Summary

This report provides background material for an upcoming review on sustainable shipping in the EU. The report is a request from the European Panel for Sustainable Development (EPSD) which acts as an independent academic body for critical reviews on European Union (EU) policies related to sustainable development. The purpose has been to outline recent and present EU efforts and to identify gaps in policies, laws and knowledge to investigate further. Relevant areas for study were first identified within a definition of sustainable shipping that included all three pillars of sustainable development. Strategic EU policy documents were then reviewed in detail, and specific policies and regulations under each area were identified.

Results and Conclusions

The report presents a large variety of policies and legislation covering a wide scope of EU policy sectors, as well as integrated approaches beyond sectoral policy-making. It was found that relevant actions at the EU level have been addressed by three main strategic EU policies:

1. a Common Transport Policy
2. an Integrated Maritime Policy
3. a Maritime Transport Strategy

Overall, they covered all three pillars and almost all identified areas of study within sustainable shipping. However, it was concluded that much proposals, recommendations and action points overlap in the three strategies. This causes confusion and repetitiveness of maritime actions at the EU level, which could have had an effect on the overall impact. It also makes it less clear who is accountable for reaching the different sustainability objectives that concern shipping.

The policy gaps identified by the current report, as well as spatial implementation of regulations and initiatives, have been summarised and grouped according to the three underlying sustainability aspect. The table below compares the level of implementation of regulations and initiatives on EU level with the level of implementation of regulations and initiatives on global, as well as regional levels. The study identified some major gaps in both policies and knowledge. First, recent major gaps identified in the reviewed documents are presented. Gaps in specific policy issues that were identified in the present study are then presented. These gaps are highlighted below.

Major Gaps for Achieving Sustainable Transport

The Strategy for Sustainable Development in 2001 included the two following objectives for sustainable transport: (1) decouple transport growth from economic growth, and (2) shift the balance between the transport modes from road to waterborne transport and rail. In 2009, it was concluded that decoupling had not been achieved in freight transport, and that progress in shifting had been limited. It was found that the transport system still was not on a sustainable path. Environmental protection was identified as the policy area that most required improvements. In particular, progress in reducing energy consumption and greenhouse gases was considered insufficient.

In 2011, many unsustainable trends were identified in a business-as-usual scenario for 2050. It was found that no structural changes of the transport system towards sustainability had been made. Most external costs of transport have not been internalised. The research policy was considered inadequate for fast deployment of sustainable technology and regulatory and
market failures hindered the development of a multimodal transport system. Moreover, the transport system was not treated as a whole in planning and decisions.

**Major Gaps for Sustainable Shipping**
The commission concluded in 2008 that no internalisation of external costs from maritime transport had been made. Related to the EU Integrated Maritime Policy (IMP), the Parliament still had separate policy structures in 2009. The same year, it was concluded that marine knowledge still remained very scattered and cost-ineffective. Moreover, in 2010, the Commission intended to develop a policy document based on six strategic directions for the IMP. No such policy document was identified in the present study.

**Gaps in Specific Policy Issues**
The following gaps in specific issues were identified in the present report:

- **Ballast Water Management**
  Limited efforts, but recent work on an overall framework for invasive species
- **NO\textsubscript{x} Emissions**
  No specific legislation or policy document was found.
  In 2005, NO\textsubscript{x} emissions from ships were projected to exceed the total emissions from land-based sources in the EU by 2020. This is thus an urgent issue to address.
- **Ship Recycling**
  No EU Member State has ratified the Hong Kong Convention.
  The EU aims to ensure safe and environmentally sound dismantling of European ships by 2015. This is thus an urgent issue to address.
- **Greenhouse Gases**
  Slow development, but recent consultation on EU measures
  Indirect impacts of energy efficiency measures have not been addressed.
- **Sea basin strategies are missing for the North and Black Seas**
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<td>Research/Innovation/Technology Investments</td>
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Colour keys for boxes in the table:
- Regulation - (mandatory measures for shipping; shown for comparison with other transport modes; IMO or ILO regulations (e.g., MARPOL, SOLAS, BWM, MLC, etc); specific EU legislation (covers more than international regulations))
- Initiatives - (strategies, proposals, objectives, targets or on-going work for legislation; supporting measures for reaching sustainability objectives and regulation (e.g., infrastructure, taxes, etc))
- Areas where measures are needed, and/or regulation or policy are absent
- Not studied in this report
- Arrow indicates that regulations for NOx and PM have shifted focus from environmental protection to also include societal concerns.
Further Work

It is suggested that further work of the EPSD focuses on following up on the proposed and planned measures found in this report in a holistic approach. This would enable a review of the EU work towards sustainable shipping that considers actions at the EU level as a whole, and not divided in three strategies. The reviewed strategies intended to address their identified challenges by a diversity of goals and actions. It is thus suggested for the EPSD to follow up on these highlighted gaps to identify actions made or not made within each gap. Moreover, the specific policy gaps identified in the present report should be further investigated and followed up for EU actions.

Furthermore, it is suggested to identify EU environmental, economic and social trends applied to shipping. These trends could be compared with the EU policies and actions, as well as indicate if the EU moves in the right direction towards sustainable shipping. Finally, when investigating sustainable shipping further, one has to define more specific what type of maritime transport to investigate or if a holistic approach should be taken. The report provides a list of elements that could be considered.
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1. Introduction

1.1. Background

Around 80-90% of the world trade volumes are transported by sea. According to Stopford (1997) the world economy and seaborne transport have gone hand in hand. Shipping is today one of the world's most international industries and has frequently been described as the most cost effective and the most energy efficient transport mode. Due to the international nature of shipping, it is governed by a large variety of conventions and other international agreements. The International Maritime Organization (IMO) is responsible for international measures on safety, security and pollution prevention for international shipping. The focus of the regulation of ships has evolved from safety and oil pollution to several marine pollutants and training of seafarers, as well as recent developments on air emissions and greenhouse gases. In addition, the International Labour Organization (ILO) has developed a labour convention for seafarers. There is however a lack of holistic views on sustainable development applied to the shipping at the international level.

The European Union (EU) is equally dependent on ship transportation for its economy and for global competition of European companies. Short sea shipping provides 40% of intra-European freight, and over 400 million passengers passing European ports every year. The maritime sector in Europe provides many jobs and is an important source of incomes (UNCTAD, 2008; Stopford, 1997; SSI, 2011; Cabezas-Basurko et al., 2008; COM(2009) 8 final). Given the large dependence on maritime transport, what work has been conducted within the EU to address its sustainability?

1.2. Terms of Reference and Purpose of the Study

The European Panel for Sustainable Development (EPSD) was established by the University of Gothenburg and Chalmers University of Technology together with Lund University, as well as individual researchers at the Charles University in Prague and the London School of Economics to serve as an independent academic body for critical reviews on EU policies related to sustainable development. The Centre for Environment and Sustainability (GMV) in Gothenburg is the lead organisation of the EPSD.

The present report provides background material for an upcoming EPSD review on sustainable shipping within the EU. The purpose of this study is to outline recent and present efforts within the EU towards sustainable shipping. Gaps in policies, laws and knowledge are then identified. This information could be used for identifying challenges towards sustainable shipping in the EU and highlight areas of interest for the upcoming project to investigate further. The work of this study is based on the following general directions:

1. Define sustainable shipping and identify relevant areas under the three pillars that should be covered for studying sustainable shipping in the EU.

2. Review strategic EU policy documents and identify specific policies and regulations under each area of sustainable shipping.
   - Which areas are covered by EU policies and what measures have been taken under the policies?
   - Highlight issues on the agenda today.

3. Highlight areas for project continuation:
- Identify knowledge and policy gaps in EU based on the areas of sustainable shipping.
- What areas or issues have not been covered by EU policies and laws?
- Highlight emerging and urgent issues for follow up.

1.3. Scope and Delimitations

The document review reflects strategic documents related back to the Gothenburg Strategy in 2001 until today. This is consistent with the start and purpose of the EPSD project and content of earlier reports. More specific policy instruments and legislations were merely listed or briefly outlined. It is not intended to be a complete list of EU documents and actions, but rather an overview of what areas that have been considered at EU level recently. When investigating the economic and social pillars of sustainable shipping, the study was delimited to only include maritime transport and not the maritime sector as a whole.
2. Sustainable Shipping and Areas of Study

2.1. Sustainable Development
Sustainable development and sustainability are terms lacking consensus with a variety of different and vague definitions (Bell and Morse, 2008; Kates et al., 2005). The key questions for a relevant definition are given below, as well as typical elements of definitions found in a literature review by U.S. National Research Council (1999) (cited from Kates et al., 2005).

- What is intended to be sustained?
  - Nature (earth, biodiversity and ecosystems)
  - Life support (ecosystem services, resources and environment)
  - Community (cultures, groups and places)

- What is intended to be developed?
  - People (child survival, life expectancy, education, equity, equal opportunity)
  - Economy (wealth, productive sectors and consumption)
  - Society (institutions, social capital, states, regions)

- For how long?
  - e.g. 25 years or forever

The 1987 Brundtland report contains the internationally accepted definition: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). After the Brundtland Report, many more detailed definitions have been developed. There are commonly three pillars of sustainable development; economic, social and environmental. In the early literature, development has often been seen as economic development. Due to concerns over this limitation, the three pillars were further elaborated at the World Summit on Sustainable Development (WSSD) in Johannesburg 2002. The three pillars were termed economic development, social development and environmental protection. Although the Johannesburg Declaration declared a collective responsibility to advance and strengthen the pillars, it was not agreed on any details. Hence, there is still a wide variety of definitions, with most differences in the social pillar. More recently, the attention has shifted to human development, which adds factors such as life expectancy, education and equity (Kates et al., 2005).

2.2. Sustainable Shipping
What does sustainable shipping mean then? The term is widely used today within industry and research. A lack of a standard definition has resulted in a variety of applications without definitions. According to Cabezas-Basurko et al. (2008), not all users of the term have fully understood the three dimensions of sustainable development, resulting in its use as a synonym of ecological or environmental aspects of shipping. It was further noted that some studies had been conducted by researchers with different background and who also were relatively new to environmental studies.

The environmental pillar of sustainable shipping includes well known and internationally regulated elements. It is the other two pillars that are often problematic and often not fully assessed in sustainable shipping studies. Cabezas-Basurko et al. (2008, p.3) clarified that economic sustainability aims to improve the economic growth of the activity, without
adversely affecting social and environmental development. Social sustainability has often been seen as poverty reduction by economic growth, but it should instead “incorporate the well-being of the people who are in contact with it” (ibid). Focus could be put on areas such as on-board safety for the crew and passengers. Derived from these elaborations, Cabezas-Basurko et al. proposed the following definition of sustainable shipping:

<table>
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<tr>
<th>Sustainable shipping (or sustainable waterborne transport)</th>
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<td>“a cost-effective commercial activity, in which the environmental load is not bigger than that which the environment can currently and in the future bear, and that the social community (directly and indirectly) in contact with it is not being negatively affected”.</td>
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<td>Cabezas-Basurko et al. (2008), p.3</td>
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2.1. Areas under Sustainable Shipping
Cabezas-Basurko et al. (2008) identified drivers under each pillar of sustainable shipping. These were used as part of the areas identified for data gathering in the present study. The drivers were limited to the operational life of ships and did not cover shipbuilding and recycling. The economic pillar covered economic aspects at vessel-level and not at society-level. The relationship between shipping and economic growth was instead dealt with under the social pillar. Another relevant study on sustainable shipping is the first report of the Sustainable Shipping Initiative (SSI), developed under Forum for the Future (SSI, 2011). It is based on the industry perspective of adapting to future changes, as a sort of survival strategy for shipping companies in the coming 30 years. This perspective is not used in the present report. However, the SSI report covered many useful aspects and has identified global trends and three key challenges for the industry. It further identified milestones of measures taken towards sustainable shipping and some areas missing in the international regulation. Some of the areas covered were included in the present study. Moreover, the North Sea Foundation (2005) highlighted some driving forces towards their project goal of the Clean Ship. Some of these drivers were considered as part of the economic and social pillars in the present report.

The present study was conducted by gathering relevant policy and law documents under the list of areas on the next page. This list was based on the three pillars of sustainable development, investigation of the above references, as well as brainstorming. The highlighted definitions of the three pillars were adapted from definitions in Cabezas-Basurko et al. (2008), and are not intended to be definitive for further work.
Economic Development
Improve the economic growth of shipping, without adversely affecting social and environmental development.

- Efficiency, optimality and capacity
  - Ships, operations, cargo handling, infrastructure and intermodality
- International competition
- External costs of maritime transport
- Economic instruments
  - Taxes, subsidies, market-based measures (MBM), etc.
- Investments
  - Research and innovation
  - Technology
  - Infrastructure

Social Development
Incorporate the well-being of people who are directly or indirectly in contact with shipping.

- Human resources
  - Education, training and skills
  - Manpower and recruitments
- Working conditions and rights
  - Working hours, wages, etc.
  - Safety
  - Health and working environment
  - Security
- Society aspects
  - Contributions: jobs and incomes, trade, mobility, etc.
  - Security
  - Health
  - Passenger rights

Environmental Protection
The environmental load of shipping should not be bigger than that which the environment can currently and in the future bear.

- Material resources
  - From shipbuilding to ship recycling
- Energy and greenhouse gases (GHGs)
- Air pollution
- Marine pollution and waste
- Safety and accidental pollution prevention and response
- Indirect impacts
  - Increased transport and impacts due to efficiency measures (included in external costs / effects)

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1 Intermodality = “a characteristic of a transport system, that allows at least two different modes to be used in an integrated manner in a door-to-door transport chain” (COM(97) 243 final, p.1).

Intermodal transport = “the movement of goods in one and the same loading unit or vehicle which uses successively several modes of transport without handling of the goods themselves in changing modes” (ibid).
3. Sustainable Shipping in the European Union

3.1. Transport Strategies

3.1.1. Sustainable Development and the 2001 White Paper

The concept of sustainable development was introduced 1997 in the EU by the Treaty of Amsterdam. As such, sustainable development would be an overarching objective of the EU policies. In October 1999, the transport ministers of the Council of the European Union introduced a strategy for integrating sustainable development in transport policy and highlighted five areas where actions were needed; (1) CO₂ emissions, (2) pollutant emissions and health impacts, (3) expected transport growth, (4) modal distribution and (5) noise. An EU Strategy for Sustainable Development was later adopted in 2001 by the European Council in Gothenburg. Two of the main objectives for transport were to significantly decouple transport growth from economic growth in order to reduce negative side-effects of transport (e.g. congestion and environmental impacts) and to shift the balance of transport modes from road to rail, water and public passenger transport. The shift of balance objective included a further objective that the share of road transport in 2010 would not exceed the share in 1998. The shift would be achieved by investments in infrastructure for railways, inland waterways, short sea shipping and intermodality (COM(2001)264 final; COM(2001) 370 final; European Commission, 2012a).

The 2001 White Paper [COM(2001) 370 final] was communicated by the Commission as a response to the Strategy for Sustainable Development, as well as a number of issues that emerged after the first White Paper in 1992. The main issues were different transport systems connected to the enlargement of the EU, unequal growth between different transport modes and problems with congestion. There had furthermore been difficulties with implementing a Common Transport Policy for the EU, a concept introduced already by the Treaty of Rome in 1957.

The 2001 White Paper aimed to gradually break the link between transport growth and economic growth, and to develop measures for the shift of balance between the modes. It included an action programme extending to 2010 with 60 measures at the EU level. In addition, several measures were identified that needed to be decided on at national or regional level in order to reach the objectives. The main method to shift the unequal balance of the transport modes consisted of intermodal measures. In particular, the Marco Polo Programme² would be established in 2003. This large scale programme would provide support to intermodal initiatives and alternatives to road transport before these have become commercially viable. Another measure was to develop a framework for standardisation of transport units and freight loading techniques.

² See section 3.1.7 for further explanations and developments.
Measures to eliminate bottlenecks of transport included an extensive review of the trans-European network (TEN)\(^3\) in 2004, as well as increased funding for the network in 2001. The revision introduced the concept of motorways of the sea in the network. With this concept, shipping corridors would be part of the TEN network with similar functions as railways or motorways. This would enable more efficient transport and provide an alternative to land transportation. This was also a main measure for promoting short sea shipping and inland waterway transport. Inland waterway transport would further be promoted by establishing intermodal waterway infrastructure. Developing the infrastructure for the motorways of the sea was also part of the action programme.

The White Paper further described the need for research and technology approach that is less focused on specific items and provides more intelligence and efficient infrastructure management in the transport system. A directive on a tonnage tax system was also proposed. The global character of transport was further highlighted and it was announced that the Commission planned to propose a reinforcement of the EU position at the IMO. Stricter maritime safety rules, social rules, as well as a European maritime traffic management system would be developed in collaboration with the IMO and the ILO. Finally, the long-term aspects of a sustainable transport system was highlighted and a plan by the Commission to set objectives of a long-term strategy in 2002.

### 3.1.2. Mid-term Review of the White Paper 2006

The mid-term review of the White Paper, Keep Europe moving [COM(2006) 314 final], was communicated by the Commission in 2006. It was based on an attached impact assessment with different policy options and by wide consultation with different stakeholders. The mid-term review identified some important context developments during 2001-2006. The EU enlargement to 25 Member States (soon to be 27) had given the EU a continental dimension, extending the maritime coastlines and rivers. The transport industry had changed with increased globalisation, e.g. the establishment of large logistics companies with global operations. Research and innovation policies of the EU had evolved with a new Framework Programme for Research and Development. A new EU energy policy of 2006 would have to be integrated in the transport policy. Changes of the international context were also of importance. The threat of terrorism affected transport policy and globalisation had affected the trade pattern with increased demand for transport to and from emerging economies. International environmental commitments further had to be integrated in transport policy.

During 2001-2006, the major action points of the White Paper had either been put into practice or approved. However, the White Paper had anticipated a stronger economic growth than realised, which affected the investments in infrastructure. The measures were not sufficient for achieving reduced negative impacts of transport and at the same time ensuring mobility. The transport policy needed to take a new comprehensive and holistic approach. In particular, the review concluded that actions at the EU level alone were not sufficient. Common actions were needed at national, regional and local levels, with emphasis on a broad dialogue with all concerned stakeholders. A broadening of the policy tools was needed to achieve a shift of balance between the modes to more environmentally friendly modes. At the same time, all modes needed to be optimised. The concept of co-modality was introduced, meaning both optimal use of each mode and optimal combinations of different modes.

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3 See section 3.1.7 for further explanations and developments.
Based on the impact assessment, actions for different policy areas were presented. With regard to impacts of transport, it was concluded that the measures of the White Paper would merely have minor effects, in particular for the growing CO₂ emissions. It was proposed to stimulate a debate on transport scenarios with 20-40 year aspects and to develop tools for overall sustainable transport. Some relevant action points are outlined below:

- **Internal Market for waterborne transport**
  - Develop a common maritime space (see section 3.3.3.1) and a European ports policy.
  - Reduce emissions of pollutants, promote short sea shipping and motorways of the sea, and implement an action plan for river transport (NAIADES).

- **Employment and working conditions**
  - Encourage maritime training and agreement between social partners in line with the ILO Maritime Labour Convention.

- **Safety**
  - Continuous reviews and completion of safety rules
  - Strengthen the functioning of the European Maritime Safety Agency (EMSA).

- **Security**
  - Review the security rules with focus on costs and functions.

- **Transport and Energy**
  - Promote energy efficiency and support new technologies.

- **Optimizing Infrastructure**
  - Mobilisation of all available sources of financing the TEN infrastructure
  - Encourage investment in new or improved intelligent infrastructure.

- **Intelligent Mobility**
  - Enable co-modality by developing a framework strategy for freight transport logistics.
  - Develop similar initiatives as the European Global Navigation Satellite System (Galileo) for maritime transport.

- **The Global Dimension**
  - Review the interaction with the IMO on case-by-case basis.
  - Address how coordination of Member States could be improved.
  - Possibilities of enhanced observer status of the Commission at the IMO.

**3.1.3. Keeping Freight Moving 2007**

Keeping Freight Moving [COM(2007) 606 final] was communicated by the Commission in 2007 as a response to the objectives and action points on freight transport set in the mid-term review. It consisted of a package of policy measures with a common approach characterized by the following elements:

1. A focus on corridors that connect transport chains
2. Infrastructure to deal with transport growth (e.g. TEN-T⁴) and efficient use of infrastructure (e.g. intelligent freight management and intelligent transport systems (ITS)).
3. Simplification of the diversity of regulations and administrative procedures for freight transport among the Member States, in particular for the complex situation of short sea shipping between EU ports (see section 3.3.3.1.).
4. Improved quality of service in freight transport.

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⁴ Trans-European Transport Network (TEN-T). See section 3.1.7.
The included policy measures relevant for maritime transport were: COM(2007) 616 final, SEC(2007) 1351 and SEC(2007) 1367 (see section 3.3). On transport in general, The Freight Logistics Action Plan [COM(2007) 607 final] presents numerous short- to medium-term actions for a competitive and sustainable freight transport system. Of specific relevance, it introduces the concept of green transport corridors, integrating the transport modes to enable choices of environmentally friendly transport. These corridors would provide trans-shipment facilities and fuels supply for ‘green propulsion’. They could further be used for trials with new environmentally friendly transport units and ITS applications. For the implementation, the concept would be strengthened in TEN-T and Marco Polo, funding of Motorways of the Sea would be better coordinated and the NAIDES programme for inland waterway transport would be implemented. The action plan further included actions on:

- ITS applications for freight transport logistics
- Training requirements of logistics personal
- Performance indicators for sustainable and efficient freight transport logistics
- Simplification of transport administrative procedures
- EU security standards and guidelines for maritime and port security
- EU standardisation of intermodal loading units

3.1.4. Greening Transport 2008

Greening Transport [COM(2008) 433 final] was communicated by the Commission in 2008 and aimed to move transport further towards sustainability. It was based on an accompanied inventory of existing and proposed measures on sustainable transport in the EU. The first part of the communication summarises these measures. They were presented in the following impact categories of transport: climate change, local pollution, noise pollution, congestion and accidents. It was underlined that measures by individual Member States were needed to complement these measures in order to achieve sustainable transport. Three new short- to medium-term measures were then presented, which also were accompanied to the communication as a policy package. These were developed based on the existing initiatives in the inventory. Of relevance here, the Strategy for the internalisation of external costs [COM(2008) 435 final] is outlined below.

3.1.4.1. Internalising External Costs

Transport generates negative costs to the society, such as the costs of transport delays from congestion and health and environmental problems associated with for example air pollution. As opposed to fuel costs, which is reflected in the transport costs (internal costs), the negative costs to society are not reflected in the price of transport. These are thus regarded as external costs. The strategy was based on an accompanied impact assessment, which had shown that if measures were not taken in the next few years, the environmental external costs of transport from air pollution and CO₂ emissions could be around €210 billion by 2020. In addition, congestion could be a problem on over a quarter of Europe’s roads, affecting the economy by delays. The strategy aimed to internalise the external costs of transport, i.e. to better reflect transport’s cost to society in transport prices.

The first part of the communication deals with how to estimate the external costs of transport and provides common principles and a methodology for EU members. The second part provides the strategy to internalise external costs in all transport modes. It included full internalisation of the external costs for inland waterway transport by 2013, as earlier planned by the 2006 communication establishing the NAIDES programme. Regarding maritime
transport, the impact assessment found that no internalisation has been made. The EU has primarily worked with strengthening the competitiveness of European ports, and has left issues on pricing to national initiatives. As an example, maritime transport is an exemption in the EU Directive on energy taxation, though fuel taxes could be established by Member States voluntarily under specific conditions. Taking the international character of shipping into account, the strategy announces that actions on reducing greenhouse gases should be taken through the IMO, but if no action has been agreed upon by 2009, the Commission commits to act at EU level. Such action could consist of including shipping in the European Union Emissions Trading Scheme (EU ETS) (COM(2008) 435 final; COM(2008) 433 final; European Commission, 2012b).

3.1.5. A Sustainable Future for Transport 2009

A Sustainable Future for Transport [COM(2009) 279 final] was communicated by the Commission in 2009, in line with the end of the period covered by the 2001 White Paper. The European Transport Policy (ETP) for the next ten years needed a long-term vision for sustainable mobility. At first, the communication reviewed the progress of the ETP from 2001 to 2009. It was concluded that the ETP has largely achieved the objectives of the White Paper and transport related objectives set in the reviewed Sustainable Development Strategy (SDS) of 2006 [CS (2006) 10917]. The ETP has promoted the economic development in the EU by more efficient transport and has promoted the competitiveness of the European industry. The TEN-T policy has lead to increased coordination of infrastructure planning between the Member States. Around one third of the necessary TEN-T investments have been accomplished. Marine pollution and accidents had been considerably reduced from maritime transport and regulatory frameworks for safety and pollution prevention had been established. Legislation on transport security was in place for most transport modes, as well as measures to fight piracy. Quality services for transport users have been promoted by strengthening passenger rights. Legislation on working time, training, on and qualifications had been introduced to improve working conditions in the different transport modes.

However, with regard to SDS, it was concluded that the transport system still was not on a sustainable path. The differences in taxation and subsidies of the Member States needed to be addressed. The environment was identified as the policy area that most required further improvements. While transport activity has greatly increased, the progress of reducing energy consumption and GHGs was insufficient. No other sector had ever seen such high growth rate of GHG emissions. The Climate and Energy package [Directive 2009/28/EC] had adopted a binding target of 10% renewable energy sources of transport by 2020. The transport sector had not shown progress in switching to renewable fuels.

Decoupling transport growth from GDP growth has been somewhat achieved on passenger transportation, were the growth in demand of transport was less than the growth of the GDP. However, the demand growth for freight transport was higher than the GDP growth. This development relates to the strong increase in global trade, as well as the EU enlargement. Finally, the progress in shifting from road transport to more efficient modes had been limited.

The next section projected future developments to the middle of the century. It projected an ageing population, large immigration, rising sea levels and extreme weather events, scarcity of fossil fuels, as well as increased urbanisation. It was emphasised that expected increased globalisation and world population would result in a higher demand for transport, which makes the challenge to achieve sustainable transport more important. The last two sections proposed intermediate policy objectives that addressed the future challenges and presented
possible measures for achieving the objectives, as well as available instruments. Since no specific action was presented, further investigation was turned to the 2011 White Paper.

3.1.6. White Paper 2011

The 2011 White Paper [COM(2011) 144 final] was communicated by the Commission in 2011. It was communicated together with a larger document [SEC(2011) 391 final] containing more detailed information. It was further based on an accompanied impact assessment [SEC(2011) 358 final]. The impact assessment reviewed the past efforts made within the transport policy and analysed possible future developments in a business-as-usual scenario. It was found that the share of CO₂ emissions from transport would increase to almost 50% of the total EU emissions in 2050. 89% of the transport energy use would be from oil products. In addition, congestion would be a huge problem, with around 50% increased costs to society in 2050. Although improvements had been achieved in efficiency, safety and security of transport, no structural changes in operation of the transport system had been achieved. It was concluded that this inability of past policies to change the transport system had been one of the main causes of the above unsustainable trends. The following four root causes that prevent a sustainable transport system were identified:

- Most of the external costs of transport have not been internalised. Individual initiatives were not co-ordinated between Member States and transport modes. Taxes and subsidies have been designed without internalisation as a goal.
- The research policy has been inadequate to deal with market and regulatory hinders for a fast deployment of sustainable technology.
- Regulatory and market failures hinder the development of a multimodal transport system that is efficient and competitive. Investments have been insufficient to address the bottlenecks. In particular, financial resources has been lacking in the TEN-T policy.
- Decisions and transport planning on both local and continental level have lacked considerations of the transport system as a whole.

The 2011 White Paper sets a long-term strategy that aimed at transforming the current transport system in the EU into a sustainable system by 2050. Ten goals were set in order to reach the objectives. The goals for 2050 were concluded to be very difficult to meet. Part-time goals were also set for 2020/30, which would be challenging to meet. Relevant goals are outlined below (with additional objectives from earlier sections of the paper), followed by relevant action points.

**Goals**

On greenhouse gases, the strategy needed to be consistent with the EU target of reducing 80% of the emissions by 2050 compared to 1990 (as set in COM (2011) 112). Around 60% of the emissions from transport should thus be reduced compared to 1990 (~70% of 2008 levels). A part-time goal for 2030 was set to a 20% reduction from the 2008 levels. For maritime transport, the goal for 2050 was set to a 40% reduction of CO₂ emissions in the EU compared to 2005 levels. A 50% reduction was expressed in brackets of the goal, and under the condition that it is feasible. Moreover, oil dependence of transport should be radically decreased in line with the EU 2020 Strategy.
The White Paper included a goal of achieving a 30% shift from road freight (>300 km) to rail or waterborne transport by 2030, and over 50% by 2050. The core functions of the TEN-T should be fully operational by 2030 and the network should provide high quality and capacity by 2050. All main seaports should be ensured to be sufficiently connected to railways, as well as inland waterways where possible. Information systems (ITS, SSN, LRIT, RIS and Galileo) and market-based incentives would be used as policy instruments to increase the efficiency of transport and infrastructure.

**Actions**

**A Single European Transport Area**
- The ‘European Maritime Transport Space without Barriers’ should evolve into a Blue Belt, which would provide free movement of ships both in and around Europe. Waterborne transport potentials should be fully used.
- Enhance the use of monitoring tools and ICT systems.
- A framework for optimising the internal market for inland waterways should be established.

**Employment and Working Conditions**
- Follow up goals and recommendations in the 2009 maritime transport policy (see section 3.2.2).
- Implement actions identified in the Maritime Social Agenda.
- Enforce the Maritime Labour Convention would be strengthened.
- Include previously excluded maritime workers in the EU legislation or provide equal protection by other measures.
- Update Directive 2008/106/EC on seafarers training to include the revised STCW Convention (IMO). Establish a framework on the training of port workers.

**Security**
- Increase security and follow international cooperation against terrorism and piracy.

**Safety**
- Review safety regulations on passenger ships
- Integrate SafeSeaNet in all relevant information tools used in maritime safety, security and marine environment protection.
- Assess whether an EU maritime register and flag is feasible to establish (including for inland waterways). Such a flag would represent quality and certification of “safe, secure, environmentally friendly ships manned by highly qualified professionals” (COM(2011) 144 final, p.22).

**Passenger Rights**
- Develop common principles on passenger rights for all modes and develop a framework regulation at a later stage.

**Technology, Research and Innovation**
- Joint European efforts in promoting technology for clean, safe and silent ships, alternative fuels and related infrastructure, integrated and intelligent infrastructure, transport management and information systems.

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5 No baseline for this shift was found in the White Paper or in the accompanied document SEC(2011) 391 final.
6 See section 3.3.4.
• Strategies for innovation, financing and governance for rapid application of research results in several areas.
• Identification of necessary instruments by means of regulation or standardisation in several areas, e.g. CO₂ emission standards.

Infrastructure and Funding
• Development of a core network of infrastructure that forms the Single European Transport Area and integrates western and eastern part of the EU. This network is to be defined in new TEN-guidelines and European action should be highly concentrated on the TEN-T components.
• The EU should ensure that funded infrastructure consider energy efficiency and climate aspects.
• Multimodal freight corridors would be established in the core network and multimodal transport, inland waterway transport and eco-innovation would be promoted.
• An infrastructure funding framework would be established for the completion of TEN-T and other infrastructure programmes.
• Provide support for technologies that improve efficient infrastructure use and carbon efficiency.

Internalizing External Costs
• Phase 1 (up to 2016):
  The first phase focuses on reconstructing transport charges and taxes so that they both address the importance of transport for EU competitiveness and so that the overall burden for the transport sector reflects the total costs of transport (use of infrastructure and external costs).
  -Establish a framework that would earmark transport revenues for developing an integrated and efficient transport system.
  -Review taxation of transport where it is needed.
• Phase 2 (2016-2020):
  -Internalise costs derived from air pollution from ships, as well as local pollution and noise in ports.
  -Investigate mandatory charges for the use of all EU inland waterways.
  -Develop market-based measures such as ETS for GHG emissions.

International Actions
• The EU aims to extend its internal market rules and promote European safety, security and environmental standards worldwide by mainly the work at IMO, ILO, UNECE, etc. Full EU membership is sought where relevant.
• Since the climate change costs are not internalised in maritime transport, the EU urges a global instrument by the IMO.
• Action is further to be taken at multilateral and bilateral level to promote energy efficiency and climate goals.
• Implementation of a Mediterranean Maritime Strategy in cooperation with Mediterranean partners in order to enhance safety, security and surveillance.
• Use existing research and innovation partnerships to find common answers to challenges.
3.1.7. Intermodal Policies and Legislation

One of the cornerstones of the Transport Policy during the ten years outlined above has been intermodal transport and to integrate different national transport networks (Europa, 2012a). The above review has in particular shown two main instruments for intermodality: TEN-T and Marco Polo (I and II). The Trans-European Transport Network (TEN-T) is the transport part of the wider Trans-European Networks (TEN), providing infrastructure networks for telecommunications, energy and transport. The TEN concept emerged in the end of the 1980s, when it was realised that a large single EU market with free movement of goods, persons and services cannot be achieved without infrastructure networks connecting different national networks. TEN-T is an EU programme to integrate different transport infrastructures initially made for different modes by different countries under different conditions (European Commission, 2012c-d).

Relevant TEN-T Acts


On the Agenda:
At the Council meeting (Transport, Telecommunications and Energy) 12-13 December 2011, the new guidelines were discussed. Several ministers raised concerns over the costs to implement the new guidelines. Several minister further underlined the need to ensure that Member States have the rights to decide on projects in their territory. The core network concept further needed clarification. Another issue that raised concern was that the guidelines would be in regulation form and included binding deadlines that not only were addressed to Member States, but all concerned stakeholders.

The preparatory bodies of the Council were instructed to further discuss these issues (Council of the European Union, 2011a).

Marco Polo II
The Marco Polo II programme is a continuation and expansion of the first Marco Polo programme that took place during 2003-2006. As with its successor, Marco Polo II (2007-2013) provides support for infrastructure measures that shift freight transport from road to rail, short sea shipping and inland waterway transport. The new programme covers a wider geographical area, and actions within the programme has to involve “the territory of at least two EU countries or the territory of at least one EU country and the territory of a close non-EU country” (Europa, 2012b). Besides modal shift support, other actions include removing structural barriers of the freight market and ‘motorways of the sea’.
Relevant Marco Polo II Acts

- Regulation (EC) No 1692/2006 of the European Parliament and of the Council of 24 October 2006 establishing the second Marco Polo programme for the granting of Community financial assistance to improve the environmental performance of the freight transport system (Marco Polo II) and repealing Regulation (EC) No 1382/2003. (This regulation replaced Regulation (EC) No 1382/2003 on the first Marco Polo programme.)
- Amended by: Regulation (EC) No 923/2009 of the European Parliament and of the Council of 16 September 2009 amending Regulation (EC) No 1692/2006 establishing the second Marco Polo programme for the granting of Community financial assistance to improve the environmental performance of the freight transport system (Marco Polo II). The amendments were based on the results of an impact analysis and by an earlier external evaluation on the results of the Marco Polo II programme. The evaluation had shown that the objectives of modal shift would not be met.

Other Relevant Policies

Three more relevant policy documents on intermodal transport are listed below. More information could be found at Europa (2012a).

- COM(2006) 336 final. Freight transport logistics in Europe, the key to sustainable mobility. Commission communication. This communication was followed by Keeping freight moving and the subsequent action plan in 2007.

3.2. Maritime Transport Strategies

3.2.1. Integrated Maritime Policy

The strategic objectives of the European Commission for 2005-2009 had declared a need for an all-embracing maritime policy that would provide a thriving and sustainable maritime economy. As a response, the Green Paper [COM(2006)275 vol II] was communicated by the Commission in 2006. It was developed based on existing EU policies and aimed for the right balance between the three pillars of sustainable development, in line with the Lisbon Strategy. It first highlighted that the major EU dependence of the oceans and seas and that its management and use requires a holistic approach in EU policies. So far, policies related to the oceans and seas have been developed separately on different areas. This fragmentation could result in measures under one policy area that have conflicting impacts on other areas, which in turn could lead to negative consequences on the marine environment or on the competitiveness of maritime transport. The Green Paper thus aimed “to launch a debate about a future Maritime Policy for the EU that treats the oceans and seas in a holistic way” (COM(2006)275 vol II, p.4). This integrated approach would embrace all aspects of the oceans and seas. Instead of a collection of polices for different sectors, the Green Paper emphasise that the policy should include intersectoral and multidisciplinary integration. Existing policies on sectors such as maritime transport, offshore energy, fisheries, the marine environment and coastal regions were to be examined for how they could reinforce each other. The Green Paper was the basis for a one year consultation process that followed and did
not include specific actions. It rather highlighted a number of areas where an integrated approach was needed, and asked questions for the consultation to consider.

The consultation showed a large stakeholder response, with over 490 written contributions from a large variation of stakeholders from a wide geographical spread. In addition, around 230 events were organised by the stakeholders themselves on this issue. The conclusions of the consultation [COM(2007) 574 final] showed overwhelming support for a holistic approach and the need to integrate linked sectors that previously had been addressed in separate policy areas. These positive consultation results led to the establishment of the Blue Book package, which was communicated by the Commission in 2007. The package consists of two main components:

1. A vision for an integrated EU maritime policy [COM(2007) 575 final]

As with the Green Paper, the Commission’s vision was that an integrated maritime policy should cover all aspects of relationships the EU have with the oceans and seas. The vision communication first laid the foundation for a governance framework and necessary cross-sectoral tools. It then set out the main actions (sectoral actions) under the Commission’s current mandate period. Both were described in more detail in the action plan. The following two sections thus cover both the vision and the action plan.

3.2.1.1. Governance Framework and Cross-sectoral Tools

A maritime policy function within the Commission had already been established with the functions to analyse maritime affairs and policies, coordinate different sectoral policies and developing common policy tools. Collaboration with other EU agencies related to maritime activities had also been started. For further work, the following actions were presented in the action plan:

**Governance framework**
- The Commission invites Member States to develop their own integrated national maritime policies by guidelines that will be issued in 2008. A report on their actions would be issued in 2009.
- Issue a report that lists regulatory obstacles for an integrated policy in 2008. This list could be used for identifying the need for amendments of individual regulations.
- Proposals in 2008 that promote the establishment of networks of best practices between different maritime stakeholders.

**Cross-sectoral tools**
The tools needed for an integrated governance framework included:
- Develop a more integrated network of surveillance systems for European waters that includes maritime safety and security, protection of the marine environment, fisheries control, etc. A work plan would be presented in 2008.
- Maritime spatial planning in Member States would address the often competing uses of coasts and seas, e.g. to avoid potential conflicts between activities such as maritime transport, fisheries and off-shore energy production. A road map would be presented in 2008.

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7 The package further included a detailed impact assessment [SEC(2007) 1279] and the conclusions of the consultation.
• An EU Marine Observation and Data Network (EMODNET) was to be developed by a roadmap in 2008 and an action plan in 2009. This would bring together the current fragmented data on oceans and seas and provide access to comprehensive and compatible marine data and information.

3.2.1.2. Sectoral Actions
The action plan presented a collection of actions for certain sectoral policies. The most relevant are outlined below.

Maximising the Sustainable Use of the Oceans and Seas
As a first goal of the Integrated Maritime Policy, optimal conditions should be created for the sustainable use of the oceans and seas. In this regard, the action plan covers a number of actions in the following areas: a network of maritime clusters, maritime transport, careers and employment in the maritime sectors, a ports policy, air pollution from ships, ship dismantling, marine-based energy infrastructures and resources, fishermen at sea, protection of fish resources and ecosystem approach to fisheries. A selection of relevant actions is given below.

Development of multi-sectoral clusters
Multi-sectoral clusters develop synergies between the activities of different sectors and stakeholders and contribute to improved quality of European maritime products and services, which in turn enhances the integration of the EU maritime economy. A working document would be presented in 2007 with the aim to prepare for a European network of maritime clusters.

Maritime transport
• Launch a study to analyse trends and scenarios for developing a Maritime Transport Strategy up to 2018 (see section 3.2.2.)
• A European Maritime Transport Space without barriers – proposal in 2008
• Motorways of the Sea – a working document in 2007
• Guidelines on the application of competition rules to maritime transport in 2008
• E-maritime services – policy document in 2009

Strengthening careers and employment in the maritime sectors
• Implementation of the ILO Convention and an action plan for enforcement of labour standards in 2009-2010
• Enhance the status of seafaring careers – action plan in 2009
• Establish a Certificate of Maritime Excellence – action plan in 2009
• Reassess the exclusions of maritime workers from EU legislation addressing social and working conditions – communication in 2007

Ports policy
A communication would be adopted in 2007 to address the needs of increased capacity by sustainable port expansions and better use of port facilities.

Air pollution from ships (including GHGs)
• Follow closely the IMO deliberations on the revision of MARPOL Annex VI and consider alternative actions if the results are insufficient.
• Promote the use of shore-side electricity by exemptions from electricity taxes.
• Evaluate different options for EU legislation to reduce GHGs from ships by economic, technical, legal and administrative aspects.

Ship dismantling
• Communicate a strategy for ship dismantling that takes into account environmental, social and economic aspects in 2008.
• Continue the work on an IMO Ship Recycling Convention and the work of the Basel Convention for control of shipments of hazardous waste. Also, promote better implementation of the Basel Convention.

Building a Knowledge and Innovation Base for the Maritime Policy
• Develop a Maritime Research Strategy that would provide the knowledge base for the future EU Maritime Policy — communication in 2008.
• Launch proposals for maritime issues in the 7th Research Framework Programme.

Delivering the Highest Quality of Life in Coastal Regions
The EU coastal regions and islands have a strategic importance for Europe due to the ports and maritime industries of these regions. The actions for these areas include promoting sustainable coastal and maritime tourism with a focus on the cruise industry, preparing a database and funding for maritime and coastal projects, and developing strategies for adaptation to climate change.

Promoting Europe's Leadership in International Maritime Affairs
• The EU involvement within all international organisations with maritime objectives would be assessed in 2008 as a foundation for more detailed reflections of the EU international role and position. The aim is to promote EU standards internationally.
• A database and scoreboard will be published on Member States’ ratifications of international conventions to promote ratifications.
• Increased cooperation of the Maritime Policy with countries sharing seas with the EU.

Raising the Visibility of Maritime Europe
One of the key objectives of an integrated maritime policy is to raise the visibility of Maritime Europe. To reach this objective, the following actions were included:

• The celebration of an annual conference named European Maritime Day would raise the visibility of the maritime sector as well as bring together maritime heritage organisations, museums and aquaria. A proposal for this conference would be adopted in 2007 and the first conference would be held in 2008.
• In order to bring together information about Europe’s oceans and maritime activities in a form for the general public, a European Atlas of the Seas would be established in 2009.
• Make information publicly available for all the Commission’s maritime actions.

3.2.1.3. Follow Up on the Integrated Maritime Policy
A progress report on the Integrated Maritime Policy (IMP) [COM(2009)540 final] was communicated by the Commission in 2009. It followed up on the achievements made two years after the Blue Book and proposed a direction for the next phase of the IMP. It further addressed how the IMP could contribute to meeting the challenges of the financial crisis, as well as climate change and environmental degradation. The report showed that 56 of the 65
action points in the Action Plan had been either started up or completed. These actions mainly consisted of Commission or Council acts. No formal documents had been adopted on the remaining nine actions, though various initiatives had been taken. The main contents of the progress report are outlined below. A more detailed progress report was accompanied to the communication as a Commission Staff Working Document [SEC(2009) 1343 final].

**Governance Framework**

The Commission had taken several initiatives for an integrated policy-making of maritime matters. Of most significance, the Directorate-General for Maritime Affairs was expanded to include both Maritime Affairs and Fisheries. The Council had recognised the need for integration dealt with the IMP in both its General Affairs Council and External Relations Council. The Parliament had still a structure of different committees that dealt with different maritime aspects in separate policies. The Member States had shown substantial progress towards integration of national maritime policies. They had further followed the related guidelines that were to be established by the Commission according to the action plan. These guidelines were adopted in 2008.

**Cross-sectoral Tools**

The three cross-sectoral tools maritime spatial planning, integrated surveillance and the development of a marine knowledge base had shown high progress. The Commission had made detailed overviews of different initiatives for integrating maritime surveillance and made a study on the legal and regulatory aspects for an EU integrated maritime surveillance. This progress had led to guiding principles for developing an EU maritime information sharing by Commission Communication COM(2009) 538 final. A Roadmap on Maritime Spatial Planning [COM(2008) 791 final] was adopted in 2008 that presented ten key principles for maritime spatial planning and a common approach for Member States. A stakeholder consultation revealed that these principles were appropriate, comprehensive and an important basis for further development. Regarding the development of a European Marine Observation and Data Network (EMODNET), no specific progress was presented. Instead the report emphasised the need for assessing existing databases and observation programmes, to compile data etc. It also mentioned that marine knowledge so far remained “very scattered and cost-ineffective” (COM(2009) 540 final, p.7).

**Sectoral Actions**

The progress report highlighted some important initiatives that had been taken. The main ones are listed below:

- The Maritime Transport Strategy [COM(2009) 8 final] was adopted in 2009 (see the next section).
- A communication and action plan with a view to establishing a European maritime transport space without barriers [COM(2009) 10 final].
- Elements of the Maritime Labour Convention were implemented into EU law [Directive 2009/13/EC].

**The Next Phase: Six Strategic Directions**

The progress report presented six strategic directions for the next phase of the IMP.
1. Enhanced integrated governance structures at all levels.
2. The commission and Member States would have to work together so that the initiated cross-cutting policy tools come to effective use. In particular, it was seen necessary that maritime spatial planning would to become a practical instrument on all relevant governance levels.
3. The implementation of the Marine Strategy Framework Directive was considered to be a key objective of the IMP.
4. The development of targeted strategies and specific measures for each sea basin in Europe was seen as a key element for progress in implementing the IMP.
   As an example for action, the Commission had proposed an EU Strategy for the Baltic Sea Region [COM(2009)248] that addresses environmental, safety, security, energy and transport aspects, as well as economic growth potential. It has a strong maritime focus and an integrated approach. It was thus seen as a first step of regional IMP implementation in the Baltic Sea Region.
5. Strengthened international dialogue
6. The implementation of the IMP should have a renewed focus on sustainable economic growth, employment and innovation in the context of the financial crisis.

The report ended with an announcement that the Commission intended to develop a policy document in 2010 that proposes projects and initiatives based on these strategic directions. No such policy document could be found in the present study. However, in 2010, the commission communicated a proposal for continued financial support of the Integrated Maritime Policy [COM(2010) 494 final]. In November 2011, The Parliament and the Council adopted a regulation for establishing a programme for this support [Regulation (EU) No 1255/2011].

3.2.2. Maritime Transport Strategy 2009-2018

The Maritime Transport Strategy [COM(2009) 8 final] was initiated as a result of the mid-term review of the White Paper in 2006, as well as the Integrated Maritime Policy above. It also takes the EU energy and environmental policy into account.\(^8\) The Maritime Transport Strategy presents the main strategic goals for the European maritime transport system from 2009 until 2018. It further had the purpose of identifying key areas for EU action that would enhance both the competitiveness and the environmental performance of the maritime sector. The strategy first highlighted the importance of maritime transport for the EU economy and global competition put in the context of the financial crisis of 2008. It stressed the importance of a policy approach that ensures the continuous performance of the EU maritime transport system and that contributes to a recovery of the world economy. The main part of the strategy presents recent developments, current situations and challenges under six main headlines. Recommended goals and actions were presented under each headline. The main contents of the strategy are outlined below in a matter more consistent with the areas identified for sustainable shipping and with categorisations in previously reviewed documents.

**The EU Maritime Sector**

The registration of ships in flags of convenience threatens the European registers and jobs for European seafarers. The financial crisis could further lead to outsourcing of European maritime companies. The strategy recommended, the following aims to deal with this issue:

• Maintain or improve a framework for tonnage taxation, income taxation and state aid, with support for environmental efforts, innovation, and maritime carriers and skills.
• Strong action for fair conditions in international maritime trade, mainly through WTO and bilateral agreements.
• A level playing field for maritime transport by internationally agreed rules
• The *UNCLOS*\(^9\) principle of a genuine link between shipowners and flag states should be a key element of international policy.

**Maritime Jobs**
The strategy recommended the following aims to deal with the growing shortage of maritime labour in the EU:

• Enable lifelong maritime careers within the EU.
• Improve awareness of maritime carriers and enhance the image of shipping.
• Follow up the communication [COM(2007) 591] (see section 3.3.4).

**Education and Training**
• Full enforcement of the current STCW Convention.
• Fast entry into force, effective implementation and enforcement of the revised STCW Convention.
• Cooperation between European maritime training institutions. Establish maritime certificates of excellence that could go beyond STCW. Establish a network of training centres (European Maritime Academy). Develop a model for exchange students.
• Cooperate with industry for practice on board during education.

**Working Conditions and Rights**
• The highest priority is given to ensure the implementation of the Maritime Labour Convention. The EU should act towards rapid ratification and early implementation in EU law, as well as to ensure effective enforcement.
• Consider fatigue issues at both EU level and the international level.
• Promote and support human factors research.
• Improved health care on board.
• Enhanced use of ICT\(^{10}\) on board for “improving quality of life at sea” (COM(2009) 8 final, p.4).
• Reduce the administrative burden on board.

**Environmental Performance**
• Ensure progress in reducing GHG emissions from international shipping by the combined use of technical solutions, operational measures and MBM. The EU should work towards mandatory measures for all ships in the world fleet through the IMO. If progress is not made internationally, the EU should introduce European measures.
• Strengthen the legislation on port reception facilities with improved implementation and availability of reception facilities (see section 3.3.2.2.4).

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\(^{10}\) Information and communications technology (ICT)
• Ensure the adoption of the IMO Convention on Ship Recycling and future implementation progress. Follow up the Commission proposal for an EU strategy for better ship dismantling [COM(2008) 767].
• Assess the implementation of the revised MARPOL Annex VI (air pollution from ships), including a review\textsuperscript{11} on the availability of fuels and impacts on short sea shipping, and to ensure that modal back-shift (from sea to road due to increased bunker costs) is avoided.
• Promote shore-side electricity or other alternative fuel solutions in ports.
• Promote a European EMS\textsuperscript{12} for maritime transport (EMS-MT).

Safety
According to the strategy, the EU has one of the most comprehensive and advanced maritime safety frameworks in the world; the 3\textsuperscript{rd} Maritime Safety Package (see section 3.3.2.5). There are trends of increasing vessel sizes and increasing shipping activity. The strategy recommended the following aims:

• Prioritise enforcement of existing EU and international regulations.
• Give EMSA further mandate and functions in providing technical and scientific assistance.
• A more effective EU participation in the IMO and strengthened international cooperation with shipping and trading partners.
• Special attention to shipping in ice and other extreme navigation conditions and to the trend of increased vessel size.
• Ensure deployment of necessary resources for all maritime administrations in the EU.
• By 2012, all Member States should be on the White List of the Paris MoU on Port State Control.

Security
The EU should continue its work on a framework for maritime security, which should create a genuine security culture for shipping and port operations. The strategy recommended:

• Implementation of international security measures.
• The EU should be active in the work against piracy, including development and stabilisation of the countries where it derives from. The highest priority is given to the protection of seafarers, fishermen and passengers sailing in these areas.
• Protection of international shipping lanes so that the traffic and trade flows are not disrupted.
• Work towards improving the International Ship and Port Facility Security Code (ISPS).

Maritime Transport Capacity and Services
An integrated information management system could strengthen the maritime transport capacities in the EU.\textsuperscript{13} This system would use identification, monitoring, tracking and reporting of all vessels, both for sea and inland waterways transport. The expected growth of

\textsuperscript{11} See section 3.3.2.3.2 for further information.
\textsuperscript{12} Environmental Management System (EMS)
\textsuperscript{13} It would be part of the e-Maritime Initiative as well as integrated with e-Freight, e-Customs and ITS. It would further be based on present instruments, e.g. AIS, LRIT, SafeSeaNet, CleanSeaNet, Galileo and GMES.
seaborne trade and shipping activity requires both new infrastructures and more efficient use of existing capacities. The strategy recommended:

- Develop a European maritime transport space without barriers.
- Implement the measures contained in the European Ports Policy.
- Make conditions for attracting investments for port and hinterland connection infrastructure.
- Reinforce the Motorways of the Sea strategy for facilitating and simplifying integrated intermodal transport projects.
- Funding should be used from the TEN-T, Marco Polo II or the Regional Policy.
- Investigate different economic instruments for the policy of internalising external costs (see section 3.1.4.1).
- Grant awards for the best ferry operators in a campaign to address passenger rights.

**EU International Policy**

In order to address the global challenges facing the shipping industry, the EU needs to push for change internationally to reach a comprehensive international regulatory framework. The strategy recommended:

- Concerted EU action within the work of UNCLOS, WTO, IMO, ILO, bilateral agreements etc.
- The objectives of the EU maritime safety and security policies should be met through the IMO. If progress is not made, the EU should introduce European measures, awaiting international agreement.
- Formalise the EU coordination within the IMO and strive towards full membership or at least formal observer status.
- Develop an international mechanism for faster ratification of IMO conventions and establishment of a mechanism to ensure enforcement.
- Cooperate with shipping and trading partners to present shared views at the IMO.

**Research and Innovation**

- Targeted RTD initiatives on new design, clean propulsion, energy efficiency, etc.
- Technology and efforts that maximises the efficiency of the whole transport chain
- Ensure that new solutions reach the market by for example the WATERBORNE Technology Platform.
- Improved integration between maritime and marine research.

**3.3. Recent Maritime Legislation and Policies**

This chapter presents recent and relevant maritime legislation and policies, and highlights areas on the agenda today. It is not intended to be a complete list of EU documents and actions, but rather an overview of what areas that have been considered at EU level recently. Some links for further information to this section is found in the annex to this report.

**3.3.1. Cross-sectoral Policies and Legislation**


• COM(2008) 767 final. An EU strategy for better ship dismantling. Communication from the Commission. This Strategy includes both environmental aspects and working conditions of ship dismantling. It thus crosses the environmental and social pillar of sustainable development. Although export of hazardous waste to non-OECD counties is prohibited by the Basel Convention, many European ships end up in scrap yards on South Asian beaches, where environmental protection and safety measures are lacking. The strategy thus addresses these problems by promoting the implementation of the Hong Kong Convention on ship recycling developed by the IMO. It further encourages voluntary measures for the shipping industry.

3.3.2. Environmental Protection

3.3.2.1. Overall Ship-source Pollution


3.3.2.2. Marine Pollution and Waste

3.3.2.2.1. Marine Framework

• COM(2005) 504 final. Thematic Strategy on the Protection and Conservation of the Marine Environment. Commission Communication. This work by the Commission on a Thematic Strategy under the 6th Environment Action Programme resulted in the below directive:


Sea Basins

• Atlantic Ocean:
• Arctic Ocean:
• Baltic Sea:
• Black Sea:
  No strategy or other key document was found.
• Mediterranean Sea:
• North Sea:
  No strategy or other key document was found.

3.3.2.2.2. Anti-fouling Paints


3.3.2.2.3. On the Agenda: Aquatic Invasive Species and Ballast Water

According to EMSA (2012), the EU action on aquatic invasive species from ships ballast water by has been limited. The Commission Communication Towards An EU Strategy on Invasive Species [COM(2008) 789 final] addressed the issue of invasive species as a whole. It highlighted a need for urgent response since there currently was no comprehensive instrument at EU level that addressed this issue. It emphasised ratification and implementation of the IMO Ballast Water Management Convention (BWM Convention) adopted in 2004. The ratification process of EU Member States has been slow. Nevertheless, the Commission has been working with developing regional interim measures through the Helsinki Commission (HELCOM), the OSPAR Commission, the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) and the Black Sea Commission.

Among the overall EU environmental policies, the Commission communication for an EU biodiversity strategy to 2020 [COM(2011) 244 final] included the following target: “By 2020, Invasive Alien Species (IAS) and their pathways are identified and prioritised, priority species are controlled or eradicated, and pathways are managed to prevent the introduction and establishment of new IAS” (COM(2011) 244 final, p.15). It further included an action point to develop a dedicated legislative instrument by 2012, which would fill the policy gaps of this issue. As a result, the issue is on the agenda today with this dedicated legislative instrument
being prepared by the Commission. A consultation process recently started and covers the period 27.01.2012 to 12.04.2012 (European Commission, 2012e).

3.3.2.4. On the Agenda: Ship-generated Waste

  The directive implements MARPOL requirements on waste and residues discharges from ships at sea and the providing of reception facilities at ports.
  Member States have to provide adequate reception facilities at port and develop plans for handling the waste.
  Ships have to deliver all ship-generated waste and residues to reception facilities. This is to be promoted by a "no special fee" system, where 30% of the costs for the facilities are financed by a fee for all ships calling the ports, independent of whether they deliver waste or not.
  The Commission has identified a range of implementation shortcomings that results in a non-optimal system. A review of the directive has thus been started along with an impact assessment for completion in the end of 2011.

3.3.2.3. Air Emissions

3.3.2.3.1. Air Pollution Framework

- COM(2005) 446 final. Thematic Strategy on air pollution. Communication from the Commission. Developed as one of the seven thematic strategies under in the 6th Environmental Action Programme of 2002. The Strategy was further based on research carried out under the Clean Air for Europe (CAFE) programme. The programme’s objectives include to gather and validate scientific data on the effects of air pollution and to review the effectiveness of existing legislation.
  The National Emissions Ceilings Directive (NEC Directive) sets emission limits for sulphur dioxide (SO$_2$), nitrogen oxides (NO$_x$), Volatile Organic Compounds (VOCs) and ammonia for the total emissions in 2010 (and thereafter) for each Member State. The measures for achieving these limits were left for the Member States to decide.
  The proposal to amend the directive (see next point) is still being prepared. The upcoming amendment could include emission ceilings for the four pollutants by 2020, as well as for PM$_{2.5}$ (European Commission, 2012g-h).
- COM (2002) 595. A European Union strategy to reduce atmospheric emissions from seagoing ships. Communication from the Commission in two volumes:
  1) The first volume presented objectives and actions for reducing emissions of various air pollutants from ships. It covers sulphur oxides (SO$_x$), particulate matter (PM), NO$_x$, VOCs, carbon dioxide (CO$_2$) and halons. It further had the objective to review the NEC Directive (EUROPA, 2012d).
  2) Proposal to amend Directive 99/32/EC (see below)
3.3.2.3.2.  On the Agenda: Sulphur Content of Marine Fuels


  This directive replaced Directive 93/12/EC on the sulphur content of certain liquid fuels. It included limits on the sulphur content in Marine Diesel Oil (MDO) and Marine Gas Oil (MGO) used on board ships in EU territorial waters and inland waterways.

  Amended by Directive 2005/33/EC of the European Parliament and of the Council of 6 July 2005 amending Directive 1999/32/EC. The amendment implemented the sulphur regulations in MARPOL Annex VI, which entered into force in 2005. It thus includes a 1.5% sulphur content limit in Sulphur Emission Control Areas (SECA). It further added a requirement of 1.5% sulphur content for passenger ships in regular service between EU Ports and a requirement of 0.1% for all ships in port as of January 1 2010 (with some exceptions). Moreover, all marine gasoil sold in the EU shall contain a maximum of 0.1% sulphur, and 1.5% for marine diesel oil respectively.


  Due to the adoption of the revised MARPOL Annex VI in 2008, the current directive needed to be updated. A review was carried out by the Commission during 2009-2011 on the consequences of the amended Annex VI and other possible amendments to the directive. Seven large studies were commissioned for this review.


  Based on the review, along with stakeholder consultation and an accompanied impact assessment, the Commission proposed to amend Directive 99/32/EC to adapt to the revised Annex VI, which already had entered into force in 2010. The SECA sulphur limits had already changed to 1.0% in MARPOL, but not in the EU legislation. In 2015, the limit will be 0.1%. The Commission proposed to implement this into the directive.

  Additional measures were also proposed, e.g. the sulphur limit for passenger ships would be 0.1% in 2020. Hence, the link between the SECA limits and passenger ships would not be re-established until 2020. It further promoted the use of abatements technology or other methods that provides equal reductions as switching to low-sulphur fuels. EU and State aid would be provided for these measures. Moreover, it included a 3.5% limit for HFO sold within the EU.

- The Commission proposal is currently under consideration of the Parliament and the Council. The Parliament will have a vote on this issue 16 February 2012 (European Parliament (2012)).

3.3.2.3.3.  Sulphur Content for Inland Waterway Vessels


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\(^\text{14}\) This directive is listed here since it is the basis for existing and emerging amendments.
• The sulphur content of fuels for IWW was also regulated in Directive 1999/32/EC (Amended by 2005/33/EC) described above. The sulphur content was set to 0.1% (1000 ppm) in this directive.

• Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC. In order to avoid inconsistency with two different directives on the sulphur content of fuels used in IWW, Directive 2009/30/EC amended both 98/70/EC (on IWW) and the sulphur directive 1999/33/EC. IWW was deleted from the sulphur directive and is today only included in 98/70 and the amended act 2009/30. Moreover, technology had made it possible to use very low sulphur content in IWW ships. As such, from 1 January 2011, the maximum sulphur content of these fuels shall be 10 mg/kg (10 ppm).

3.3.2.4. Energy and Climate

3.3.2.4.1. Policy Developments

The White Paper of 2011 announced a goal of a 40% reduction of CO$_2$ emissions from shipping in the EU by 2050. A 50% reduction was expressed in brackets of the goal, and under the condition that it is feasible. The European Commission has repeatedly stressed that maritime transport is a global business that should be regulated with global standards. It has also repeatedly stressed that if no progress is made internationally, action is needed at the EU level. The Parliament and the Member States have also repeatedly called on the Commission to do so. Directive 2009/29/EC of the European Parliament and of the Council called for EU measures in force by 2013 if international efforts failed by 31 December 2011, as follows: “In the event that no international agreement which includes international maritime emissions in its reduction targets through the International Maritime Organisation has been approved by the Member States or no such agreement through the UNFCCC has been approved by the Community by 31 December 2011, the Commission should make a proposal to include international maritime emissions according to harmonised modalities in the Community reduction commitment, with the aim of the proposed act entering into force by 2013. Such a proposal should “minimise any negative impact on the Community’s competitiveness while taking into account the potential environmental benefits” (Directive 2009/29/EC, (3)).

The progress at IMO is slow on this issue, though energy efficiency measures (EEDI and SEEMP$^{15}$) were adopted in July 2011 by adding a new chapter 4 to MARPOL Annex VI. Despite these measures, the Commission announces in late 2011 that “there has been only limited progress to date on the necessary technical, operational and market-based measures for new and existing ships” (European Commission, 2012i).

3.3.2.4.2. On the Agenda: Four Policy Options to Reduce GHGs from Shipping

To address the above developments, the Commission established the ECCP Working Group on reducing greenhouse gas emissions from ships in 2011. This working group was set up under the framework of the European Climate Change Program (ECCP). Among other things, it has been investigating the feasibility of EU measurers on GHGs from shipping. The third meeting of the ECCP Working Group was held on 15-16 November 2011. Four main policy

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options for further consideration were discussed; (1) a levy or a compensation fund (2) an EU ETS (3) fuel or GHG taxation, and (4) mandatory ship emission reductions. Based on these options, the Commission has started consultation on 19 January with the aim of providing views on a potential Commission proposal on EU measures for GHGs from ships. The consultation period ends 12 April 2012 (European Commission, 2012i-j).

3.3.2.5. Safety

In 2009, a third maritime safety package was adopted by the European Parliament. It is a legislative package on maritime safety that followed the two earlier ERIKA I and II packages (adopted after the Erika and Prestige accidents). The following list includes legislation of the third package, as well as other legislation found:

### 3.3.2.5.1. Double Hull

Traditionally, oil tankers have had a single hull design, where the oil cargo tanks were only protected by the bottom of the vessel and a side plate. The double hull requirements, and the phasing out of single hull tankers, are the results of reactions to major oil disasters; Torrey Canyon in 1967, Exxon Valdez in 1989, Erika in 1999 and Prestige in 2002. A double hull design would prevent such disasters by surrounding the tanks with a second protection plate inside at a specific distance from the external plate. Since the existing world tanker fleet could not easily be transformed into double hull design, and given the long operational life-time of merchant vessels, the international strategy has been to phase-out single-hull tankers. The EU and the US have been the drivers of the phasing out of single hull tankers and has pushed for stricter regulation by the IMO. However, differences between the more stricter US regulation and MARPOL has resulted in that banned single hull oil tankers in the US could operate in EU waters. The EU thus introduced Regulation (EC) No 417/2002 to speed up the phasing-in of double hulls. As such, all single hulled oil tankers (≥5000 dwt) are today (after 2010) banned for operating under an EU Member State flag, as well as banned in EU ports or offshore terminals (Stenman, 2005; Europa, 2012c). The EU regulation has later been amended six times and the latest version is the following regulation:

- COM(2011) 566 final. Proposal for a Regulation of the European Parliament and of the Council on the accelerated phasing-in of double hull or equivalent design requirements for single-hull oil tankers. Commission proposal. This proposal was only made to adapt the regulation to a formal EU codification system.

### 3.3.3. Economic Development

#### 3.3.3.1. A Maritime Transport Space without Barriers

The need for a Maritime Space without Barriers policy has derived from problems with providing maritime transport between EU Member States on equal terms as land transportation. Shipping is international and governed under the Law of the Sea (UNCLOS). A voyage between ports of EU Member States is considered international despite the fact that it could be carrying goods within the EU internal market. Therefore maritime transport has more complex administrative procedures than land transport, which in turn decreases the attractiveness of choosing maritime transport. The concept of a European maritime transport space without barriers aims to extend the internal market to include maritime transport with the EU. This is to be achieved by eliminating or simplifying administrative procedures (Europa, 2012e). The following documents are the key policy documents found towards achieving this goal:

3.3.3.2. **Inland Waterways**

  Amended by Regulation (EC) No 219/2009 along with a number of instruments.

3.3.3.3. **Other Policy Documents and Legislation**

  Amended by Regulation (EC) No 219/2009 along with a number of instruments
- COM(2007) 616 final. Communication on a European Ports Policy. Communication from the Commission. A framework for a port system in the EU that would contribute to concentrate the EU efforts for ports to deal with the future challenges and transport needs, attract new investments and contribute to intermodal development.

3.3.3.3.1. **On the Agenda: Blue growth**

The Commission’s website on Maritime Affairs describe the Blue Growth concept as part of the Integrated Maritime Policy (IMP), although no document describing this concept was found (except in a sentence of the EU regulation on continued financial support of the IMP [Regulation (EU) No 1255/2011]). According to a press release, the Commission is working on a communication on blue growth “that will deliver policy recommendations able to facilitate sustainable economic growth and employment in emerging - and established - maritime sectors” (Europa 2011).

3.3.4. **Social Development**

3.3.4.1. **Human Resources, Working Conditions and Working Rights**

3.3.4.2. Security

  Amended by Regulation (EC) No 219/2009 along with a number of instruments

3.3.4.3. On the Agenda: A Social Agenda for Maritime Transport

A Social Agenda for Maritime Transport was to be presented by the Commission in 2011 with the following aims (European Commission 2012k):

- “Create/safeguard an adequate maritime labour force for the European shipping and maritime clusters”
- “Create/foster employment of European seafarers”
- “Safeguard the European maritime know-how”
- “Promote maritime safety and security and the protection of the environment”

However, no such communication has been found during the work of the present study.
4. Conclusive Remarks and Guidance for Further Work

This background report has found a large variety of strategies, policies and legislation covering a wide scope of EU policy sectors, as well as integrated approaches beyond sectoral policy-making. Overall, the EU policies found cover all three pillars and almost all areas of sustainable shipping, as identified in Chapter 2. There are however some gaps in both policies and knowledge, as well as confusion and overlaps between different strategic policies. This chapter discusses these issues and identifies areas and questions that could provide guidance for further work.

4.1. Overall Policy and Knowledge Gaps

This section lists the recent major policy and knowledge gaps identified mainly from the reviewed strategies from 2008-2011. It is divided in gaps for achieving an overall sustainable transport and gaps for specifically achieving sustainable shipping. The reviewed strategies intended to address these challenges by a diversity of goals and actions. It is thus suggested for the EPSD to follow up on these highlighted gaps in order to identify actions made or not made within each gap.

Major Gaps for Sustainable Transport

Gaps identified in 2009

- The transport system was concluded not to be on a sustainable path.
- The environment was identified as the policy area that most required improvements.
- No decoupling of freight transport from economic growth had been achieved.
- Progress in reducing energy consumption and GHGs was insufficient.
  - No other sector had ever seen such high growth rate of GHG emissions as the transport sector.
- Progress in shifting from road to more environmentally friendly modes had been limited. An evaluation of the Marco Polo II programme further showed that that the objectives of modal shift would not be met.

Gaps identified in 2011

- Many unsustainable trends were identified in a business-as-usual scenario for 2050.
- No structural changes of the transport system towards sustainability had been made.
- Most external costs of transport have not been internalised.
- The research policy was considered inadequate for fast deployment of sustainable technology.
- Regulatory and market failures hindered the development of a multimodal transport system, and the investments had been insufficient.
- The transport system was not treated as a whole in planning and decisions.

Major Gaps for Sustainable Shipping 2008-2009

- In 2008 it was concluded that no internalisation of maritime transport had been made.
  - Pricing issues were left to national initiatives, exemptions in energy taxation legislations, etc.
- Related to the Governance framework of the IMP, the Parliament still had separate policy structures in 2009.
Regarding the development of a European Marine Observation and Data Network (EMODNET), marine knowledge still remained very scattered and cost-ineffective. The progress report of the IMP announced that the Commission intended to develop a policy document in 2010 that proposes projects and initiatives based on the six strategic directions. No such policy document could be found in the present study.

4.2. Gaps in Specific Policy Issues

Ballast Water Management
EU action on aquatic invasive species from ships ballast water has been limited. The EU has however started a consultation process for an overall legislative instrument on invasive species. The further work of EPSD could focus to analyse if an overall framework is sufficient or if a specific legislation on ballast water management is needed.

NO\textsubscript{x} Emissions
NO\textsubscript{x} emissions from ships are regulated in MARPOL Annex VI. At the EU level, no specific legislation or policy document was found besides the overall air pollution framework listed in section 3.3.2.3.1.\textsuperscript{16} However, the impact assessment related to the 2011 Commission proposal for amending directive 1999/32/EC on the sulphur content of fuels also addressed NO\textsubscript{x} emissions. It recommended that existing instruments were to be adapted to international standards on NO\textsubscript{x} and other emissions such as GHGs. The option to introduce NO\textsubscript{x} emission limits in the directive was however discarded. Hence, there seems to be a lack of policy to address NO\textsubscript{x} emissions at the EU level (COM(2011) 439 final; SEC(2011) 918 final).

The need for actions was shown in SEC (2005) 1133, which projected that NO\textsubscript{x} emissions from the maritime sector will increase by approximately 67% from 2000 to 2020. The emission from the maritime sector would thus exceed the total emissions from land-based sources in the EU by 2020. This projection was made before the revised MARPOL Annex VI. Nevertheless, the stricter NO\textsubscript{x} regulation Tier III in Annex VI only applies to engines installed on vessels that have been constructed on or after 1 January 2016 (or vessels that have undergone ‘major conversions’ after the same date). Moreover, Tier III only applies in emission control areas (ECAs) for NO\textsubscript{x} emissions (i.e. not SECAs) (IMO, 2008). It has still not been decided on any ECA for NO\textsubscript{x} emissions in European waters. The lack of EU measures could thus be regarded as an urgent issue that the EPSD should investigate further.

Ship Recycling
Both the Commission proposal for an EU strategy for better ship dismantling [COM(2008) 767] and the Maritime Transport Strategy could be concluded to have had little effect on the implementation of the Hong Kong Convention. The Maritime Transport Strategy had the goal to ensure the adoption of the convention and progress of its future implementation. The Convention was adopted in 2009, though none of the 169 Member States of IMO has yet ratified the convention (IMO, 2011). The fact that no EU Member State still has ratified the convention shows as an example for a policy gap within the EU. It could as well be concluded to be an urgent issue, since the aim of ensuring safe and environmentally sound dismantling of European ships is to be achieved by the year 2015 (COM(2008) 767 final). It is suggested for the EPSD to look more closely into what the EU strategy for better ship dismantling contains and why the development has been so slow.

\textsuperscript{16} Note: NO\textsubscript{x} and PM emissions are regulated for inland waterway vessels in Directive 97/68/EC by the amendments in Directive 2004/26/EC. Latest amendment: Commission Directive 2010/26/EU.
Slow Development on Addressing Greenhouse Gases
The issue of reducing greenhouse gases from shipping has shown a slow development both internationally and within the EU. Until recently, it could be regarded as a policy gap, though the on-going development could show otherwise. It is thus suggested to closely monitoring the EU developments on this issue in 2012 and to analyse if this work points in a direction towards the target of the 2011 White Paper. Moreover, the aspects of indirect impacts emanating from energy efficiency measures have not been addressed; i.e. increased GHG emissions from increased transport due to more efficient transport.

Sea Basin Strategies
No Sea Basin strategy or other key document was found for the Black Sea and the North Sea. It is suggested to follow up on plans for such strategies to be developed. It is further suggested to follow-up EU actions on safety of passenger ships after concerns from the Costa Concordia accident. More information can be found on the following link:

4.3. Overlapping Strategies, Confusion and Repeated Proposals
This inventory has identified three main strategic policies that cover much the same actions:

1. A Common Transport Policy
2. An Integrated Maritime Policy
3. A Maritime Transport Strategy

The Integrated Maritime Policy has an action point to develop a maritime transport strategy. The Maritime Transport Strategy is merely a vision document for the coming years up to 2018 and no action points are included\(^\text{17}\). However, this vision contains approximately the same measures as already proposed in the IMP. Some larger measures proposed in both documents were furthermore proposed in previous transport strategies, as well as in the latest White Paper of 2011. The EU has an integrated maritime policy of 2007, a maritime strategy of 2009 and a Transport Strategy of 2011. The most updated policies are thus included in a transport policy, rather than in a maritime policy. It could be concluded that much proposals, recommendations, and action points overlap in the three strategies, causing confusion and repetitiveness of maritime actions at the EU level. Examples are: TEN-T, motorways of the sea, a maritime transport space without barriers, etc. This leads to an important question:

If a specific measure has been proposed repeatedly under several years but in different strategies, does it imply that it has failed to be implemented?

The repeated vision and measures for a single maritime market or a European maritime transport space without barriers could serve as such an example for further investigation. Despite its previously adopted policy documents, the title of the 2009 Communication and action plan indicates difficulties to realise this vision: “Communication and action plan with a view to establishing a European maritime transport space without barriers”.

It is suggested that the further work of the EPSD focuses on following up on the proposed and planned measures found in this report in a holistic approach. This would

\(^{17}\) The description of it being “a comprehensive ten year strategy plan”, as presented in the press release, should thus be questioned (Europa, 2009).
enable a review of the EU work towards sustainable shipping that considers actions at the EU level as a whole, and not divided in three strategies.

The following questions are further also of significance for such an evaluation: What have been implemented or set in motion of the different goals and recommendations contained in the different strategies? What EU bodies and structures within them are responsible for actions that are covered by different strategies? How do they distribute their work, and how effective is this distribution when evaluating overall EU action? With regard to the IMP, the more detailed progress report [SEC(2009) 1343 final] could be used as a starting point to assess the progress of the action points in more detail, such as progress made or not made by individual Member States, EU institutions or stakeholders.

4.4. Analyse Trends and Compare with EU Policy

Due to the comprehensiveness of related EU documents in the work of the present study, an aim that was delimited was to identify trends of sustainable shipping in the EU in order to get a view if these point in the right direction or not. The following three directions are suggested for the further work:

1. Identify EU environmental, economic and social trends applied to shipping.
2. Do the trends point in the right direction towards sustainable shipping in the EU?
3. Compare these trends with the contents of the three main strategic polices that have been reviewed in this report.

It is suggested to start this work by investigating the Eurostat report (2011). The report identified and analysed sustainability trends in various sectors from the Gothenburg strategy up to 2011.

4.5. Choice of Maritime Transport Segments and Ship Types

When investigating sustainable shipping further, one has to define more specifically what type of maritime transport to investigate, and if a holistic approach should be taken. The following options should be considered:

Transport segments
- Waterborne transport (both maritime transport and inland waterway transportation)
- International shipping in EU waters
- Short sea shipping
- Inland waterway transportation
- Intermodal transport

Ship types
- All vessels including research vessels, inland waterway vessels, fishing vessels etc.
- Only merchant fleet
- Only ocean-going vessels (OGV)
- Only vessels covered under IMO regulations such as ≥ 400 GT under MARPOL

Finally, should infrastructure and ports be included?
References

LITTERATURE AND WEBSITES


**EUROPEAN COMMISSION [COM]**


**COMMISSION STAFF WORKING PAPERS [SEC]**


**EUROPEAN PARLIAMENT AND COUNCIL OF THE EUROPEAN UNION**


Annex. Links for Further Information to Section 3.3

Waterborne Transport (maritime transport and inland waterway transport)

Legislation Summary: Maritime Affairs

Legislation in Force: Shipping

Studies
Studies carried out for the Commission on maritime transport:
http://ec.europa.eu/transport/maritime/studies/index_en.htm
http://ec.europa.eu/transport/maritime/studies/maritime_en.htm

Environmental Protection (including safety)
http://ec.europa.eu/transport/maritime/safety/actions_en.htm

Economic Development
http://ec.europa.eu/transport/maritime/internal_market/internal_market_en.htm

Social Development
http://ec.europa.eu/transport/maritime/seafarers/seafarers_en.htm

Research
http://ec.europa.eu/transport/maritime/research_en.htm

On the Agenda: Commission