



Brussels, 28.6.2013
COM(2013) 475 final

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

**First Progress report on the implementation of the Commission Staff Working Paper
"Pollutant emission reduction from maritime transport and the Sustainable Waterborne
Transport Toolbox"**

(Text with EEA relevance)

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

First Progress report on the implementation of the Commission Staff Working Paper "Pollutant emission reduction from maritime transport and the Sustainable Waterborne Transport Toolbox"

(Text with EEA relevance)

TABLE OF CONTENTS

1.	INTRODUCTION.....	4
1.1.	Purpose of the first progress report and reporting period	4
1.2.	Summary and structure of the first progress report.....	4
2.	SHORT – TERM MEASURES -- CURRENT STATE OF IMPLEMENTATION AND NEXT STEPS	5
2.1.	EU transport funding instruments	5
2.2.	European Investment Bank (EIB)	6
2.3.	National funding.....	7
2.3.1.	State aid measures	7
2.3.2.	National & Regional schemes in support of sustainable shipping	8
2.4.	International dialogue and technical co-operation	8
3.	MEDIUM AND LONGER TERM MEASURES – THE SUSTAINABLE WATERBORNE TRANSPORT TOOLBOX – STATE OF PLAY AND NEXT STEPS	9
3.1.	Coordination with Stakeholders and Member States	9
3.1.1.	Guidance on the implementation of Directive 2012/33/EU.....	9
3.2.	Regulatory measures	10
3.2.1.	Framework conditions for the use of marine LNG as ship fuel.....	10
3.2.1.1.	Work undertaken at the IMO	10
3.2.1.2.	Work undertaken at the ISO.....	10
3.2.1.3.	Work undertaken at EU level.....	11
3.2.2.	Scrubbing technology.....	12
3.2.2.1.	Approval of on-board exhaust gas cleaning systems	12
3.2.2.2.	Requirements for scrubber generated waste	13
3.2.3.	Shore side electricity (SSE)	13
3.3.	Development of infrastructure	14
3.4.	Research, technological development, and Innovation.....	14
4.	CONCLUSION	15

ANNEX 1.....	16
ANNEX 2.....	19

1. INTRODUCTION

In September 2011, the Commission presented the staff working paper "Pollutant emission reduction from maritime transport and the Sustainable Waterborne Transport Toolbox"¹. This document, referred to as the "Toolbox", accompanied the proposal for an amendment to Directive 1999/32/EC of 26 April 1999, transposing the 2008 International Maritime Organization (IMO) standards on the maximum level of sulphur permitted for fuels used in the shipping sector.

The Toolbox proposed a number of short-term accompanying measures, under the current financial perspective, to reduce compliance costs in relation to the new low sulphur standards. It also proposed a set of medium and longer-term accompanying measures aimed at addressing the environmental challenges confronting the EU shipping sector from a broader perspective and in a more integrated manner.

1.1. Purpose of the first progress report and reporting period

On 21 November 2012, the European Parliament and the Council adopted Directive 2012/33/EU amending Council Directive 1999/32/EC on the sulphur content of marine fuels². The Directive promotes the use of alternative technology-based methods of compliance to the fuel-based option, e.g. on-board exhaust gas cleaning systems, alternative fuels such as liquified natural gas (LNG) and shore-side electricity.

Article 1, paragraph 10, point (c) 2 of Directive 2012/33/EU requests that the Commission, in cooperation with Member States and stakeholders develop "appropriate measures, including those identified in the Commission's staff working paper of September 2011 promoting compliance with the environmental standards of this Directive, and minimise the possible negative impacts".

This first Progress Report covers the period from September 2011 to January 2013 and presents the current state of implementation of the measures set out in the toolbox and puts forward proposals for closer cooperation between the Commission, Member States and industry stakeholders to manage the implementation of the measures and provides a means for developing additional measures where appropriate.

1.2. Summary and structure of the first progress report

Implementing technology to comply with the Directive requires capital investment by the private sector, supported by the public sector where necessary. Chapter 2 briefly describes the progress to date related to the short - term accompanying measures, which were aimed at ensuring that current EU financial instruments, and national funding schemes, would continue to provide specific support to maritime-based projects which focused on promoting solutions complying with the new low sulphur standard. It outlines accomplishments as well as challenges hampering their implementation, and proposes actions to address them.

Work on the formulation of medium and longer-term accompanying measures has already commenced with a set of actions focusing on identifying and addressing the regulatory gaps hampering the safe and secure implementation of clean ship technologies and use of alternative fuels, notably marine LNG, as well as on the development of the necessary standards and green infrastructure. Chapter 3 briefly summarizes the current state of play of this process and outlines the way forward for the Commission, Member States, and industry stakeholders to jointly progress the toolbox implementation. In this context, the Commission

¹ SEC (2011)1052 final

² OJ L 327, 27.11.2012, p.1

proposes the creation of a dedicated expert group – the European Sustainable Shipping Forum (ESSF). Chapter 4 presents the conclusion and summarises the next steps.

Annex 1 to this report presents a Roadmap for advancing the implementation of the Sustainable Waterborne Transport Toolbox and Annex 2 lists the TEN-T co-funded Motorways of the Sea (MoS) and ports projects in support of the low sulphur political priority.

2. SHORT – TERM MEASURES -- CURRENT STATE OF IMPLEMENTATION AND NEXT STEPS

2.1. EU transport funding instruments

Throughout 2011 and 2012, the Trans-European Transport Network (TEN-T) and the second Marco Polo Programmes have provided specific financial support to maritime-based projects focused on promoting solutions for compliance with the new low sulphur standard and which would facilitate the use of on-board exhaust gas cleaning systems and alternative fuels such as LNG and shore side electricity.

(a) TEN-T Programme

The TEN-T Programme has co-funded a number of projects which have contributed to meeting the objective of increasing support for the use of low sulphur fuels including feasibility studies, design studies, pilot actions, and works facilitating the development of green infrastructure such as marine LNG, shore shore-based bunkering infrastructure, shore shore-side power supply and scrubbing technology. The total value of these TEN-T co-funded Motorways of the Sea (MoS) and ports projects is 123.3 million Euros of which 56.9 million Euros is the total contribution of the EU.

LNG bunkering infrastructure developments have taken place not only in the Sulphur Emission Control Area (SECA) area but also in the Mediterranean Sea and the Atlantic Ocean. These developments have mainly been of a voluntary nature at the initiative of the Southern EU Member States and have the potential to contribute to the deployment of LNG bunkering facilities in the whole EU.

Support for the greener shipping sector and related port infrastructure development including marine LNG bunkering barges will remain a priority under the subsequent annual and multiannual TEN-T calls for proposals. There also needs to be a focus on other measures such as the validation and testing of innovative clean technologies, support for alternative fuels, including LNG, and the possibility of particular ship adjustments in order to meet environmental standards. It will also be important to address new measures combined with an upgrade to existing and planned Motorway of the Sea (MoS) connections. State aid rules will be observed with respect to TEN-T projects, where applicable.

(b) Marco Polo II Programme

In 2011, the Marco Polo Programme³ introduced a specific political priority supporting Short Sea Shipping (SSS) based projects implementing innovative emission reduction technology and efficient operational practices.

However, despite the call for proposals in 2011, there was a poor response from industry mainly as a result of the difficult economic and financial climate. This meant that no SSS project responding to the specific priority was selected. Additionally, issues related to SSS competitiveness and environmental friendliness, including likely distortions in the logistics

³ C (2011) 7317, 19.10.2011

chain or modal backshift from sea to land-based transport as a result of the introduction of stricter low sulphur standards in the European designated Sulphur Emission Control Area (SECA) in 2015 are being considered within the framework of an accompanying measure "Contribution to European programme for the support of Short Sea Shipping". The European Shortsea Network (ESN) composed of Shortsea Promotion Centres (SPCs) currently implements this measure⁴. As a first step, ESN is to develop by the end of 2013 a methodology for data collection and assessment of such possible impacts on the shortsea sector in the SECA area.

The 2012 Marco Polo Call (with a budget of €64.6 million) has maintained its priorities for clean and environmental friendly Short Sea Shipping (SSS). Initial indications suggest that the 2012 call attracted substantially more projects for SSS than in 2011 and the results of the project evaluations will become available in the first half of 2013.

In order to ensure continuity of all these initiatives under the next Multi-annual Financial Framework 2014-20, it will be important to ensure that the activities to support measures benefitting clean shipping will be continued through the follow-up of the Marco Polo programme within the revised Trans-European Transport Networks (TEN-T)⁵ and the Connecting Europe Facility (CEF)⁶. The Commission proposals for TEN-T and CEF are currently being discussed in the legislative procedure between the European Parliament and the Council.

Next steps

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
1. Apply for funding under the 2012 TEN-T Multi-annual and Annual Calls for proposals	MS/Industry	Closed 28/02/2013
2. Use the opportunities provided by the 2013 Marco Polo Call.	Industry	1 st semester 2013
3. Analyse possible ways of adjusting the criteria of the Marco Polo II Programme in order to better reflect market conditions and enable funding to green shipping projects.	EC/MS	Early 2013
4. Ensure better use of the EU transport funding instruments and coordination with other EU instruments i.e. Structural funds, EIB loans, etc.	EC/MS/Industry	Early 2013
5. Ensure continuity of the ESN work related to possible impacts (i.e. modal backshift) on the shortsea sector in the SECA area.	EC/ ESN/SPCs	2013-2014

⁴ Pursuant to article 12 of the Marco Polo Regulation (EC) No. 1692/2006 of the European Parliament and the Council of 24 October 2006 establishing the second Marco Polo Programme for the granting of financial assistance to improve the environmental performance of the freight transport system ("Marco Polo II"), OJ L 328, 24.11.2006, p.1, the Work Programme 2011 covered four additional accompanying measures. "Contribution to European programme for the support of Short Sea Shipping (SSS)" is being realized through a grant in the meaning of Article 168(1)f of the implementing rules for the financial regulation applicable to the general budget of the EU. The estimated budget is 350.000 Euro.

⁵ Proposal for a Regulation of the European Parliament and the Council on Union guidelines for the development of the Trans-European Transport Network, COM(2011)0650 final

⁶ Proposal for a Regulation of the European Parliament and the Council establishing the Connecting Europe Facility, COM(2011)0665 final

2.2. European Investment Bank (EIB)

The EIB has continued to provide financing to maritime transport projects focusing on supporting, in line with the EU legislation, the development of clean ship technology and increased fuel efficiency. For instance, EIB loans could cover up to half of the costs incurred for new ships (especially if using new technology) or fleet-wide optimisation projects such as exhaust gas scrubber installations and adaptation of engines to use LNG, provided that the minimum size of the loan is EUR 50 million. However, to date, there have been few applications for funding to the EIB.

One option to address the low response from the shipping sector could be to create more awareness of the EIB lending conditions for shipping. Furthermore, opportunities could arise by exploring possible cross-sectoral (multi-stakeholder) partnerships⁷ which could bring together partners working together to develop, secure financing, and implement maritime projects, which could aim inter alia to test, validate, and deploy clean ship technologies. Bundling a number of upgrading projects in order to achieve critical mass of required investment (i.e. above EUR 50 million), could be another option that could be explored by the sector. Moreover, the use of other innovative financial instruments implemented by the EIB, such as the Loan Guarantee for TEN-T (LGTT) or the pilot phase of the Europe 2020 Project bond initiative⁸, to finance large European maritime infrastructure projects or the Risk-Sharing Finance Facility to finance pilot and demonstration activities should be explored. The recent Green paper⁹ on long-term financing of the European Economy should also be taken into account.

Next steps

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
6. Create more awareness about the EIB lending framework conditions for shipping.	EIB/EC/Industry	2013 - 2014
7. Explore opportunities for possible cross-sector partnerships that could secure EIB financing for maritime projects.	EC/ESSF	2013-2014
8. Explore the use of the LGTT or the pilot phase of the Europe 2020 project bond initiative for financing maritime transport infrastructure projects with long payback periods.	EC/MS/Industry/ ESSF	2013-2014
9. Explore the financial bundling of upgrading projects in order to request general EIB loans	ESSF	2013-2014

⁷ e.g. an alliance between organizations from two or more sectors such as business, government, intergovernmental organizations acting in the maritime domain.

⁸ Regulation (EU) No 670/2012 of the European Parliament and of the Council of 11 July 2012 amending Decision No 1639/2006/EC establishing a Competitiveness and Innovation Framework Programme (2007-2013) and Regulation (EC) No 680/2007 laying down general rules for the granting of Community financial aid in the field of the trans-European transport and energy networks

⁹ COM(2013) 150 final

2.3. National funding

2.3.1. State aid measures covered by the Environmental State Aid Guidelines

The conditions for the application of State aid provisions to support early adaptation to the new environmental standard, foreseen in section 3.1.1. and 3.1.2. of the Community Guidelines on State aid for environmental protection¹⁰, were further clarified. Accordingly, Member States wishing to provide support to operators affected by the low sulphur standard introduced by Directive 2012/33/EU may grant State aid for:

- The acquisition of new ships that comply with the new sulphur limits provided that acquisition takes place until one year before the new standard enters into force, i.e. until 31 December 2013. The maximum aid intensity is 10%, 15% and 20%, respectively for large, medium and small-sized companies;
- Retrofitting of existing vessels in order to comply with the new sulphur limits (e.g. installation of scrubbers) before the new standard enters into force, i.e. until 31 December 2014. The maximum aid intensity is 50%, 60%, and 70%, respectively for large, medium, and small-sized companies.

Due to the current budget deficits and austerity measures adopted by most EU Member States, the application of this possibility has been limited. So far, Finland is the only Member State that has provided such support for early adaptation to the recently adopted Sulphur Directive. The Commission approved the Finnish support scheme on 7 December 2011¹¹ and on 23 January 2013, it approved some amendments to the original scheme¹². In addition, the Finnish authorities implemented an individual aid on the basis of this scheme in favour of a new LNG driven ferry between Turku and Stockholm¹³.

2.3.2. Other national & regional schemes in support of sustainable shipping

In addition to measures in support of early adaptation to the new environmental standard, it is necessary to examine the case for specific public involvement at a national and/or regional level to enable sustainable shipping in compliance with State aid rules. These could take the form of incentives for green ships calling at national ports e.g. green port dues and port tariffs, tax exemptions, or other national schemes that could reward early investors in clean ship technology and promoters of sustainable shipping.

Next steps

¹⁰ OJ C 82. 1.4.2008, p.1.

¹¹ SA. 32118 - Finland – The scheme on general guidelines on investment aid to vessels for the purpose of improving environmental protection; OJ C 22, 27.1.2012, p. 4.

¹² SA.35686 (2012/N) – Finland - "Amendments to the Scheme on General Guidelines on Investment Aid to Vessels for the Purpose of Improving Environmental Protection"); published on 23 January 2013..

¹³ SA.33382 – Finland - State aid related to environmental protection for Viking Line Ltd., adopted on 25.04.2012, OJ C 160, 6.6.2012, p. 9.

2.4. International dialogue and technical co-operation

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
<i>10. Examine the introduction of national funding schemes in support of early compliance by national ship operators with the low sulphur standard.</i>	<i>MS</i>	<i>2013-2014</i>
<i>11. Identify possible incentives applicable at local, national and regional level i.e. green port dues and tariffs for green ships (in compliance with State aid rules).</i>	<i>MS, Industry</i>	<i>2013-2014</i>

The Commission has included the Toolbox on the agenda of the bilateral and multilateral maritime transport dialogue meetings with key partners including the United States of America, China, Japan, Norway, and Brazil. The purpose of these exchanges is to ensure major partners are informed about EU proposals, learn about their efforts in the area, identify opportunities for joint action, and ensure a global compatibility of technical and operational measures. Coordination with initiatives at the IMO, the International Organization for Standardization (ISO) and other relevant bodies will be essential to ensure global interoperability of possible technical and operational standards that might be adopted at EU or international level.

Next steps

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
<i>12. Continue the maritime international dialogue with major international partners and coordination with IMO / ISO on maritime sustainability related topics.</i>	<i>EC assisted by EMSA</i>	<i>On-going</i>

3. MEDIUM AND LONGER TERM MEASURES – STATE OF PLAY AND NEXT STEPS

The Sustainable Toolbox proposed medium and longer-term accompanying measures along the following components: regulatory EU measures, clean ship technology and alternative fuels, green infrastructure, possible financing opportunities, research and development activities, innovation, and international cooperation.

3.1. Coordination with Stakeholders and Member States

Given the multitude of possible approaches and solutions and reflecting the need voiced by many industry stakeholders and Member States for a more structured exchange of information and coordination of efforts in order to advance Toolbox implementation, the Commission will undertake the creation of a dedicated expert group – the European Sustainable Shipping Forum (ESSF).

The ESSF will bring together representatives of Member States as well as private and public organisations to enable a structural dialogue, exchange of best practice and technical knowledge, cooperation and coordination between relevant public and private maritime industries' stakeholders and relevant Commission services in areas jointly identified. The

ESSF will provide an opportunity to discuss practical issues that may be encountered during the implementation process, in particular during the transition phase before the entry into force of the new standards. The ESSF will thus also provide a platform to discuss short-term measures as described in chapter 2 above. The ESSF will furthermore take due account of regional specificities wherever necessary.

It is envisaged that the ESSF will operate with the following structure: a plenary, a secretariat, and non-permanent technical working groups to take forward the work of the ESSF on specific issues. The ESSF will be chaired by the Commission and will approve its terms of reference based on a proposal by the Commission. It is envisaged that the ESSF will be established via a respective Commission decision.

3.1.1. Guidance on the implementation of Directive 2012/33/EU

Directive 2012/33/EU was published in the EU's Official Journal on 27 November 2012. Member States have until 18 June 2014 to transpose the Directive into their national law. The Directive foresees a number of implementing and delegated acts, which aim, inter alia, to help Member States with the monitoring, implementation and enforcement of the Directive. The Directive also foresees that a committee and an expert group composed of Member States' experts will assist the Commission to prepare these acts.

To enable this process, it is envisaged that an Expert Group discussing the implementation of Directive 2012/33/EU will be set-up under the ESSF.

Next steps

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
<i>13. Set-up the European Sustainable Shipping Forum (ESSF).</i>	<i>EC together with all concerned stakeholders</i>	<i>1st half of 2013</i>
<i>14. Organize first ESSF Plenary meeting and launch the work of the ESSF technical working groups</i>	<i>EC, ESSF</i>	<i>2nd half of 2013</i>
<i>15. Discuss the implementation of Directive 2012/33/EU</i>	<i>EC, MS, ESSF, Industry</i>	<i>2nd half of 2013 - 2015</i>

3.2. Regulatory measures

3.2.1. Framework conditions for the use of marine LNG as ship fuel

Fulfilling the potential offered by LNG as a ship fuel requires that every effort is made in order to guarantee that all the necessary safety rules are in place, and that this happens in a timely manner so that legal uncertainty is removed. Work is in progress at both the international, at IMO and the ISO and EU levels to ensure this happens.

3.2.1.1. Work undertaken at the IMO

At present, the IMO subcommittee on Bulk Liquids and Gases (BLG) is working on the International Gas as Fuel Code (IGF), which will supersede the IMO Interim Guidelines for gas as ship fuel (MSC. 285(86)). Important technical questions are still under examination, such as the location of the LNG tank, the safeguards against damage by collisions and

groundings, the use of portable tanks, or the rules for bunkering operations. These technical questions are of critical importance, not least in the case of passenger ships. Aspects relating to the training of seafarers will need to be examined, too. The IGF Code is expected to be finalized in 2014.

3.2.1.2. Work undertaken at the ISO

Within ISO, the relevant technical committee (ISO TC 67 Working Group 10) is currently working on the development of guidelines for systems and installations for supply of LNG as fuel to ships including requirements for safety, components and systems and training. The first draft of the guidelines will be finalized in 2013. These guidelines will supplement the ISO body of work related to marine LNG.

3.2.1.3. Work undertaken at EU level

(a) Mandatory technical standards for alternative fuels infrastructure deployment

On 24 January 2013, the Commission presented the Clean Power Transport Package, including a proposal for a Directive of the European Parliament and of the Council on the deployment of alternative fuels infrastructure¹⁴. The proposed Directive requires Member States to ensure that all maritime ports of the TEN-T core network are equipped with LNG refuelling points for waterborne vessels by 31 December 2020 (Article 6, paragraph 2). The proposed Directive also requires that all refuelling points respect certain technical specifications by 31 December 2015 (Article 6, paragraph 4).

LNG refuelling points for waterborne vessels shall comply with European standards yet to be elaborated and based on the global ISO standard ISO/TC67/WG10.

(b) Procedures and rules for marine LNG distribution and bunkering

The absence of common procedures and harmonised rules for the distribution and bunkering of LNG to ships at EU level is currently being addressed by the Commission in cooperation with the European Maritime Safety Agency (EMSA). This work was supported by meetings of an ad-hoc expert group on marine LNG organised in April, June and December 2012 by the Commission and EMSA.

The expert group focused mainly on taking stock of the current rules and standards on LNG and on identifying potential barriers hampering the wide scale use of LNG as ship fuel in the EU.

In addition, the Commission, assisted by EMSA, is following and coordinating its work with the on-going regulatory developments at international level addressing the use of marine LNG bunkering within the IMO, the ISO, the International Association of Ports and Harbors (IAPH), and the Society of International Gas Tanker and Terminal Operators (SIGTTO).

Furthermore, EMSA has commissioned external expertise for carrying out a gap analysis on standards and rules for bunkering gas-fuelled ships.

The European Commission will continue the discussions and work towards the adoption of EU-wide LNG bunkering framework conditions compatible at international level. The Commission Staff working document on "Actions towards a comprehensive EU framework on LNG for shipping" accompanying the Communication on Clean Transport for Power: A European alternative fuels strategy¹⁵ sets out the results achieved so far and further steps until the end of 2014 towards a comprehensive set of rules, standards, and guidelines.

(c) Support actions

The European Parliament has also proposed preparatory action (with a budget €1 million) aimed at supporting the introduction of adequate framework conditions for LNG for shipping, e.g. through focussed studies. The scope of the action is yet to be finalised and will take into account the outcome of gap analysis work undertaken in 2012 by the Commission, EMSA and relevant stakeholders. It may also support any future actions envisaged to further develop framework conditions for marine LNG use following the discussions in the ESSF.

¹⁴ COM(2013)018 final

¹⁵ COM (2013) 17 final of 24.01.2013

Next steps marine LNG

Given the complexity of this topic, there is a need to widen the scope and participation to other stakeholders in the marine LNG supply chain to include relevant Member States authorities. It is therefore envisaged that a working group on marine LNG is set up under the ESSF. The working group will base its work inter alia on the results of the ad-hoc expert group on LNG, the recommendations issued by the EMSA legal gap analysis study and further feasibility studies supported by the TEN-T Programme i.e. Northern EU LNG project etc..

This working group will provide advice to the ESSF on technical and legal aspects dedicated to developing framework conditions (standards, guidelines, and/or regulations) for facilitating LNG as marine fuel at EU level and may carry out the following actions:

<i>Action</i>	<i>Responsible actors</i>		<i>Timeline</i>
<i>16. Develop common, harmonized guidelines/ standards/rules for marine LNG as ship fuel covering technical, operational, safety, security and training aspects for :</i> (a) transfer, storage and distribution, (b) bunkering (c) use on-board ship	<i>EC/EMSA/ESSF</i>		<i>2013-2014</i>
<i>17. Analyse some of the potential market barriers hampering the deployment of LNG i.e. organisational, operational, cost-related and the lack of information.</i>	<i>EC/ESSF</i>	<i>EMSA/</i>	<i>2013-2014</i>
<i>18. Maintain links and ensure coordination with on-going regulatory developments at international level addressing the use of marine LNG i.e. in IMO, ISO, IAPH, SIGTTO etc.</i>	<i>EC/ESSF</i>	<i>EMSA/</i>	<i>2013-2014</i>
<i>19. Provide guidance and support for the creation and assessment of effective business cases (LNG supply chain approach).</i>	<i>EC/ESSF</i>	<i>EMSA/</i>	<i>2013-2014</i>
<i>20. Enhance public awareness about the benefits of marine LNG.</i>	<i>EC/ESSF</i>	<i>EMSA/</i>	<i>2013-2014</i>

3.2.2. Scrubbing technology

3.2.2.1. Approval of on-board exhaust gas cleaning systems

Harmonised requirements for the approval of on-board exhaust gas cleaning systems (scrubbing technology) for ships flying the flag of an EU Member State were incorporated into Commission Directive 2011/75/EU of 2 September 2011¹⁶, amending Council Directive 96/98/EC on marine equipment¹⁷. According to these new provisions, from 5 October 2012,

¹⁶ OJ L 239, 15.9.2011, p. 1

¹⁷ OJ L 46, 17.2.1997, p. 25

scrubbers placed on board EU ships must comply with the standards laid down in Annex A.1¹⁸ of the Directive.

3.2.2.2. Requirements for scrubber-generated waste

Some types of scrubbers generate waste that can not be discharged into the sea but that do need to be properly treated. Accordingly, requirements for scrubber-generated waste will be assessed by the Commission services during the ongoing review process of Directive 2000/59/EC of the European Parliament and the Council of 27 November 2000 on port reception facilities for ship generated waste and cargo residues.

Next steps scrubbing technology

Given the technical, operational and economic challenges associated with the installation, operation and maintenance of exhaust gas cleaning systems (scrubbers), it is envisaged that a working group on Scrubbing technology should be established under the ESSF. The working group will consider, *inter alia*, the suitability of scrubbers to be fitted on all types of engines and all categories and size of vessels, initial cost, availability, maturity of the products, payback time, disposal of residues (sludge), and crew training. This working group will advise the ESSF on technical, economic, and operational aspects relating to the use of scrubbing technology in shipping.

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
21. Propose to include the residues from exhaust gas cleaning systems under the revised Directive 2000/59/EC on port reception facilities.	EC	2 nd quarter 2013
22. Assess the need for guidelines and/or standards for scrubbing technology covering technical, operational and safety aspects, including training for crew, as well as marine pollution aspects.	EC/ EMSA/ ESSF/	2013-2014
23. Identify and analyse potential market barriers hampering scrubbing technology take-up.	EC/ESSF	2013-2014
24. Ensure coordination with ongoing regulatory initiatives at international level, i.e. the IMO work on wash water criteria for exhaust gas cleaning systems.	EC assisted by EMSA	2013-2014
25. Exchange information on on-going and planned projects and trials related to the installation of scrubbing technology on board vessels.	EC/ EMSA/ ESSF	2013-2014

3.2.3. Shore side electricity

Standardisation efforts to foster the introduction of this technology which can greatly reduce local pollution in ports, and could in the future be fed by clean offshore wind energy are already on the way. The proposal for a Directive on the deployment of alternative fuels

¹⁸ Annex A.1 – Equipment for which detailed testing standards already exist in international instruments

infrastructure¹⁹, requires Member States to ensure that shore side electricity supply for waterborne vessels is installed in ports provided that is cost effective and has environmental benefits. Furthermore, the proposed Directive requires that shore side electricity complies with the relevant EN standard and technical specifications of the recently adopted global standard IEC/ISO/IEEE 80005-1 by 31 December 2015.

Further incentives are proposed in the current revision of Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity. The Commission proposal provides for a mandatory temporary tax exemption for shore-side electricity provided to ships while at berth in port. Once the directive is adopted, this incentive shall apply for an 8-year period. However, discussions to take forward the proposed legislation are still ongoing.

Next steps

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
26. <i>Member states and industry to make best use of the incentives provided for shore-side electricity.</i>	<i>MS/industry</i>	<i>31/12/2020</i>

3.3. Development of infrastructure

The proposal for a new TEN-T Regulation sets infrastructure requirements that are aimed at facilitating safe, efficient, smart, energy-efficient, and sustainable transport services. Adequate consideration is given to new technologies and innovations deployment, including in particular the provision of alternative fuelling facilities required to use clean ship technologies. TEN-T support will facilitate the transition to cleaner shipping on the major traffic axes along the EU coasts and their interfaces with the hinterland.

3.4. Research, technological development, and innovation

The EU Seventh Framework Programme (FP7) for transport has supported a number of research projects²⁰ looking specifically at the development of innovative maritime concepts, including clean ship technologies, alternative fuels and operation strategies for greening the maritime transport. These actions are also taking account of the Maritime Strategic Research Agenda's priorities defined by the industry driven "WATERBORNE Technology Platform" bringing together relevant stakeholders engaged in waterborne transport research and development.²¹ The WATERBORNE Technology Platform is currently updating its Strategic Research Agenda in order to provide views on priorities for the next Working Programme to be implemented under "Horizon 2020" -- the EU's funding programme for research and innovation for 2014-2020.

In order to meet the environmental and climate challenges facing the shipping sector, further investment in research and development coupled with a more coordinated and consistent approach from the EU maritime community is needed. The 2011 White Paper "Roadmap to a

¹⁹ COM(2013) 18 final

²⁰ STREAMLINE (Strategic Research for Innovative Marine Propulsion Concepts), TEFLES (Technologies and Scenarios for Low Emissions Shipping), DEECON (Innovative After-treatment System for Marine Diesel Engine Emission Control) and HELIOS (High Pressure Electronically Controlled Gas Injection for Marine Two-stroke Diesel Engines) are examples of such EU funded research projects that can be further consulted on the Community Research and Development Information Service (CORDIS) website http://cordis.europa.eu/projects/home_en.html

²¹ <http://www.waterborne-tp.org/>

Single European Transport Area – Towards a competitive and resource efficient transport system²²" has set ambitious goals for CO₂ emission reductions from shipping. Stakeholder contacts show that the industry is working on innovative approaches towards zero emission ships²³. Generally, increased energy efficiency of vessels leads to reduced overall fuel consumption and thus to the direct reduction of emissions of pollutants and CO₂. Such innovative approaches require the integration of several new technologies, more comprehensive studies and validation projects.

Research and development options for the implementation of the Sustainable Waterborne Transport Toolbox could be found in the Horizon 2020, under the "Smart, Green and Integrated Transport" societal challenge. To ensure the optimal benefit is achieved from the "Horizon 2020" programme, it is envisaged that a working group on Research, Innovation, and Technologies is established under the ESSF. The working group will elaborate for the ESSF on research and development orientations, requirements, and decisions in support of the Toolbox through the Horizon 2020 specific programme. Wherever necessary, regional specificities will be taken into account.

Next steps

<i>Action</i>	<i>Responsible actors</i>	<i>Timeline</i>
<p>27. <i>Contribute to the definition of the work programme for the calls for proposals under HORIZON 2020.</i></p> <p><i>(a) suggest appropriate topics and type of actions.</i></p> <p><i>(b) inform and guide the interested organizations to make best use of Horizon 2020 funding for the implementation of the Toolbox.</i></p>	EC/WTP/ESSF/	Throughout 2013 and beyond
<p>28. <i>Contribute to the Strategic Research and Innovation Agenda for the maritime transport sector under Horizon 2020.</i></p> <p><i>(a) monitor progress and update research and development requirements for the Toolbox.</i></p> <p><i>(b) help aligning the EU research and innovation actions with policy implementation.</i></p>	EC/WTP/ ESSF	Throughout 2013 and beyond

4. CONCLUSION

The Commission will continue to work closely with Member States and stakeholders on the implementation of the measures identified in the Commission's staff working paper of 16 September 2011, as well as on the development of additional measures that would promote

²² COM(2011)0144 final

²³ The recent LeaderSHIP report published on 20 February 2013 also contemplates a possible private public partnership approach towards zero emission / zero technical accident vessels (<http://ec.europa.eu/enterprise/sectors/maritime/shipbuilding/leadership2015/>)

further compliance with the low sulphur standard and foster sustainable and competitive EU shipping. To this end, the set of actions identified in the previous chapters and summarized in Annex 1 to this report will be implemented.

In order to advance and coordinate this process, the Commission will undertake the creation of a wider stakeholder forum – the European Sustainable Shipping Forum (ESSF). The ESSF will provide a platform for a structural dialogue, exchange of best practices and technical knowledge, cooperation, and coordination amongst relevant public and private maritime industries' stakeholders and relevant Commission services in areas jointly identified. The ESSF will be assisted by technical working groups which will focus in the first instance on scrubbing technology and marine LNG deployment, coordination of research and development activities and innovation (working on the basis of the broader research and development orientations provided by the WATERBORNE Technology Platform), financing aspects and exchange of best practices for the implementation of Directive 2012/33/EU.

The Commission will report on the progress made on the implementation of these measures in mid-2015.

ANNEX 1: Roadmap for advancing the implementation of the Sustainable Waterborne Transport Toolbox

	<i>Action</i>	<i>Responsible Actors</i>	<i>Timeline</i>
1	Apply for funding under the 2012 TEN-T Multi-annual and Annual Calls for proposals.	<i>MS/Industry</i>	Closed 28/02/2013
2	Use the opportunities provided by the 2013 Marco Polo Call.	<i>Industry</i>	1 st semester 2013
3	Analyse possible ways of adjusting the criteria of the Marco Polo II Programme in order to better reflect market conditions and enable funding to green shipping projects	<i>EC/MS</i>	Early 2013
4	Ensure better use of the EU Transport funding instruments and coordination with other EU instruments i.e. Structural Funds, EIB loans, etc.	<i>EC/MS/Industry</i>	Early 2013
5	Ensure continuity of the ESN work related to the assessment of likely impacts (i.e. modal back shift) on the shortsea sector in the SECA area.	<i>EC/ESN/SPCs</i>	2013-2014
6	Create more awareness about the EIB lending framework conditions for shipping.	<i>EIB/EC</i>	2013-2014
7	Explore opportunities for possible cross-sector partnerships that could secure EIB financing for maritime projects.	<i>EC/MS/Industry/ ESSF</i>	2013-2014
8	Explore the use of the LGTT or the pilot phase of the Europe 2020 project bond initiative for financing maritime transport infrastructure projects with long payback periods.	<i>EC/MS/Industry/ ESSF</i>	2013-2014
9	Explore the financial bundling of upgrading projects in order to request general EIB loans	<i>MS/Industry/ESSF</i>	2013-2014
10	Examine the introduction of national funding schemes in support of early compliance by national ship operators	<i>MS</i>	2013-2014

<i>Action</i>		<i>Responsible Actors</i>	<i>Timeline</i>
with the low sulphur standard.			
11	Identify possible incentives applicable at local, national and regional level i.e. green port dues and tariffs for green ships (in compliance with State aid rules).	<i>MS/Industry</i>	2013-2014
12	Continue the maritime international dialogue with major international partners and coordination with IMO/ISO on maritime sustainability related topics.	<i>EC assisted by EMSA</i>	Recurrent
13	Set-up the European Sustainable Shipping Forum (ESSF).	<i>EC together with relevant stakeholders</i>	1 st half of 2013
14	Organize first ESSF Plenary meeting and launch the work of the ESSF technical working groups.	<i>EC/ESSF</i>	2 nd half of 2013
15	Discuss the implementation of Directive 2012/33/EU	<i>EC/ MS/ ESSF/Industry</i>	2 nd half of 2013 - 2015
16	Develop common, harmonized guidelines/ standards/rules for marine LNG as ship fuel covering technical, operational, safety, security and training aspects for : (a) transfer, storage and distribution; (b) bunkering; (c) use on board of ships.	<i>EC/EMSA/ESSF</i>	2013-2014
17	Analyze some of the potential market barriers hampering the deployment of LNG i.e. organizational, operational, cost related and the lack of information.	<i>EC/ EMSA/ ESSF</i>	2013-2014
18	Maintain links and ensure coordination with on-going regulatory developments at international level addressing the use of marine LNG i.e. in IMO, ISO, IAPH, SIGTTO etc..	<i>EC/ EMSA/ ESSF</i>	2013-2014
19	Provide guidance and support for the creation and assessment of effective business cases (LNG supply chain approach).	<i>EC/ EMSA/ ESSF</i>	2013-2014

	<i>Action</i>	<i>Responsible Actors</i>	<i>Timeline</i>
20	Enhance public awareness about the benefits of marine LNG.	<i>EC/EMSA/ESSF</i>	2013-2014
21	Propose to include the residues from exhaust gas cleaning systems under the revised Directive 2000/59/EC on port reception	EC	2 nd quarter 2013
22	Assess the need for guidelines and/or standards for scrubbing technology covering technical, operational and safety aspects, including training for crew, as well as marine pollution aspects	<i>EC/EMSA/ESSF</i>	2013-2014
23	Identify and analyse potential market barriers hampering scrubbing technology take-up	EC/ESSF	2013-2014
24	Ensure coordination with ongoing regulatory initiatives at international level, i.e. the IMO work on wash water criteria for exhaust gas cleaning systems.	<i>EC/ESSF</i>	2013-2014
25	Exchange information on on-going and planned projects and trials related to the installation of scrubbing technology on board vessels.	<i>EC/EMSA/ESSF</i>	2013-2014
26	Member states and industry to make best use of the incentives provided for shore-side electricity	<i>MS/Industry</i>	31/12/2020
27	Contribute to the definition of the work programme for the calls for proposals under Horizon 2020. Suggest appropriate topics and type of actions. Inform and guide the interesting organizations to make best use of Horizon 2020 funding for the implementation of the Sustainable Toolbox.	<i>EC/WTP/ESSF</i>	2013 and beyond
28	Contribute to the Strategic Research and Innovation Agenda for the maritime transport sector under Horizon 2020. Monitor progress and update research and development requirements for the Sustainable Waterborne Transport Toolbox. Help aligning the EU research	<i>EC/WTP/ESSF</i>	2013 and beyond

<i>Action</i>	<i>Responsible Actors</i>	<i>Timeline</i>
and innovation actions with policy implementation.		

ANNEX 2: TEN-T supported MoS (Motorways of the Sea) and ports projects with specific environmental dimension

Published on : http://tentea.ec.europa.eu/en/ten-t_projects/ten-t_projects_by_transport_mode/water.htm

More information about TEN-T funded projects is published on TEN-T Executive Agency website

(<http://tentea.ec.europa.eu/en/home/>)

On-going MoS Project portfolio:

Project Code	Title	Action type	Planned duration (years)	Initial End Date	Estimated End Date	Initial total costs (€ M)	TEN-T support (€ M)
2010-EU-21112-S	LNG infrastructure of filling stations and deployment in ships	Studies	3,2	31/03/2013	31/12/2013	26,8	9,6
2009-EU-21010-P	Baltic Link Gdynia-Karlskrona (part of the project related to shore side electricity in one port and two vessels)	Works	4,8	31/10/2013	31/10/2013	85,5	17,1
2011-EU-21002-P	On Shore Power Supply - an integrated North Sea network	Works	3,3	31/12/2014	31/12/2014	5,0	1,0
2011-EU-21005-S	LNG in Baltic Sea Ports	Studies	3,0	31/12/2014	31/12/2014	4,8	2,4
2011-EU-21007-S	COSTA	Studies	2,8	31/12/2013	31/12/2013	3,0	1,5
2011-EU-21010-M	Green Bridge on Nordic Corridor (part of the project related to installation of scrubbers on two vessels and shore-side electricity in two ports)	Mixed (studies & works)	4,0	31/12/2014	31/12/2014	84,6	19,8
Total						111,4	51,4

On-going port projects portfolio:

Project Code	Title	Action type	Planned duration (years)	Initial End Date	Estimated End Date	Initial total costs (€ M)	TEN-T support (€ M)
2011-ES-92138-S	Blue Corridors enHance through the Application of Natural Gas Energy	Study	1,3	31/12/2013	31/12/2013	2,2	1,1
2011-EU-92151-S	Green technologies and eco-efficient alternatives for cranes & operations at port container terminals (GREENCRANES)	Study	1,9	31/05/2014	31/05/2014	3,6	1,8
2011-EU-92079-S	Make a Difference	Study	1,2	31/12/2014	31/12/2014	2,5	1,2
2011-FR-92026-S	Technical and design studies concerning the implementation of a LNG bunkering station at the port of Dunkirk	Study	2,4	31/12/2014	31/12/2014	2,3	1,1
2011-SE-92148-P	Fjalir project	Works	1,2	31/12/2013	31/12/2013	1,3	0,3
Total						11,9	5,5