

# **International and EU regulations with regards to lower sulphur emissions**

**EMSA's involvement in promoting the use of LNG as fuel**

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**7<sup>th</sup> European Harbour Masters Committee  
Conference  
Bremen, 17 April 2013**

## **International and EU regulations with regards to lower sulphur emissions & EMSA's involvement in promoting the use of LNG as fuel**

### **•Introduction to EMSA**

#### **•The regulatory perspective**

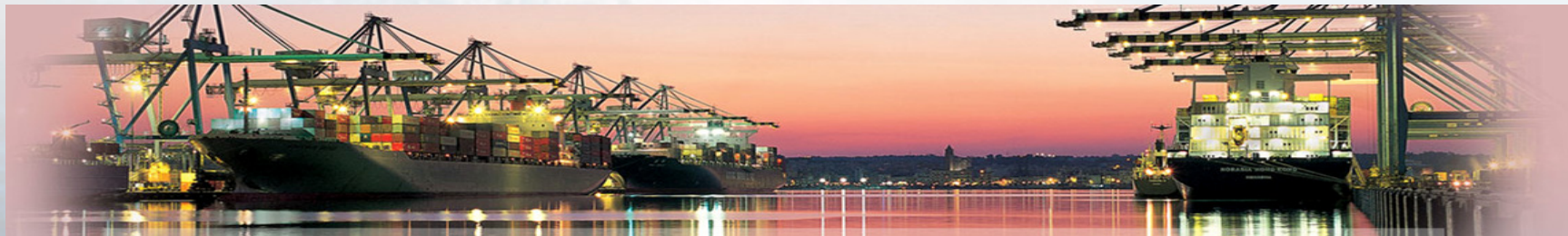
- IMO global sulphur limit
- EU policy on ship emissions and European SECA's

#### **•New sulphur limits - alternative compliance methods**

- Equivalent – LNG as fuel
- Development of international standards for the use of LNG as fuel
- EU initiatives regarding the use of LNG as fuel
  - Sustainable Waterborne Transport Toolbox
  - Clean Transport Fuel Package

#### **•Role of EMSA**

#### **•Next steps and conclusions**



## Introduction to EMSA



- 12 December 1999 off the coast of Brittany

**Erika sinks**



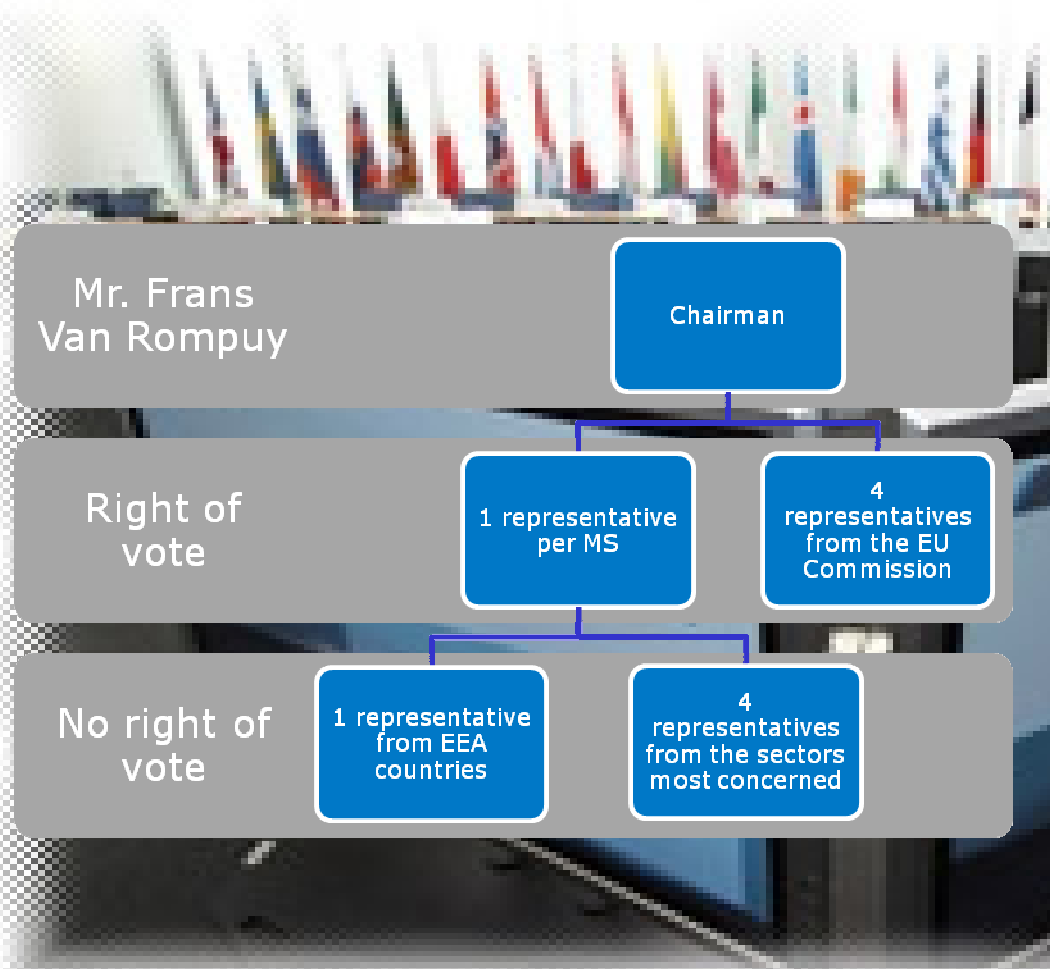
**Decision to reinforce the EU maritime legislation**

- Erika I safety package
- Erika II safety package

- EMSA established

**Reg EC 1406/2002**

# Administrative board



## Powers:

Appoint the Executive Director and establishes procedures for his/her decision making

Adopt:

- the work programme
- the annual report
- the final budget

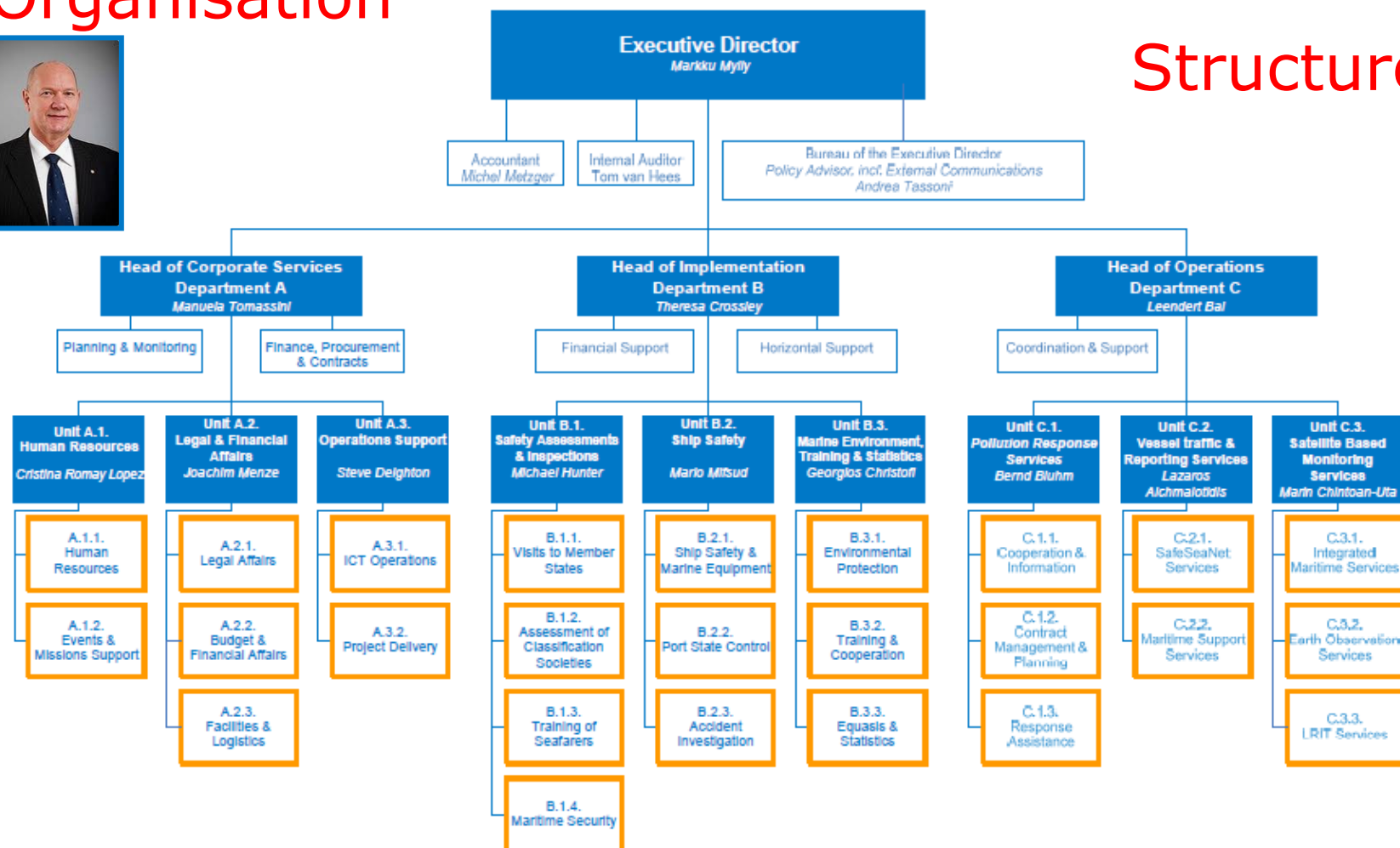
Define a methodology for visits to MSs

Examine and adopt a multi-annual strategy and the multi-annual staff policy

# Organisation



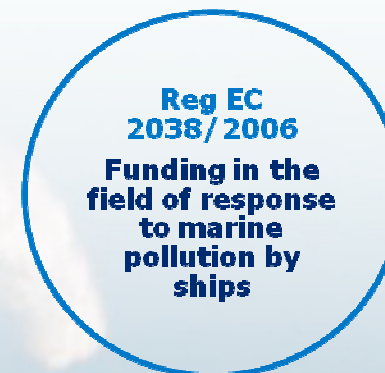
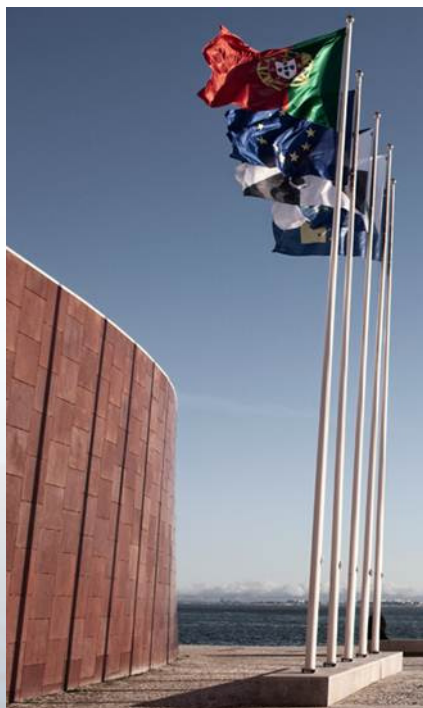
# Structure





# Amendments to the founding regulation

(Reg EC 1406/2002)



## EMSA supports the European Commission and Member States (technical, operational and scientific)

Response to  
pollution caused  
by ships



Maritime  
safety



Maritime  
security



Prevention  
of pollution  
caused by  
ships



Response to  
pollution  
caused by  
oil and gas  
platforms

## The Regulatory Perspective

### IMO Marpol Annex VI – 2008 amendments

- 3.50% sulphur content after 1/1/2012; and
- 0,50% after 1/1/2020

### **Review provision (Regulation 14.8):**

➤ A **review** of the 0,50% standard shall be completed by 2018 to determine the **availability** of such fuel oil, when considering

- The global market supply and demand for compliant fuel at the time of the review
  - An analysis of the trends in fuel oil markets
- IMO will establish a group of experts with the appropriate expertise in the fuel oil market and appropriate maritime, environmental, scientific and legal expertise, to conduct the review
- **No exact timing** agreed yet for the review, however, MEPC already discussed a draft methodology framework and model for the review





## The Regulatory Perspective

### EU policy on ship emissions

#### **2005 Thematic Strategy on Air Pollution:**

**Air pollutant emissions** of SO<sub>2</sub> and NO<sub>x</sub> **from ships** are a **serious concern**, as they are expected to exceed those of all land-based sources in the EU by 2020. Further action is therefore needed to improve human health and the environment.

#### **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:**

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*



## The Regulatory Perspective

### The revised EU Sulphur Directive

➤ **Directive** 1999/32/EC as amended by **2012/33/EC** on the sulphur content of marine fuels: **revised Sulphur Directive**

➤ Revised Sulphur Directive was published on 21 November 2012; transposition by EU Member States to be done by June 2014

➤ Main objective of the revision was bringing EU legislation in line with the 2008 Marpol Annex VI revision: 0.1% sulphur content in EU SECAs

➤ Provisions of Marpol Annex VI on **alternative compliance methods** were largely taken over

➤ However, the **IMO fuel availability review** was **NOT** taken over in the revised EU Sulphur Directive

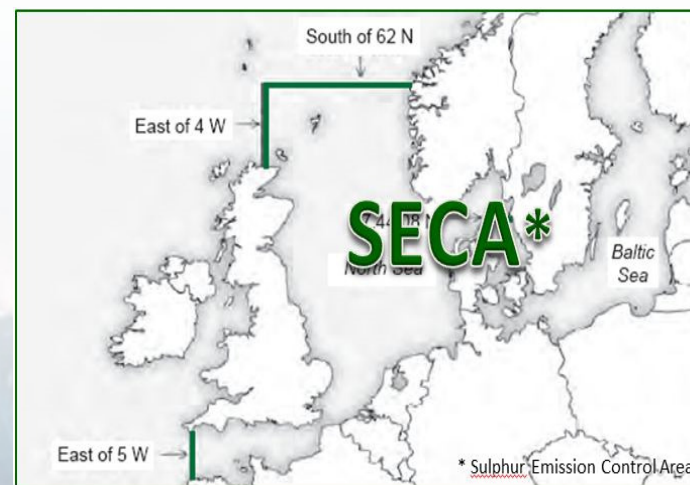


Commission VP Kallas & IMO SG Sekimizu

## New sulphur limits – alternative compliance methods

### Marpol Annex VI – Regulation 4 (equivalents): LNG as bunker

- Any fitting, material, appliance or apparatus to be fitted in a ship or other procedure, **alternative fuel oils**, or compliance method, to provide emission reductions **at least equivalent** to, or even greater, than those achievable using low sulphur fuel
- **Potential equivalents:** scrubbers, **LNG as bunker fuel**, averaging (??), other low-flashpoint fuels (methanol??)
- However, LNG is currently formally not regulated at IMO level (SOLAS) as bunker fuel (references in the IGC Code & class rules do exist though)
- Hence, IMO started with the development of the **International Code of Safety for Ships using Gases or other Low-Flashpoint Fuels (IGF Code)**



## Development of international standards for the use of LNG as fuel

- **Development of IGF Code**

- Still on-going, Code itself is expected to be finalized by end of 2014, following amendments to SOLAS will take more time
- Code focuses **mainly on the ship** itself, the bunkering (ship-shore) is only addressed marginally
- Main focus is on LNG, but scope may be extended to other low-flashpoint fuels

- **ISO Working Group on developing guidelines for LNG bunkering**

- Still on-going, to be finalized in 2013
- Especially focused on the different **LNG bunkering scenarios** (ship-to-ship, ship-to-shore, ship-to-truck)
- Final result will be a technical report, not an ISO standard

- **IAPH, World Ports Climate Initiative LNG Working Group**

- Number of ports jointly developing bunker procedures, bunker check-lists and raising public awareness



## EU initiatives regarding the use of LNG as fuel

1. European Commission's '**Sustainable Waterborne Transport Toolbox**' (Commission Staff Working Paper SEC (2011)1052 of September 2011) accompanying the proposal for a revision of the Sulphur Directive

- Purpose: Set of measures to **reduce compliance costs** in relation to the new low sulphur standards & addressing from a broader perspective the environmental challenges that confront the EU shipping sector

- Toolbox, page 6: **Addressing regulatory framework of LNG bunkering:**

- The **absence of common rules** for the distribution and bunkering of LNG to ships would need to be addressed.
- The Commission services, in co-operation with **EMSA** and other **interested parties** will drive the development of common EU wide guidelines and standards





## EU initiatives regarding the use of LNG as fuel

2. Commission's **Clean Power for Transport Package** (published on 24 January 2013) and establishing a common framework of measures to ensure the deployment of EU **alternative fuels infrastructure** and to **break** the **oil dependence** of transport.

- Guide technological development & provide a **policy framework for investment and market development** for electricity, hydrogen, biofuels, synthetic fuels, **LNG**, CNG and LPG

- The package consists of:

- Proposal for a Directive on the deployment of alternative fuel infrastructure
- Commission communication Clean Power for Transport: A European alternative fuels strategy
- Commission Staff Working Document containing actions towards a comprehensive EU framework on LNG for shipping: '**LNG for shipping action plan**'



## EU initiatives regarding the use of LNG as fuel

### 2. **Proposal** for a Directive on the deployment of alternative fuel infrastructure:

- Publicly accessible **LNG refuelling points** for maritime and inland waterway transport are provided in all maritime ports of the TEN-T Core Network by **31 December 2020** (as per revised Sulphur Dir.)
- **Refuelling point for LNG:** a provision of LNG, either through a physically established pump connected to fixed or mobile installations (including vehicles and vessels) or through a movable LNG container
- **LNG refuelling points** for waterborne vessels shall comply with the **relevant EN standards**, to be adopted by 2014

**N.B.** - Current text is a Commission proposal; Final text will be political agreement between Member States and European Parliament.

- Commission presented the Package to Member States during the 11 March Transport Council



## EMSA's involvement in promoting use of LNG as fuel

Following the revised EU Sulphur Directive:

- Maintaining an active dialogue with stakeholders and Member States The Commission shall, in cooperation with Member States and stakeholders, develop appropriate measures, including those identified in the 'Sustainable Waterborne Transport Toolbox, **promoting compliance** with the environmental standards of this Directive
- **Access to emission abatement methods** should be facilitated

To promote **LNG as viable alternative emission abatement** method in the EU, EMSA will continue to support the Commission with proposing a **comprehensive set of rules, standards and guidelines** for LNG provision, bunkering and use in shipping;





## EMSA's actions in promoting use of LNG as fuel

1.Active dialogue with EU industry and Member States to identify operational and regulatory gaps in regards to LNG bunkering:

- ✓ LNG Expert Group meeting in 2012 with gas-industry, ports and ship owners

2.Participation and follow-up of relevant international developments:

- ✓ Active participation in IMO on development of IGF Code (correspondence group, BLG), contacts with ISO & IAPH LNG WG's

3.Follow-up of EU co-financed projects:

- ✓ Closely involved in TEN-T projects regarding use of LNG as ship fuel (DMA Northern European LNG study, Costa, LNG in Baltic Ports, Fjalir)

4.In depth regulatory analysis and developing relevant EU standards:

- ✓ **Procurement of a dedicated study on rules and regulations for LNG bunkering**

Expert Group  
Lisbon,  
5 June



Expert Group  
Brussels,  
3 December

## Procurement of a dedicated study on rules and regulations for LNG bunkering

- ✓ Study commissioned to Germanischer Lloyd for € 51.000
- ✓ Preliminary results were presented and discussed during the third LNG Expert Group meeting in December 2012 in Brussels
- ✓ Final results were published in March 2013 on EMSA website.

### Comments 3<sup>rd</sup> LNG Expert Group & setting scene for draft GL report:

- LNG bunkering potential in different EU ports is **rapidly evolving** (LNG for inland shipping should also be considered)
- **Safety** during bunkering should be of high level, and EU ports should **not compete** on (minimum) LNG bunkering safety aspects
- No international framework (yet), so **common EU bunkering safety** standard/guideline seems useful to assure **minimum level of safety**, but with a **clear link to the international framework**
- Some **harmonised approaches/criteria in EU** (i.e. risk assessment, safety distances) would be useful, but local situations to be respected
- Limited LNG bunkering experience could imply that common rules have to be designed based on **few existing 'best practices'**



## Procurement of a dedicated study on rules and regulations for LNG bunkering

### Complete overview of existing rules for LNG bunkering chain & regulatory gap-analysis

**16 regulatory gaps** in final report: Examl.

- IGF Code and ISO work are still under development
- No definition of the bunkering process, or the division of responsibilities for the different bunkering options
- Connection and disconnection process of portable LNG fuel tanks is not defined
- Despite various industry initiatives, there are no common guidelines for port rules on LNG bunkering
- Unclear approach towards simultaneous LNG bunkering and loading/unloading of cargo or embarking/disembarking of passengers
- Need for training aspects for (all?) crew on board of a vessel?
- Need for accreditation criteria for LNG bunker companies?
- Need for stringent environmental rules related to methane releases

Germanischer Lloyd



Final report  
European Maritime Safety Agency (EMSA)  
Study on Standards and Rules for Bunkering of Gas-Fuelled Ships

## Procurement of a dedicated study on rules and regulations for LNG bunkering

**Remaining regulatory gaps may be addressed in an EU LNG bunkering standard.**

### Table of content of the proposal for a standard:

#### Possible common EU regulation

##### Table of content

- A - Introduction
- B - Scope
- C - Normative References
- D - Terms and Definitions
- E - Properties of liquefied gases
- F - Safety philosophy
- G - Port specific requirements
- H - Technical and organisational requirements for bunkering
- I - Environmental requirements for bunkering process
- J - Annexes

**Proposal is similar to draft ISO technical report for LNG bunkering, but includes some strengthened proposals:**

- + Clear reference to international standard(s)/ rules
- + Description of Beginning and End of the LNG bunkering process
- + Description of responsibilities
- + Scope of risk assessment
- + Description of accreditation criteria
- + Safety distances
- + Reference to bunker check-list

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## Next steps and conclusions

- The revised EU Sulphur Directive underlines the importance of access to alternative abatement methods such as LNG;
- The Sustainable Waterborne Transport Toolbox further outlines measures to support the industry in complying with the low fuel standards;
- The Commission expressed its intentions about fully deploying the economic and environmental potential of LNG as alternative shipping fuel in the Clean Power for Transport Package;
- In view of the absence of international standards for LNG bunkering, and the expressed need for a harmonized - with a high level of safety and environmental protection – approach to LNG bunkering in the EU,
- EMSA will support the Commission with developing the relevant standards in close cooperation with international and European stakeholders as well as EU Member States in the LNG Expert Group.



http://www.emsa.europa.eu/main/sustainable-toolbox/meetings.html

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- Main
- Air Pollution - SOx and NOx
- Anti-fouling Systems
- Ballast Water
- Greenhouse Gases
- Liability & Compensation
- Port Reception Facilities
- Ship Recycling
- Sustainable Toolbox & LNG
  - Meetings
  - Relevant TEN-T projects
- Other Issues

**Meetings**

**Sustainable waterborne transport toolbox meetings**



A first set of meetings of the expert groups on LNG was convened by DG MOVE and held in Brussels on April 17, 2012. The main aim with these meetings was to discuss the potential barriers that ship-owner and ports with the intention to move toward the use or supply of LNG as fuel for ships are facing. The meetings were well attendant and a list of potential barriers could be identified.

Title	Date	Place	Documents	Reports
3rd meetings of the expert groups on LNG	04.12.2012	Brussels	 <a href="#">Download</a>	 <a href="#">Download</a>
2nd meetings of the expert groups on LNG	05.06.2012 06.06.2012	Lisbon	 <a href="#">Download</a>	 <a href="#">Download</a>
Ad-hoc expert meeting on LNG measures contained in the sustainable waterborne transport toolbox	17.04.2012	Lisbon	 <a href="#">Download</a>	 <a href="#">Download</a>



