the problem scope and proposed initial recommendations.
3. Recommendations for the subgroup have been forwarded to the ESSF plenary for further consideration and adoption.

ESSF LNG Sub-group

Objectives

- 1. Facilitate the promotion and implementation of LNG as marine fuel at EU level**
- 2. Identify, assess and recommend actions and solutions to establish the appropriate framework conditions (guidelines, standards, regulations) for the use of LNG in the EU (also in the context of the future EU Directive on the Deployment of an Alternative Fuel Infrastructure)**

ESSF LNG Sub-group

WP1: Hoses and Connection standard dimensions for the bunkering connections *

WP2: LNG bunkering operations while loading/unloading or embarking/disembarking + guidance on safety distances

WP3: Training - for LNG fuelled vessels in the context of STCW

WP4: gas quality, heating value and CO₂ reduction potential)

PART 1: standard gas quality and LNG (bunker)
*delivery note + PART 2: reduction potential of LNG

Commission tender

"Study on the completion of an EU framework on LNG-fuelled ships and its relevant fuel provision infrastructure"

LOT 1:

Analysis and evaluation of identified gaps and of the remaining aspects for completing an EU-wide framework for marine LNG distribution, bunkering and use*

Total Contract Value: EUR 250,000

*** Follow-up to the Study commissioned by EMSA and published in Feb.2013**

LOT 2:

Creating awareness on LNG risks and opportunities

Total Contract Value: EUR 450,000

LOT 3:

Analysis of the LNG market development in the EU

Total Contract Value: EUR 175,000

LOT 4:

Explore financing opportunities, assess and develop financial mechanisms beyond the EU financial framework aiming at supporting the deployment of marine LNG technology

Total Contract Value: EUR 125,000

ESSF Scrubbers Sub-group

Objectives

- To identify and assess potential market barriers hampering scrubbing technology take-up and recommend remedial actions
- To maintain links and coordinate with other international activities and initiatives for scrubbing technology- in order to avoid duplication as well as to gather relevant information.
- To assess the need for guidelines and standards or rules for scrubbing technology covering technical, operational safety and approval aspects, as well as environmental aspects.
- To collect and exchange information and best practice on on-going and planned projects and trials related to the installation of scrubbing technology on board vessels.
- To provide guidance and support for business cases for scrubbing technology take-up

ESSF Scrubbers Sub-group

Identified work packages

WP.1 Sludge produced by scrubbers

WP.2 Wash water discharge criteria

WP.3 Wash water pH plume verification

WP.4 Trials and Commissioning of scrubbers

WP.5 Fuel oil quality and availability

WP.6 Use of HFO for commissioning of scrubbers

WP.7 Operational non-compliance scenarios

WP.8 Dry scrubbing technology



ESSF R&I Sub-group

Objectives

- 1. Review existing and new technology options and solutions for the reduction of shipping emissions in view of the regulatory requirements, but also with a long-term perspective towards zero emission and pollution ships.**
- 2. Contribute to Strategic Research and Innovation Agendas with the aim to set research, innovation and deployment priorities in support of the Sustainable Waterborne Transport Toolbox.**

Final report should be delivered by June 2015

ESSF R&I Sub-group

Identified work packages

1.	Safety vs. Energy Efficiency ?:
2.	Success/incentives factors for pioneers/first movers (risk and cost sharing models?)
3.	The role of infrastructure and ICT in R&D
4.	Emission/efficiency measurement/monitoring
5.	The Logistics Service Provider/cargo owner / user perspective on shipping R&D
6.	Short Sea Shipping vs. intercontinental maritime transport – different research needs?
7.	Methodology for identification of best technologies (vessel type, trade)
8.	NO _x , PM, CO reduction, methane slip (and other unburned fuels)
9.	Research as competitive advantage?:
10.	Alternative fuel options – adequately addressed by R&D?
11.	New ships vs. retrofitting
12.	Assessment / optimisation of system complexity

ESSF Financing Sub-group

Objectives

- 1. to explore, assess, describe and propose financing opportunities and market and fiscal incentives supporting the cost-efficient implementation of the Sulphur Directive.**
- 2. to analyse potential impact of different scenarios with relevant and sound/credible indicators, assess the risk and uncertainties of the assumptions and provide a cost-benefit analysis of the financial instruments in order to identify the market potential for relevant interventions and investments and demonstrate its added value.**



ESSF Financing Sub-group

Outcome

- 1. analysis of the state of play and the potential and conditions of all relevant private and public financial mechanisms
- 2. analysis of the performance and utilization of existing financial instruments
- 3. recommendations on concrete remedial actions addressing investment risks and possible barriers for access to finance
- 4. business cases and best practices for access to public and private investments
- 5. recommendations and advices to those seeking financing for sustainable shipping projects

ESSF Competitiveness Sub-group

Objectives

- **Art 7.2. EU Sulphur Directive includes obligation to report on potential economic impact and observed modal shift**
- **Potential impacts of increased shipping costs:**
 - **Shift to other transport modes in the ECA**
 - **Shifts from long to shorter sea routes**
 - **Cruise lines avoiding ECA destinations**
- **Short term aim: monitor impact for priority sectors as of autumn 2014, reporting at regular intervals**
- **Medium term aim: comprehensive analysis in 2015**

ESSF Implementation Sub-group

Objectives

Facilitate MSs and the shipping community in the overall preparation needed to ensure enforcement of, and compliance to, the revised sulphur Directive 2012/33/EU.

Establishing a **technical basis for a EU harmonised approach** to sampling and reporting – which is practical, proportionate and cost effective.

Assist the Commission in developing **Implementing Acts**, fixing EU binding rules on sampling strategies and reporting; all to be adopted by end 2014.

Ensure coherence and synergies with the work of other Sub-groups under ESSF, and at international level to advise and inform the ESSF on viable solutions.

To address and integrate the current and diverse implementation strategies of individual MSs.

To ensure a **cost effective implementation** of the provision of the Sulphur Directive to achieve the environmental objectives and ensure the sustainability of the shipping market.



ESSF Implementation Sub-group

3 submissions to Plenary in June 2014:

- 1. Sampling Methods – guidelines for on board sampling and inspection**
- 2. Sampling Frequency – a risk based targeting approach under discussion**
- 3. Reporting obligations of the MSs - consensus for a uniform reporting format.**

Remaining Work Packages include:

- Emissions monitoring tools - remote sensing technologies and novel methods of sampling**
- Transition - safety implications & timing required for changing from HFO to MGO**
- Scrubbers being used in ports, which have raised uncertainties as to what the present status of local controls are in Europe - A WP has been set up (led by NL) to enquire of the MSs.**

Conclusions

- **The ESSF provides a good example on how Commission, Member States and the maritime industry sector can work together on concrete solutions for sustainable shipping, increasing also the competitiveness of this important sector, including creation of business opportunities for cleaner shipping technologies.**
- **The ESSF will deliver a number of respective technical reports by end 2014 / mid 2015. The mandate of the ESSF ends in Dec 2015.**
- **The joint approach (the Commission services, Member States, industry) is appreciated by most and helps in practical implementation of EU sustainable transport solutions.**



Implementation of the Sulphur directive

Sulphur Content of Marine Fuels

- ❑ ***Directive 2012/33/EC*** adopted in Nov. 2012, deadline for transposition by MS by **18 June 2014**
 - ❑ **Emphasis on Implementation by MS through binding guidelines (Implementing Acts to be adopted by the end of 2014) – strengthening of monitoring of compliance and enforcement to reach environmental objectives while preserving shipping market sustainability**
 - ❑ **Member States should notify the provisions on penalties to the Commission**
 - ❑ **Updated Access to Emission Abatement Methods and synchronised with the Marine Equipment Directive**

EU Implementation of S Directive

Monitoring of compliance

- ❑ **Directive 2012/33/EC –*Sampling of Marine Fuels***
 - ❑ ... it is necessary that Member States ensure sufficiently frequent and accurate sampling of marine fuel placed on the market or used on board ship as well as regular verification of ships' log books and bunker delivery notes. (Recital 17)
 - ❑ **The Commission has the mandate to develop technical guidance on fuel-specific inspections to ensure proper implementation (focus on sampling of fuel used on board)**
 - ❑ **The Commission will adopt by the end of the year implementing acts through comitology imposing to MS obligations concerning (Article 6):**
 - ❑ **Sampling Strategies** (frequency, methods, representative sample definition)

EU Implementation of S Directive

Monitoring of compliance

- **Directive 2012/33/EC – Reporting by MSs to COM on fuel quality**
 - **Reporting by Member States under Directive 1999/32/EC has proved insufficient for the purpose of verification of compliance with that Directive due to the lack of harmonised and sufficiently precise provisions on the content and the format of the Member States' reports. Therefore, more detailed indications as regards the content and the format of the report are necessary to ensure more harmonised reporting. (Recital 18)**
 - **The Commission has the mandate to develop technical and legal guidance on reporting obligations from members states to the Commission (focus on harmonised electronic reporting)**
 - **The S Directive empowers the Commission to adopt implementing acts imposing to MS obligations on:**
 - **Reporting (content and format of the annual MS report to the Commission on fuel quality)**

21/10/2014

**THE COMMITTEE FOR THE IMPLEMENTATION OF THE DIRECTIVE
ON SULPHUR CONTENT IN MARINE FUELS (comitology)**

3 Implementing Acts to be adopted by 31/12/2014:

- **Sampling methods for drawing a representative sample for the purpose of verifying the sulphur content of marine fuels being used on-board.**
- **Frequency of sampling obligations for Member States under the Directive**
- **Rules concerning the content and format of the annual reporting obligations for Member States to the Commission**



EU Implementation of S Directive

Enforcement

- ❑ *Directive 2012/33/EC – Penalties*
- ❑ **Member States shall determine the penalties applicable to breaches of the national provisions adopted pursuant to S Directive (Competence of EU MSs).**
- ❑ **Penalties which must be effective, proportionate and dissuasive, to include fines calculated to ensure that fines at least deprive those responsible of the economic benefits derived from their infringement, and gradually increase in case of repetition. (Article 11)**
- ❑ **In order to ensure coherence with international law as well as to secure proper enforcement of new globally established sulphur standards in the Union, Directive 1999/32/EC should be aligned with the revised Annex VI to MARPOL.**

Member States should notify the provisions on penalties to the Commission which will monitor Penalties systems in the EU MSs.

EMSA questionnaire to EU MSs on implementation of S Directive – Consequences of infractions (1)

What were the legal consequences of non-compliance by ships under the previous version of the S Directive (before transposition)?

Administrative fines: 15 Member States

Criminal penalties: 8 Member States

Ship Detention: 15 Member States

Denial of entry to ports: 4 Member States

Consequences of infractions (2)

Range of the administrative fine (answers received from 9 Member States):

- 1. 290 - 5.970 €
- 2. 355 - 1.400 €
- 3. 2.500 - 7.500 €
- 4. 2.500 - 10.500 €
- 5. *Statutory maximum fine is 5.900 € but can be unlimited on conviction of indictment*
- 6. *Violation fines starts at approximately 6400 €*
- 7. *Up to 50.000 €*
- 8. *12.000- 60.000 €*
- 9. *up to 56.500 €*
- 10. *% sulphur more than set value fine: fine applied*
0,01-0,1: 17.090 €; 0,11-0,2: 34.180 €; 0,21-0,30:51.270 €; 0,31-0,40:68.360 €; More than 0,41: 85.450 €

Consequences of infractions (3)

- *How many cases of non-compliance were referred to the responsible prosecution authorities in...?*
- **2010:** 0 cases: 12 Member States 2 cases: 1 MS 3 cases: 1 MS 5 cases: 1 MS 6 cases: 1 MS 13 cases: 1 MS 17 cases: 1 MS 46 cases: 1 MS
- **92 cases in total**
- **2011:** 0 cases: 10 Member States 1 case: 2 MS 2 cases: 1 MS 3 cases: 1 MS 5 cases: 1 MS 9 cases: 1 MS 18 cases: 1 MS 22 cases: 1 MS 33 cases: 1 MS
- **94 cases in total**
- **2012:** 0 cases: 13 Member States 1 case pending: 1 MS 6 cases: 1 MS 7 cases: 2 MS 8 cases: 1 MS 28 cases: 1 MS
- **57 cases in total**



Consequences of infractions (4)

What were the results of these procedures (number of fines and amount of fines, any remedial actions taken)?

2010: 0: 8 Member States; Other Member States:

- 2 (no detention, information about fines amount missing)
- 10 fines (about 250.000 €)
- 12 fines (about 12.500 €)
- 13 administrative penalties (about 32.500 €)
- From 1st of July 1% sulphur. After 1 July, 29 not in compliance and 10 detention
- 1350 € Administrative fee for supplier for selling non compliant fuel to 2 ships.

2011: 0: 7 Member States; Other Member States:

- 1 administrative fine (about 425 €)
- 2 (no detention, information about fines missing)
- 3 fines/amount (about 76.000 €)
- 5 fines (about 25.000 €)
- 22 detentions, 5 to be rectified before departure and 24 warnings,
- 33 administrative penalties (about 116.715 Euro)
- ships were detained for leaving the port area until exchange fuel on-board

Sulphur Content of Marine Fuels

Monitoring of compliance

- ❑ **Directive 2012/33/EC –Alternative compliance methods**
- ❑ *Access to emission abatement methods should be facilitated (recital)*
- ❑ *The Commission should promote the testing and development of emission abatement methods (recital)*
- ❑ *Alternative compliance methods have to be:*
 - ❑ **Verifiable**
 - ❑ **Quantifiable**
 - ❑ **Enforceable**
- ❑ ***The Commission shall develop appropriate measure to promote and facilitate compliance with the environmental standards of the Directive***
- ❑ *The S directive refers to IMO requirements the testing, survey, certification, and **verification** of EGC systems.*



EU Policies on shipping emissions

□ *7th Environmental action plan (2012)*

The 7th EAP provides the overarching, coherent framework for transport strategic initiatives, setting out priority objectives and showing clearly how environment policy can contribute to green growth and deliver better health and well-being.

□ *Clean Air Policy Package (2013):*

A new Clean Air Programme for Europe with new air quality objectives for the period up to 2030, a revised National Emission Ceilings Directive with stricter national emission ceilings for the six main pollutants, and a proposal for a new Directive to reduce pollution from medium-sized combustion installations.

□ *EU Maritime Transport Strategy 2009-2018:*

European Commission, EU Member States and EU maritime industry should work together towards the long term objective of 'zero-waste, zero-emission' maritime transport

□ **EU 2011 White Paper: Roadmap to a Single European Transport Area**

The environmental record of shipping can and must be improved by both technology and better fuels and operations

Concluding Remarks (1)

How compliance is checked today?

- *By the MSs inspectors: Documentation, Statutory Samples and ad hoc on board Sampling and Analysis, or continuous monitoring data for ships using EAMs*
- *By the Commission: yearly, based on Reporting by MSs each 30 June*

And after 1/1/2015?

- *By the MSs inspectors: Additional Criteria - mandatory frequency for **on board sampling** fixed by the **EU harmonised targeting and monitoring tool** (in progress)*
- *By the Commission: Electronic Reporting by MSs can be virtually checked real-time, more exchange of information MSs*

Concluding Remarks (2)

- ❑ **EC TOP PRIORITIES: Implementation & Enforcement of the new legal requirements in the EU starting from 1 January 2015**
- ❑ **By Continuing Active dialogue with and cooperation among all interested parties: EU Member States, maritime industry, EMSA, Recognised Organisations and COM**
- ❑ ***Strengthening the EU compliance culture at all levels but Participation and follow-up of international developments (IMO, Helcom ...)***
- ❑ ***Ambitious challenge ahead : cooperation across EU also for legal & penalties actions***

Thank you for your attention

Agnieszka.ZAPLATKA@ec.europa.eu

