



Sulphur Content in Marine Fuels



Briefing Report

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Glossary

International Maritime Organisation (IMO): is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. In 1948 an international conference in Geneva adopted a convention formally establishing IMO (the original name was the Inter-Governmental Maritime Consultative Organisation, or IMCO, but the name was changed in 1982 to IMO). IMO currently has 170 Member States and three Associate Members.¹ Non-governmental international organisations that have the capability to make a substantial contribution to the work of IMO may be granted consultative status by the Council with the approval of the Assembly. At present 89 NGOs have Consultative status. IMO may enter into agreements of co-operation with other intergovernmental organisations on matters of common interest with a view to ensuring maximum co-ordination in respect of such matters. To date there are 61 intergovernmental organisations which have signed agreements of co-operation with IMO.²

Marine Environment Protection Committee (MEPC): is one of the five main Committees of IMO and consists of all Member States; it is empowered to consider any matter within the scope of the Organisation concerned with prevention and control of pollution from ships. In particular it is concerned with the adoption and amendment of conventions and other regulations and measures to ensure their enforcement (e.g. MARPOL). The MEPC was first established as a subsidiary body of the IMO's Assembly and raised to full constitutional status in 1985.

MARPOL (MARine POLLution): means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997. It currently includes six technical Annexes. A state must accept Annex I and II in order to become a party to MARPOL. As of June 2014, 152 states have ratified the first two annexes. Amendments of MARPOL are discussed and agreed upon by the MEPC.

MARPOL Annex VI: annex added to MARPOL in 1997 to regulate air pollution from ships.

Emission Control Area (ECA): a specially designated sea area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution from NO_x, SO_x and/or particulate matter or all three types of emissions and their attendant adverse impacts on human health and the environment. In this regard we speak about a SO_x Emission Control Area (SECA) and/or a NO_x Emission Control Area (NECA).

NO_x (nitrogen oxides): NO_x is a generic term for mono-nitrogen oxides NO (nitric oxide) and NO₂

¹ <http://www.imo.org/About/Membership/Pages/NGOsInConsultativeStatus.aspx>

² <http://www.imo.org/About/Membership/Pages/IGOsWithObserverStatus.aspx>

(nitrogen dioxide). They are produced from the reaction of nitrogen and oxygen gases in the air during combustion, especially at high temperatures.

SO_x (Sulphur oxides): Sulphur oxide refers to many types of sulphur and oxygen containing compounds that can be found in ship exhaust gas. The most frequent sulphur content in ships emissions is sulphur dioxide (SO₂).

The following definitions have been updated according to the Directive 2012/33/EU as regards the sulphur content of marine fuels:

Heavy fuel oil (HFO): any petroleum-derived liquid fuel, excluding marine fuel, falling within CN code 2710 19 51 to 2710 19 68, 2710 20 31, 2710 20 35, 2710 20 39, or any petroleum-derived liquid fuel, other than gas oil, which, by reason of its distillation limits, falls within the category of heavy oils intended for use as fuel and of which less than 65% by volume (including losses) distils at 250°C by the ASTM D86 method³. If the distillation cannot be determined by the ASTM D86 method, the petroleum product is likewise categorised as a heavy fuel oil.

Gas oil: any petroleum-derived liquid fuel, excluding marine fuel, falling within CN code 2710 19 25, 2710 19 29, 2710 19 47, 2710 19 48, 2710 20 17 or 2710 20 19, or
- any petroleum-derived liquid fuel, excluding marine fuel, of which less than 65% by volume (including losses) distils at 250°C and of which at least 85% by volume (including losses) distils at 350°C by the ASTM D86 method.

Marine fuel: any petroleum-derived liquid fuel intended for use on board a vessel, including those fuels defined in ISO 8217 (1996), in particular:

Marine diesel oil: marine diesel oil means any marine fuel as defined for DMB grade in Table I of ISO 8217 with the exception of the reference to the sulphur content;

Marine gas oil (MGO): marine gas oil means any marine fuel as defined for DMX, DMA and DMZ grades in Table I of ISO 8217 with the exception of the reference to the sulphur content.

³ ASTM method means the methods laid down by the American Society for Testing and Materials in the 1976 edition of standard definitions and specifications for petroleum and lubricating products.

Historical background to MARPOL and IMO regulations⁴

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from either operational or accidental causes. It is a combination of two treaties adopted in 1973 and 1978 respectively and also includes the Protocol of 1997 (Annex VI). It has been updated by amendments through the years.

MARPOL was adopted on 2nd November 1973 at IMO and covered pollution by oil, chemicals, harmful substances in packaged form, sewage and garbage. The MARPOL Protocol of 1978 relating to the 1973 *International Convention for the Prevention of Pollution from Ships* was adopted at the *Conference on Tanker Safety and Pollution Prevention* in February 1978 held in response to a spate of tanker accidents in 1976-1977. As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument is referred to as the International Convention for the Prevention of Marine Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), and it entered into force on 2 October 1983 (with its Annexes I and II). In 1997 a new Protocol was adopted which added Annex VI.

The Convention includes regulations aimed at preventing and minimising pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes. Special areas with strict controls on operational discharges are included in most Annexes. A state must accept Annex I and II in order to become a party to MARPOL. Annexes III-VI are voluntary while the most important Annex, from the point of view of sulphur emissions, is **Annex VI**.

[Annex I Regulations for the Prevention of Pollution by Oil \(entered into force 2nd October 1983, ratified by 152 States/Parties\)](#)

It covers prevention of pollution by oil from operational measures as well as from accidental discharges. The 1992 amendments to Annex I made it mandatory for new oil tankers to have double hulls and introduced a phase-in schedule for existing tankers to fit double hulls, which was subsequently revised in 2001 and 2003.

[Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk \(entered into force 2nd October 1983, ratified by 152 States/Parties\)](#)

Annex II details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk.

Some 250 substances were evaluated and included in the list appended to the Convention. The

⁴ All information covering the MARPOL convention comes from the IMO website: www.imo.org

discharge of their residues is allowed only to reception facilities when certain concentrations and conditions (which vary with the category of substances) are complied with.

In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land. More stringent restrictions are applied to the Baltic and Black Sea areas.

[Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form \(entered into force 1st July 1992, ratified by 138 States/Parties\)](#)

Annex III contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances. The International Maritime Dangerous Goods (IMDG) Code has, since 1991, included marine pollutants.

[Annex IV Prevention of Pollution by Sewage from Ships \(entered into force 27th September 2003, ratified by 131 States/Parties\)](#)

Annex IV contains requirements to control pollution of the sea by sewage.

[Annex V Prevention of Pollution by Garbage from Ships \(entered into force 31st December 1988, ratified by 144 States/Parties\)](#)

This document deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of. The requirements are much stricter in a number of “special areas” but perhaps the most important feature of the Annex is the complete ban imposed on the dumping into the sea of all forms of plastic.

[Annex VI Prevention of Air Pollution from Ships \(entered into force 19th May 2005, ratified by 76 States/Parties\)](#)

The regulations in this Annex set limits on sulphur oxide (SO_x) and nitrogen oxide (NO_x) emissions from ship exhausts as well as particulate matter (PM) and prohibit deliberate emissions of ozone-depleting substances. Emission control areas set more stringent standards. It was prepared by the MEPC in 1990s and added to the MARPOL Protocol in 1997. It established:

- A global cap of 4.5% of sulphur in marine fuels;
- A lower limit of 1.5% of sulphur in SO_x Emission Control Areas (hereafter SECAs), in Europe the Baltic Sea was regarded as such (fully implemented in May 2006);
- To set limits on emissions of nitrogen oxides (NO_x) from diesel engines. A mandatory NO_x Technical Code, which defines how this shall be done, was adopted.
- Deliberate emissions of ozone depleting substances, which include halons and chlorofluorocarbons (CFCs), are prohibited. New installations containing ozone-depleting

substances are prohibited on all ships. But new installations containing hydro-chlorofluorocarbons (HCFCs) are permitted until 1st January 2020;

- The on-board incineration of certain products, such as contaminated packaging materials and polychlorinated biphenyls (PCBs), is prohibited;

The MEPC initiated the discussion of strengthening Annex VI with additional amendments in July 2005. The North Sea was adopted as a SECA at that time, the date of entry into force of this amendment was 22nd November 2006 with full implementation 12 months later.

The MEPC agreed on the need to undertake a review of Annex VI and the NO_x Technical Code with a view to revising the regulations to take account of current technology and the need to further reduce emissions from ships. Between 2005 and 2007 a sub-committee carried out the review focusing in particular on available and developing techniques for the reduction of emissions of air pollutants and the potential for a reduction of NO_x and PM emissions. The revised version of Annex VI was adopted in October 2008.

Current situation from IMO standpoint

The limits for sulphur in fuel oil are subject to a series of step changes over the years:

Outside SECAs	Inside SECAs
4.5% prior to 1 st January 2012	1.5% prior to 1 st January 2010
3.5% on and after 1 st January 2012	1.0% on and after 1 st January 2010
0.5% on and after 1 st January 2020*	0.1% on and after 1 st January 2015

*depending on the outcome of a review by MEPC, to be concluded in 2018, as to the availability of the required fuel oil, this date could be deferred to 2025.

As of March 2014 the SECAs established to limit sulphur content in marine fuel are:

1. Baltic Sea area – as defined in Annex I of MARPOL
2. North Sea area (including the English Channel) – as defined in Annex V of MARPOL
3. North American area (entered into force on 1st August 2012);
4. United States Caribbean Sea (entered into force on 1st January 2014)



Most ships which operate both outside and inside these SECAs will therefore have to operate on different fuel oils in order to comply with the respective limits (unless they choose other means of compliance). In such cases, prior to entry into the SECA, it is required to have fully adapted to using the SECA-compliant fuel oil and to have on-board implemented written procedures as to how this is to be undertaken. Similarly, the change-over from using the SECA compliant fuel oil is not to commence until after exiting the SECA. At

each change-over it is required that the quantities of the SECA-compliant fuel oils on board are recorded, together with the date, time and position of the ship when either completing the change-over prior to entry or commencing change-over after exit from such areas. These records are to be made in a logbook as prescribed by the ship's flag state. In the absence of any specific requirement in this regard, the record could be made, for example, in the ship's Annex I Oil Record Book.

In Annex VI a fuel availability clause is also mentioned (Regulation 18). It requires that each subscribing State shall take all reasonable steps to promote the availability of fuel oils which comply with the limitations set in the Annex and inform the IMO of the availability of compliant fuel oils in its ports and terminals. It also grants a certain level of protection to the shipowners in the event of non-availability of compliant fuel oil.

There are other means by which equivalent levels of SO_x and particulate matter emission controls could be achieved, both outside and inside SECAs. These may be divided into methods termed primary (in which the formation of the pollutant is avoided) or secondary (in which the pollutant is formed but subsequently removed to some degree prior to discharge of the exhaust gas stream to the atmosphere). The regulation in Annex VI allows for the application of such methods subject to approval by the subscribing state. In approving such equivalents an administration should take into account any relevant guidelines. As of November 2013 there were still no guidelines in respect of any primary methods (which could encompass, for example, on-board blending of liquid fuel oils or dual fuel (gas / liquid) use). In terms of secondary control methods, guidelines (MEPC.184 (59)) have been adopted for exhaust gas cleaning systems which operate by water washing the exhaust gas stream prior to discharge to the atmosphere. In using such arrangements there would be no constraint on the sulphur content of the fuel oils as bunkered other than that determined by the system's certification.⁵

The IMO will perform a review (to be completed by 2018) to determine the availability of fuel oil to comply with the fuel oil standard set forth in MARPOL Annex VI. It shall take into account the following elements:

1. the global market supply and demand for fuel oil to comply with the sulphur limit that exist at the time that the review is conducted;
2. an analysis of the trends in fuel oil markets;
3. any other relevant issue

⁵ [http://www.imo.org/blast/blastDataHelper.asp?data_id=26469&filename=184\(59\).pdf](http://www.imo.org/blast/blastDataHelper.asp?data_id=26469&filename=184(59).pdf)

Historical background of EU Directives

At European Union level there have been steps in the past decades to regulate sulphur content in liquid fuels to reduce emissions in the atmosphere. The Directive 93/12/EEC of 23rd March 1993 established lower limits for the sulphur content in gas oil (definition on page 4 is from Directive 2005/33/EC and does not include marine gas oil as was the case in previous directives) and new limits for aviation kerosene. In the following years it was deemed important to lay down limits for the sulphur content, in particular for heavy fuel oils, marine fuels, marine gas oils and gas oils, on the basis of cost effectiveness studies and also in view of the regulation in Annex VI on sulphur content of marine fuel.

The result was Directive 1999/32/EC 'relating to a reduction in the sulphur content of certain liquid fuels' which amended Directive 93/12/EEC and established limits for sulphur content in heavy fuel oil (1.0% after 1st January 2003) and gas oil, including marine gas oil (0.2% after 1st January 2000 and 0.1% after 1st January 2008). In the latter case derogations were also included for Greece throughout its territory, for Spain with regard to the Canary Islands, for France with regard to the French Overseas Departments, and for Portugal with regard to the archipelagos of Madeira and Azores since the limits would present technical and economic problems for these regions. A recommendation was also included in the Directive to continue the initiative to have the North Sea/English Channel declared as a SECA.

Following the entry into force of MARPOL Annex VI in May 2005 a new Directive, 2005/33/EC, entered into force in July 2005, amending Directive 1999/32/EC. The provisions in this legislation meant to complement Member States' national measures to comply with emission ceilings for atmospheric pollutants (as it is set out in Directive 2001/81/EC). This Directive on the National Emissions Ceilings (NEC) set upper limits on the four main pollutants (SO₂, NO_x, volatile organic compounds and ammonia) to be met by 2010. Member States had to set up a national programme and after 2010 report on their pollutant emissions each year to the Commission and to the European Environment Agency.⁶ No impact assessment has been done by the European Commission since the Member States had already approved the new regulations as subscribers of the MARPOL ANNEX VI.

Directive 2005/33/EC on the sulphur content of marine fuels established the following:

1. Exclusion of marine gas oil from the sulphur content limit established for gas oil and eliminated the derogation for Greece for gas oil from 1st January 2010.

⁶ Submissions for each EEA member state can be found here under EU obligations/NEC: <http://cdr.eionet.europa.eu/>

2. A 1.5% limit for marine fuels used in SECAs and by passenger ships operating on regular services to or from EU ports in Member States' territorial seas, exclusive economic zones and pollution control zones. The application dates were: 11th August 2006 for the Baltic Sea, 11th August 2007 for the North Sea (including English Channel), and 12 months after entry into force for any other SECA, including ports, designated by the IMO
3. A 0.1% limit for marine fuels used by inland waterway vessels and by ships at berth in EU ports as from 1st January 2010.

This limit does not apply:

- a) whenever, according to published timetables, ships are due to be at berth for less than two hours;
 - b) to inland waterway vessels that carry a certificate proving conformity with the International Convention for the Safety of Life at Sea (1974, as amended) while those vessels are at sea;
 - c) until 1st January 2012 for the vessels listed in the Directive's Annex and operating exclusively within the territory of the Hellenic Republic;
 - d) to ships which switch off all engines and use shore-side electricity while at berth in ports.
4. As an alternative to using low sulphur marine fuels meeting the requirements listed above, Member States may allow ships to use an approved emission abatement technology, provided that these ships:
 - continuously achieve emission reductions which are at least equivalent to those which would be achieved through the limits on sulphur in fuel specified in the Directive;
 - are fitted with continuous emission monitoring equipment;
 - document thoroughly that any waste streams discharged into enclosed ports, harbours and estuaries have no impact on ecosystems, based on criteria communicated by the authorities of port States to the IMO.
 5. The limit of sulphur content for heavy fuel oil remains 1% since 1st January 2003.

Current situation from EU standpoint

The EU rendered mandatory IMO rules on marine fuels through the Directive 2012/33/EU of 17th December 2012, further amending Directive 1999/32/EC as regards the sulphur content of marine fuels.

The key elements of this new directive are:

- In line with Annex VI of the MARPOL Convention, the limits for the sulphur content of marine fuels used in designated SECAs will be 1% until 31st December 2014 and 0.1% as from 1st January 2015.
- The IMO standard of 0.5% for sulphur limits outside SECAs will be mandatory in EU waters as of 2020, which is a reduction from 3.5%, the maximum allowed sulphur content now. This will also be valid for passenger ships operating outside SECAs to which the current regime of 1.5% applies until that date.
- A general cap does not allow the use of marine fuels with a sulphur content of more than 3.5% by mass within Member States territorial waters, with the exception of fuels used by vessels with alternative exhaust gas cleaning systems, the so-called 'scrubbers', operating in closed mode.
- In line with the MARPOL Convention the Directive provides that Member States shall endeavour to ensure the availability of the required marine fuels

Key elements of the agreement between the Council and EP in May 2012⁷:

- Since the costs of new requirements to reduce sulphur emissions could have negative effects on the competitiveness of the industry and are expected to produce a modal shift from sea to land, Member States may provide support to operators in accordance with the applicable state aid rules if such aid measures are deemed to be compatible with the treaty.
- Furthermore, the Commission should make full use of financial instruments that are already in place and promote the development and testing of alternative technologies to reduce emissions from ships.
- In relation to reporting and review, the Commission should have drawn up a report by December 2013, based on the implementation of the Directive, and consider in this context further strengthening the provisions of the Directive. In its review of the air quality policy undertaken in 2013, the Commission has proposed measures which have an effect on maritime emissions as well. *For more on this, see further below.*

As part of the effective, proportionate and dissuasive penalties to be set by Member States in implementing the Directive, possible fines should at least be equivalent to the benefits deriving from the infringements to the provisions of the Directive.

⁷ http://europa.eu/rapid/press-release_PRES-12-208_en.htm?locale=en

Legislative framework

By 18th June 2014 at the latest Member States had to amend their existing legislation on the quality of marine fuels to align it with the new Directive. The Directive is supposed to provide legal certainty for the required investments by shipowners, port operators and refineries.

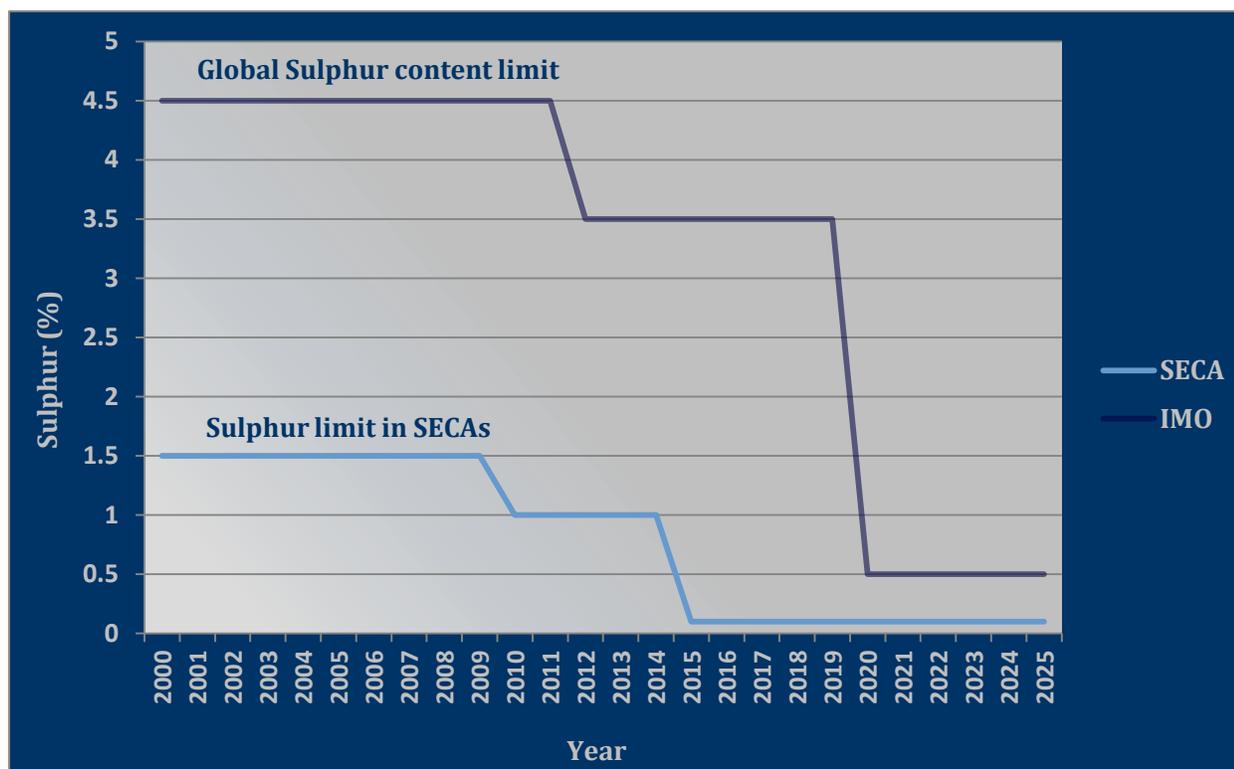
In pursuance of this Directive, from 2015 onwards, Member States are asked to ensure that ships use fuels with a sulphur content of not more than 0.1% in the Baltic Sea and the North Sea including the English Channel, i.e. the established SECAs in the EU. Equivalent compliance methods, such as exhaust cleaning systems, are also accepted. Ships can even be 'retrofitted' to be able to use LNG but this technology is still quite expensive.

From 2020 onwards, ships operating in all other European Sea areas will have to use fuels with sulphur content of 0.5% or less, instead of the 3.5% limit that has been in place since 2012. This corresponds to the global limit, agreed under the aegis of the IMO, however the organisation will lead a fuel accessibility review in 2018 with the authority to delay the implementation of the new sulphur limit until 2025 the latest.

Table 1 Important deadlines and timeline

Sulphur content summary table				
	2011	2012 →	2015 →	2020 →
Ships at berth	0.1%	0.1%	0.1%	0.1%
Inland waterways	0.1%	0.1%	0.1%	0.1%
Outside SECAs	4.5%	3.5%	3.5%	0.5%
Inside SECAs	1.0%	1.0%	0.1%	0.1%
Ro-Pax (outside SECAs) *	1.5%	1.5%	1.5%	0.5%

Table 2 **Sulphur limit in and outside of SECAs**
(A more detailed table is in *Annex I* of this document)



On 20th December 2012, the French Delegation brought the topic of sulphur back to the table of the EU Council of Transport Ministers. In an official note, France was explicitly concerned about the Ro-Ro ships operating exclusively in SECAs. France estimated that these ships will not be able to remain competitive (i.e. shift to road) due to the increasing costs of switching from heavy fuel oil to marine diesel oil. The alternatives (natural gas, exhaust gas cleaning systems) raise numerous technical and safety issues which were supposedly addressed within a Council Working Group under the co-ordination of the then Irish Presidency of the EU (January-June 2013) and in co-operation with the European Commission.

The ways to comply with the new EU Directive can be by using marine gas oil (MGO), which is much more expensive than the heavy fuel oil (HFO), currently in use by the maritime industry.⁸ Other options consist of switching to LNG or to equip ships with scrubbers that remove sulphur from the exhaust gases. Industry calculations show that all solutions result in significant increased costs for the shipping companies. On the initiative of the Hellenic Presidency of the Council of the EU (in the first half of 2014), the informal maritime ministerial meeting adopted on 7th May 2014 the **Athens Declaration**, which bears the title 'Mid-Term Review of the EU's Maritime Transport Strategy until 2018 and Outlook to 2020'. In this Declaration maritime ministers underscore their support for the fact that 'implementation of appropriate alternative fuels infrastructure at EU ports,

⁸ See for example: http://www.dfdsgroup.com/Documents/pdf/Sulphur_Directive_DFDS_Feb_2014_.pdf

in particular for LNG refuelling, constitutes an issue of priority'.⁹

The use of LNG is not only considered in the legislation on sulphur in marine fuels but also referred to in the Commission's **Clean Power for Transport** proposal which was even accompanied by a staff working document on the deployment of LNG in the EU shipping sector. The European Parliament adopted the text of the legislation at its plenary session in April 2014 in which it stated that an appropriate number of refuelling points for LNG need to be put in place at maritime ports (by 31st December 2025) and at inland ports (by 31st December 2030) to enable LNG inland waterway vessels or sea-going ships to circulate throughout the TEN-T Core Network.¹⁰ The national targets for such refuelling points will be decided by Member States and submitted to the Commission, who will publish the information.

Sustainable Waterborne Transport Toolbox

In September 2011, the Commission presented its working paper on 'Pollutant emission reduction from maritime transport and the Sustainable Waterborne Transport Toolbox'.¹¹ The document accompanied the Commission's proposal to amend Directive 1999/32/EC and to transpose the 2008 revision of Annex VI of the MARPOL Convention. This procedure gave birth to the new Directive on the sulphur content in marine fuels, in force today. With regards to the 0.1% sulphur limit to be introduced as of 2015, the document notes that 'the introduction of this new environmental standard is likely to entail changes of a technical and operational nature in the shipping business'.¹² Therefore the Toolbox comprises of short and long term measures to reduce compliance costs in relation to the new standards, minimising the possible negative impacts, and addressing environmental challenges the EU shipping sector is facing.

The Commission prepared the first progress report on the implementation of the Sustainable Waterborne Transport Toolbox in July 2013, in which it analysed the implementation of the measures set forth in the initial document and put forward proposals for the closer co-operation among the Commission, Member States and the maritime industry. In this context the Commission proposed the creation of the **European Sustainable Shipping Forum** (ESSF) in order to give voice to the industry stakeholders and Member States in the process of implementing the Toolbox.¹³

⁹ <http://qr2014.eu/news/press-releases/athens-declaration-sets-eu-future-maritime-transport-policy-priorities>

The **Maritime Transport Strategy**, presented by the Commission in 2009 contained several recommendations, among them the 'zero waste, zero emissions'. The final text adopted by the European Parliament acknowledges that progress must be made on the reduction of air pollutants, with SO_x, CO₂ and NO_x all singled out. The document also gives voice to its concern that the introduction of the 0.1% sulphur limit as of 2015 would cause a modal backshift from short sea to road transport.

¹⁰ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2010-128>

¹¹ <http://www.europarl.europa.eu/oeil/popups/summary.do?id=1346752&t=e&l=en>

¹² http://ec.europa.eu/environment/air/transport/pdf/ships/sec_2011_1052.pdf

¹² SEC(2011) 1052 final

¹³ [http://ec.europa.eu/commission_2010-2014/kallas/headlines/news/2013/06/doc/com\(2013\)475_en.pdf](http://ec.europa.eu/commission_2010-2014/kallas/headlines/news/2013/06/doc/com(2013)475_en.pdf)

The Commission took a decision on setting up the ESSF in September 2013 and, following a call for applications, the list of participants was adopted in November. The Forum's mandate will expire on 31st December 2015, however the Commission can renew it. The ESSF was established to give technical advice to the Commission, facilitate discussion and best practice sharing and deliver reports and opinions as well as to propose innovative solutions. It envisages focusing mainly on the implementation of the Sulphur Directive as well as conditions to use LNG as marine fuel and conditions for scrubbing technology.¹⁴ In light of this, the first 'plenary meeting' in November 2013 adopted the creation of six sub-groups: Scrubbers, LNG, Financing, Research and Innovation, Implementation of the Sulphur Directive and Competitiveness¹⁵. The second ESSF 'plenary meeting' of 26th June 2014 went more into detail and presented the progress made in every sub-group of the Forum. The Commission will continue to monitor the progress made on the initiatives laid down in the Toolbox and will present its next progress report in mid-2015.

EU transport funding instruments foreseen in the Toolbox

The **Connecting Europe Facility (CEF)**, the main transport infrastructure funding instrument, is linked to the Trans European Transport Networks (TEN-T) and its budget for transport is €26.2bn for the 2014-2020 period. The aim of the funding is to create a core and comprehensive European transport network and thus eliminating bottlenecks as well as reducing emission levels. As the change in the sulphur content in marine fuel would make shipping more expensive, whilst the deployment of scrubbers and the switch to LNG would also create higher costs for shipping companies, the possibility of a modal back-shift to road freight 'looms' over the industry. Therefore maritime shipping would need the EU funding to become more efficient and attract more investment in new technologies. It is clear, however, that with the shipping sector's reducing emission levels and its capacity to move freight to the sea away from road, shipping fulfils well the objectives of the CEF funding scheme.¹⁶

Motorways of the Sea (MoS), was introduced as a priority project under TEN-T, with the intention to implement intermodal maritime-based logistics chains in Europe which would create a viable alternative to already congested roads.¹⁷ The Annex to the Call for proposals 2013 notes on MoS that 'priority will be given to implementation projects, pilot projects and studies which contribute to addressing the environmental challenges faced by the short sea shipping sector, in particular in view of the forthcoming requirements with respect to the implementation of the requirements of Annex VI of the IMO MARPOL Convention'. Within the MoS priority project there are approved projects on alternative shipping fuels: among others LNG deployment in the Baltic ports, LNG in Rotterdam or the use of methanol as marine fuel. MoS projects can receive funding not only from

¹⁴ More on the ESSF : http://ec.europa.eu/transport/themes/sustainable/news/2013-09-25-essf-call-for-applications_en.htm

¹⁵ ECG appointed two members of the ECG Maritime & Ports Working Group as representatives to the ESSF subgroups on Financing Mechanisms and LNG.

¹⁶ http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/project-funding/cef_en.htm

¹⁷ http://inea.ec.europa.eu/download/calls2013/map/c_2013_8755_f1_annex_en_v6_p1_747701.PDF

the TEN-T funding instrument, but also from the now defunct Marco Polo, as well as from the Cohesion Fund and from the European Investment Bank.¹⁸

The **Marco Polo funding scheme**, promoting the switch to greener transport for the EU's freight traffic, was in place between 2003 and 2013. It financed a last batch of projects in May 2014, among which one MoS project was selected for funding. When the second five-year long programme extended in early 2014, the European Commission launched a public stakeholder consultation on a new funding scheme with the intention to 'contribute in particular to the deployment of innovative and sustainable freight transport services operating on the multimodal TEN-T network'.¹⁹ The purpose of the consultation was to develop a new funding scheme for the period running from 2014 till 2020 to be included within the TEN-T funding via the CEF, taking into account the results of the two previous schemes.

The **Horizon 2020** Research and Innovation programme is the EU's research funding instrument for the 2014-2020 period and focuses its activities around three main sections, one of which is "societal challenges". One of those societal challenges is 'smart, green and integrated transport'. The purpose of this challenge is to 'boost the competitiveness of the European transport industries and achieve a European transport system that is resource-efficient, climate-and-environmentally-friendly, safe and seamless for the benefit of all citizens, the economy and society'.²⁰ Horizon 2020 allocates €6.4bn for the transport challenge under which four key objectives are listed: 1. resource efficient transport that respects the environment; 2. better mobility, less congestion, more safety and security; 3. global leadership for the European transport industry and 4. socio-economic and behavioural research and forward looking activities for policy making.

Clean Air Policy Package (2013)

The Commission adopted in December 2013 a policy package on air policy in order to deal with air pollution which affects the health of many European citizens. The package contains among others the Communication on Clean Air Programme for Europe²¹ and the amendment of the Directive on the reduction of national emissions of certain atmospheric pollutants.²² Both initiatives have provisions on maritime emissions. The Communication on Clean Air Programme refers to the emissions ceiling established in SECAs. The document also notes that 'considering the international character of shipping and Europe's dependence on it, preference must always be given to policy development at the international level (IMO), such as designation of NO_x Emission Control Areas and enforcement of NO_x emission standards already agreed by the IMO.'

¹⁸ <http://www.mos-helpdesk.eu/>

¹⁹ http://ec.europa.eu/transport/themes/sustainable/consultations/2014-04-02-funding-scheme-freight-transport-services_en.htm

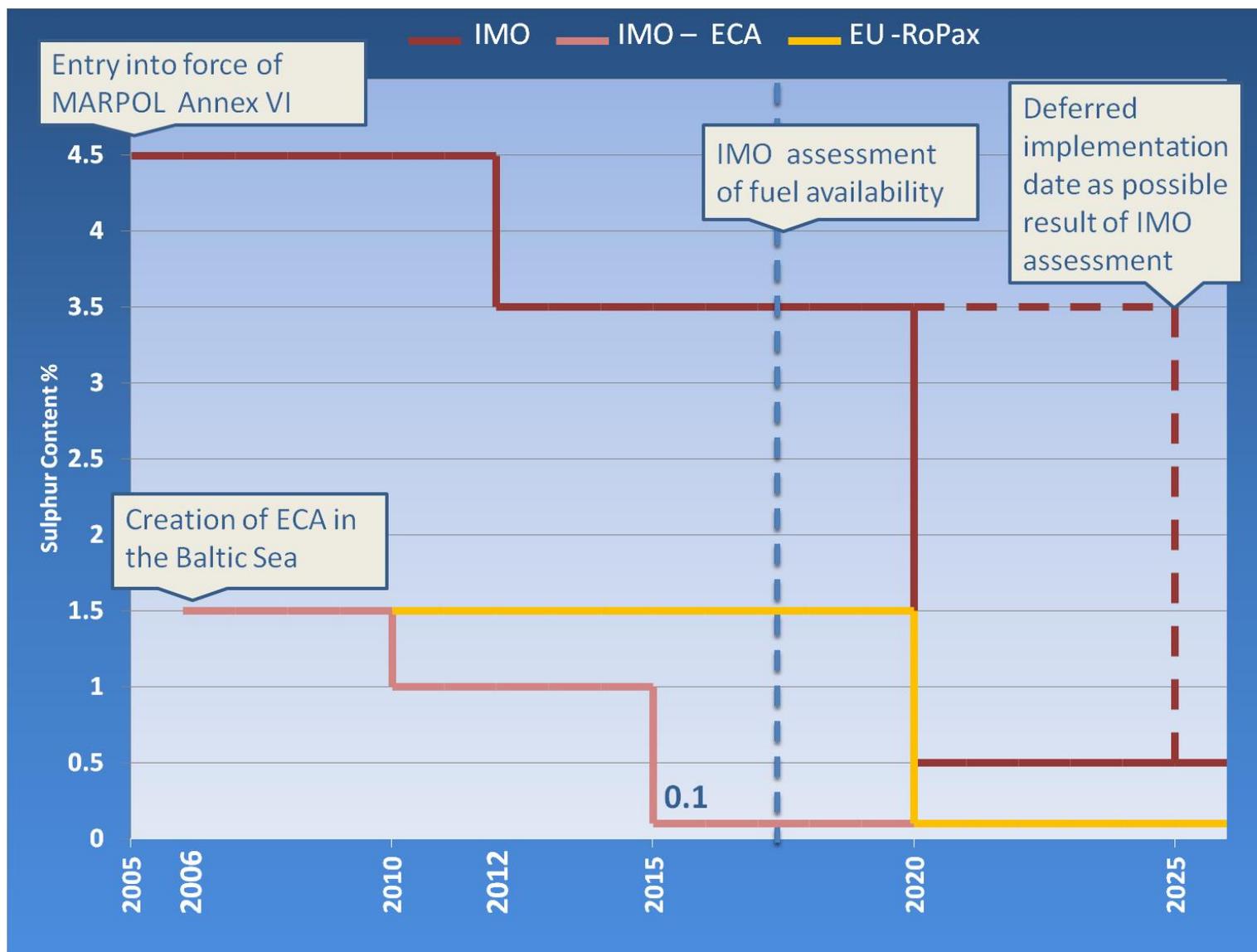
²⁰ <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/smart-green-and-integrated-transport>

²¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0918&from=EN>

²² <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013PC0920&from=EN>

Annex I

Entry into force of EU and IMO regulations on sulphur content



Useful links

IMO: <http://www.imo.org>

ECSA: <http://www.ecsa.be/>

MARPOL Annex VI, revised in 2008:

[http://www5.imo.org/SharePoint/blastDataOnly.asp/data_id=23760/176\(58\).pdf](http://www5.imo.org/SharePoint/blastDataOnly.asp/data_id=23760/176(58).pdf)

Information Note 17790/12 of the French Delegation – Transport Council 14th December 2012

<http://register.consilium.europa.eu/pdf/en/12/st17/st17790.en12.pdf>

Directive 2012/33/EU:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:327:0001:0013:EN:PDF>

Directive 2005/33/EC:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:191:0059:0069:EN:PDF>

Directive 1999/32/EC:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1999:121:0013:0018:EN:PDF>

Directive 93/12/EEC:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1993:074:0081:0083:EN:PDF>