

## Opinion of the European Economic and Social Committee on 'The Greening of Maritime Transport and Inland Waterway Transport'

(Exploratory opinion)

(2009/C 277/04)

Rapporteur: **Dr BREDIMA**

By letter of 3 November 2008, the European Commission asked the European Economic and Social Committee, under Article 262 of the Treaty establishing the European Community, to draw up an exploratory opinion on

*The Greening of Maritime Transport and Inland Waterway Transport.*

The Section for Transport, Energy, Infrastructure and the Information Society, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 15 April 2009. The rapporteur was Dr BREDIMA.

At its 453rd plenary session, held on 13 and 14 May 2009 (meeting of 13 May), the European Economic and Social Committee adopted the following opinion by 182 votes to 3 with 3 abstentions.

### 1. Conclusions

1.1. This exploratory opinion examines 'greening' of the environment of oceans, as well as rivers, whilst preserving the competitiveness of the transport industry, in line with the Lisbon Strategy. 'Greening' of the environment of oceans and rivers can be achieved through a holistic policy promoting 'green' investment and creating 'green employment'. The EESC maintains that green economy is not a luxury. It, therefore, welcomes such an approach.

1.2. Maritime transport is the backbone of globalisation carrying some 90 % of world trade and 90 % of the EU's external trade and 45 % of the intra-EU trade (in terms of volume). Inland navigation plays an important role for the European internal transport as the modal share of river transport accounts for 5,3 % of the total inland transport in the EU. Both modes are competitive, sustainable and environmentally friendly.

1.3. The EESC urges the Commission to make a distinction in future referrals and to consider inland navigation as an inland transport mode.

1.4. The EESC believes that the environmental performance of maritime transport and inland navigation should be seen against the performance of EU land transport and the pollution originating from land-based sources. It reiterates that EU measures concerning environmental pollution should be applicable to leisure boats and, if possible, naval vessels as well. Such measures should be applicable to all ships (irrespective of flag), as practical and cost effective as possible. They must also be based on a sound environmental, technical and socio-economic assessment.

1.5. In the European Year of Creativity and Innovation (2009) the EESC believes that the EU industry should become the leader in innovative research of green technologies for ship and port design and operations. The European Commission should examine the commercialisation of European green technologies in other parts of the world. This initiative will have the additional

benefit of creating more employment in the EU ('green jobs'). Intelligent investments in greener systems for ships, energy efficiency and ports will speed up recovery from the world economic crisis.

1.6. The EESC suggests that a balance between legislation and industry initiatives can achieve better results. It urges the Commission to examine how it can capitalise on best practices at EU level. 'Going green' to preserve the environment is good business and can generate more jobs. There is no conflict between sustainable maritime and inland waterways transport and profitability.

1.7. The EESC could serve as the official 'communicator' of new green policies to the organised European civil society towards achieving the development of a 'green culture'. It can be the European forum raising the environmental awareness of the organised civil society. Until we achieve the 'green ship', the 'green fuel' and 'the green port', we should change the way we think and act on a daily basis and acquire a more ecological conscience.

1.8. In terms of CO<sub>2</sub> emissions maritime and inland navigation transport are recognised as the most efficient form of commercial transport. Promoting inland navigation can assist the main environmental EU policy objectives. Its more extensive use is key to reducing CO<sub>2</sub> emissions of the transport sector.

1.9. Maritime transport will continue to grow in the foreseeable future to service the ever growing world trade, and thus its emissions. Consequently, its total emissions are bound to increase. Significant reductions can be achieved via an array of technical and operational measures.

1.10. In considering emission trading schemes (ETS) for maritime transport the competitiveness of the European shipping industry in the global market should not be adversely affected. A global scheme would be much more effective in reducing CO<sub>2</sub> emissions from international shipping than an EU scheme or an other regional scheme.

1.11. The application of ETS is considerably more complicated in the maritime transport than for aviation, and in particular on tramp shipping. A levy on carbon (bunker fuels), or some other form of levy, could be as 'effective' and far simpler to operate in maritime transport if applied internationally.

1.12. Standardisation of education and training concepts for crews of inland navigation vessels, comparable to standards in maritime transport will be beneficial, in particular for the transport of dangerous goods.

## 2. Recommendations

2.1. Although maritime and inland waterways transport are competitive, sustainable and environmentally friendly modes of transport, the Commission should examine the potential for further improvements through synergies between regulatory actions and industry initiatives.

2.2. The EESC notices that there is a need to improve the infrastructure of ports and canals so as to accommodate larger ships, eliminate port congestion and maximise quick port turn-around.

2.3. Member States individually and collectively should have adequate arrangements in place in terms of preparedness, means and facilities to respond, combat and mitigate the effects of pollution in the EU waters.

2.4. The EESC urges the Commission to study the industry and other environmental initiatives and examine how it can capitalise on these best practices reducing air emissions from vessels at EU level.

2.5. In order to reach the 'green ship' and 'green port' of the future, the Commission should support the EU industry to become the leader in innovative ship and port technology research.

2.6. The EESC calls on the Commission to examine commercialisation of European green technologies in other parts of the world. This initiative will have the additional benefit of creating more employment in EU countries ('green jobs').

2.7. The EESC proposes enhanced logistics such as shorter routes, fewer voyages with empty cargo holds/tanks (ballast voyages) and adjustments for optimised arrival times as a means of reducing ship emissions.

2.8. The EU must support the IMO efforts to provide global regulations for international shipping and to address the need for capacity building in the implementation of flag State responsibilities.

2.9. Most accidents in the transport sector are due to human error. The well-being of seafarers on board (living and working conditions) is a must. Therefore, every effort should be exerted in instilling a safety and corporate social culture.

2.10. The quality of marine fuels impacts human health. The EESC believes that for the industries involved should be an issue of corporate social responsibility to take voluntarily further steps to protect the environment and improve the quality of life for the society at large.

2.11. The expansion of the world liquefied natural gas (LNG) fleet poses significant challenges in terms of well trained and certified officers to man it. The shortage of qualified officers calls for actions to increase the levels of recruitment and training.

2.12. Activities and incidents in the high seas may impact EU waters. The EESC suggests the utilisation of the EMSA Pollution Preparedness and Response Service, its Stand-by Vessel Oil Recovery Service and its Satellite Monitoring and Surveillance Service. They offer enhanced capabilities of detection, prompt intervention and cleaning up actions. Appropriate funding of EMSA will reinforce its coordination capabilities.

2.13. Programmes of recruitment, education and training for inland navigation crews, in particular in the field of transportation of dangerous goods, should be developed to attract youngsters and maintain the necessary skills in the sector.

## 3. General Introduction

3.1. This exploratory opinion is based on two axes: 'How to green the environment of oceans as well as rivers whilst preserving the competitiveness of the transport industry'. The question is posed in the context of the Communications on 'Greening Transport' <sup>(1)</sup> and on 'Strategy for the internalisation of external costs' <sup>(2)</sup>. The package contains a strategy which aims at ensuring that prices of transport better reflect their real cost to society, so that environmental damage and congestion can gradually be reduced in a way that boosts the efficiency of transport and, the economy as a whole. These initiatives, which support the environmental dimension in line with the Lisbon/Gothenburg Strategy are welcomed by the EESC.

3.2. For inland navigation the strategy announces the internalisation of external costs. For maritime transport, where internalisation has yet to begin, it commits the European Commission to act in 2009 if the International Maritime Organisation (IMO) has not agreed concrete measures to reduce greenhouse gas emissions by then. For maritime transport, the strategy will be developed in line with the new European Integrated Maritime Policy.

<sup>(1)</sup> COM(2008) 433 final, SEC(2008)2206.

<sup>(2)</sup> COM(2008) 435 final.

3.3. The European Parliament and European Council have stressed the importance of a sustainable transport policy, particularly in the context of combating climate change. They maintain that transport will have to contribute to reducing greenhouse gases.

3.4. The EESC points out that maritime transport, including short-sea shipping, is a mode of transport that should be strictly distinguished from inland waterways from an economic, social, technical and nautical point of view. There are wide and crucial differences between the markets in which these modes operate, the social rules and circumstances that apply to them, measurement of weights and engines, carrying capacity, routes and structure of waterways. Maritime and air transport are manifestly global transport modes, whereas inland waterways on the continent of Europe are generally placed in the category of so-called inland transport, which also includes European road and rail transport <sup>(3)</sup>. Therefore, the EESC urges the Commission to make a distinction in documents and referrals and to consider inland navigation as an inland transport mode.

#### 4. The Context of Climate Change

4.1. Global warming, the impact of air pollution on human health and limited world oil supply are major incentives for EU policy to render the transport sector less dependent on fossil fuels. Consumption of fossil fuels emits carbon dioxide (CO<sub>2</sub>), which is the predominant greenhouse gas (GHG). Hence, current environmental policies focus almost exclusively on efforts to abate CO<sub>2</sub> emissions. However, the most important non-CO<sub>2</sub> greenhouse gas is methane gas (CH<sub>4</sub>) emitted from the livestock sector.

4.2. The EESC believes that the environmental performance of maritime and inland waterways transport should be seen against the performance of land transport and the pollution originating from land-based sources. It reiterates <sup>(4)</sup> that there is a need for a holistic approach that should take into consideration the availability of technology to reduce emissions, the need to encourage innovation, the economics of world trade and the need to avoid the negative effects of an increase of CO<sub>2</sub> emissions when reducing other pollutants, i.e., to minimise the unintended consequences between policies.

4.3. Measures to reduce emissions from maritime and inland waterways transport should be practical, cost effective and applicable to all ships (irrespective of flag), including leisure boats and, if possible, warships <sup>(5)</sup>. They must also be based on a sound environmental, technical and socio-economic assessment. Furthermore, legislation aimed at achieving marginal greenhouse gas

savings, at considerable cost, may well lead to a modal shift to other less environmentally friendly modes of transport. The result would have an overall negative impact on global warming.

4.4. One aspect of green policies often overlooked is their economic benefit. Indeed, the 'green economy' is one of the ways to get out of the world crisis. Emerging green economy is generating new employment opportunities <sup>(6)</sup>. Commissioner Dimas stated that 'green investments' will generate 2 million jobs in the EU in the next decade. Hence, 'green economy' is not a luxury.

4.5. Further reductions in CO<sub>2</sub> emissions by maritime and inland waterways transport are possible, but they can only be marginal, as goods will need to be moved regardless of any additional charges, which in any case will be borne by the consumer.

#### 5. 'Greening' of Maritime Transport

5.1. Increasing industrialisation and liberalisation of economies have expanded world trade and the demand for consumer goods. The EU Maritime Policy Action Plan <sup>(7)</sup> places particular emphasis on maritime transport as a competitive, sustainable and environmentally-friendly mode of transport.

5.2. The environmental record of shipping has been improving steadily for many years. Operational pollution has been reduced to a negligible amount. Significant improvements in engine efficiency and hull design have led to a reduction of emissions and an increase in fuel efficiency. In light of the volume of goods carried by ships, the share of maritime transport to the global CO<sub>2</sub> emissions is small (2,7 %) <sup>(8)</sup>.

5.3. The melting of sea ice in the Arctic Region is progressively opening up opportunities to navigate on routes through the Arctic waters <sup>(9)</sup>. Shorter trips from Europe to the Pacific will save energy and reduce emissions. The importance of the Arctic route was highlighted in the EESC opinion on an 'Integrated Maritime Policy for the EU' <sup>(10)</sup>. At the same time, there is a growing need to protect and preserve its marine environment in unison with its population and to improve its multilateral governance. New maritime routes in this region should be examined with caution until a UN environmental impact assessment is carried out. In the short and medium term, the EESC would suggest to consider this region a natural conservation area. Therefore, a balancing act would be advisable at EU and UN level between the several parameters of this new route. Further benefits are expected from the extension of the Panama Canal, due to be completed by 2015.

<sup>(3)</sup> The term 'waterborne', which can apply to both modes, refers only to the medium by which the transportation is conducted. It does not denote the mode of transport and environmental policy implications. The fact that DG TREN has included road and rail transport, but not inland waterways, under the heading of inland transport does not alter this fact.

<sup>(4)</sup> OJ C 168 of 20.7.2007, page 50; OJ C 211 of 19.8.2008, page 31.

<sup>(5)</sup> See footnote 4.

<sup>(6)</sup> UNEP *Green Job*.

<sup>(7)</sup> SEC(2007) 1278.

<sup>(8)</sup> IMO: Updated 2000 Study on Greenhouse Gas Emissions from Ships.

<sup>(9)</sup> COM(2008) 763.

<sup>(10)</sup> OJ C 211 of 19.8.2008, page 31.

5.4. Maritime transport is highly regulated by more than 25 major international Conventions and Codes. MARPOL73/78 is the main international Convention covering prevention of maritime pollution by ships from operational or accidental causes <sup>(11)</sup>. It is also regulated by comprehensive EU legislation, notably the ERIKA I and II packages and the Third Maritime Safety Package (2009). The legislation has enhanced greatly maritime safety, pollution surveillance and, where appropriate, intervention to prevent or mitigate consequences of incidents.

5.5. The recently revised MARPOL Convention Annex VI on prevention of air pollution from ships introduces stricter limits of emissions of Sulphur Oxide (SO<sub>x</sub>), Particulate Matter (PM) and Nitrogen Oxide (NO<sub>x</sub>). Significant reductions of CO<sub>2</sub> emissions from ships, can be achieved via an array of technical and operational measures. Several of these measures can only be applied on a voluntary basis. Speed reduction (slow steaming) is the most efficient measure with immediate significant effect. Nevertheless, its implementation will be dictated by the demands of the trade.

5.6. The EESC believes that better results can be achieved with a balance mix of legislation and industry initiatives, such as the pioneering objectives of the Hellenic Marine Environment Protection Association (HELMEPA) <sup>(12)</sup>, the 'Poseidon Challenge Award' <sup>(13)</sup>, the 'Floating Forest' <sup>(14)</sup> and the 'Green Award Foundation' <sup>(15)</sup>.

5.7. In considering an emissions trading scheme (ETS) for maritime transport the competitiveness of the European shipping industry in the global market should not be adversely affected, otherwise it would conflict with the Lisbon Agenda. Before decisions are taken, the Commission has to come with clear answers to the following questions: what will be the environmental benefit from the introduction of such a scheme in international shipping and how will the scheme work in practice in an industry as international as shipping? Against this background, a global scheme under IMO would be much more effective in reducing CO<sub>2</sub> emissions from shipping than an EU scheme or other regional scheme.

5.8. The political pressure to incorporate shipping into the EU ETS by 2013 is obvious. The application of ETS is far more complicated in the maritime transport than for aviation, and in particular on tramp shippings due to the practicalities of world maritime trade which render ETS calculations very difficult. International shipping is predominantly occupied in carrying cargoes in constantly changing trading patterns all over the world. Most of the EU vessels have as port of loading or discharge non EU

ports which are determined by the charterer. Ships are not homogeneous, so a benchmark is difficult to be established. Shipping is characterised by many small companies making the administrative burden of an ETS very heavy. Many ships, in the tramp sector which comprises the larger part of shipping, call in the EU only occasionally. Refuelling of ships during voyages may take place in non EU ports and fuel consumption between ports is based on estimates only. In the circumstances, several countries could be involved in the allocation of ETS emissions: e.g. the country of shipowner, ship operator, charterer, cargo owner, cargo receiver. Moreover, an EU ETS scheme for maritime transport would have to be applied on all vessels visiting EU ports, with a real possibility of retaliation measures by non EU countries not applying the ETS on behalf of their flagged ships.

5.9. A levy on carbon (bunker fuels), or some other form of levy, could be as 'effective' and far simpler to operate in maritime transport. In addition, it will be easier to secure that funds thus raised will indeed be spent in 'greening' initiatives.

5.10. In the foreseeable future ship propulsion systems will continue to dominate with carbon-based fuels. Gas as an alternative fuel will be used more widely when distribution infrastructures become available. Feasibility studies for fuel cells powered by natural gas report a significant reduction in CO<sub>2</sub> emissions. Moreover, future IMO work will focus on reduction of noise from ships.

5.11. It is unlikely that enough sustainable biofuel will become available to shipping or that hydrogen and carbon capture and storage will have a significant impact on shipping in the next two decades. Wind technology, like Skysails, and solar energy will not power ships alone, but may contribute alongside engines. Use of shore-side electricity (cold ironing) will allow more environmentally friendly operations in the port. Nuclear propulsion requiring a special infrastructure for emergency response is not a viable option for merchant ships.

## 6. 'Greening' of Inland Navigation

6.1. Inland navigation plays a non negligible role for the European internal transport as the modal share of river transport accounts for 5,3 % of the total inland transport in the EU reaching sometimes in regions with big waterways more than 40 %. It is a reliable, cost-effective, safe and energy-efficient mode of transport. Promoting inland waterway transport can help to meet the main environmental EU policy objectives. Its more extensive use is key to reducing CO<sub>2</sub> emissions of the transport sector. This goes hand in hand with the EU policy to address the issue of excessively congested roads.

<sup>(11)</sup> Prevention of pollution from ships will be further enhanced by the future implementation of recent international Conventions on Anti-fouling Systems, Ballast Water, Removal of Wrecks, Bunkers and on Recycling of Ships (to be adopted in 2009).

<sup>(12)</sup> HELMEPA, established in 1981, served as a model for the creation of CYMEPA, TURMEPA, AUSMEPA, NAMEPA, UKRMEPA, URUMEP and INTERMEPA.

<sup>(13)</sup> Established by the International Association of Independent Tanker Owners (Intertanko) in 2005.

<sup>(14)</sup> Established in the UK, [info@flyingforest.org](mailto:info@flyingforest.org).

<sup>(15)</sup> Established in the Netherlands, [www.greenaward.org](http://www.greenaward.org).

6.2. Traditionally inland navigation has been regulated by the rules of the Central Commission for the Navigation on the Rhine (CCNR) by which high technical and safety standards have been introduced. Legislation based upon the Mannheim Treaty is applicable in the Rhine riparian countries. It contains regulations for the safety, liability and pollution prevention. Due to these high standards inland navigation is characterised by a highly unified level of quality and safety of the equipment of the vessels and training of its crews. Based upon the rules resulting from the Mannheim Treaty, the EU recently introduced comprehensive technical and operational requirements for inland navigation vessels in the Directive 2006/87/EC.

6.3. EU legislation <sup>(16)</sup> sets emission limits to the quality of fuel used by inland navigation vessels. The European Commission <sup>(17)</sup> proposal regarding the sulphur content in fuel intended to introduce reductions of the sulphur content for both maritime and inland vessels. Inland navigation was in favour of lowering the sulphur content of fuel in one single step from 1 000 ppm to 10 ppm. The European Parliament recently accepted this proposal from the inland navigation sector and decided to lower the sulphur content in one single step to 10 ppm as from 2011. In the not too distant future inland navigation may benefit from the use of zero-emission systems, such as fuel cells. The new inland barge 'CompoCaNord', the newly built Futura tanker ship in Germany and the Dutch near-zero emission Hydrogen Hybrid Harbour Tug are concrete examples. Moreover, new legislation <sup>(18)</sup> regulates the transport of dangerous goods by road, rail or inland navigation within or between Member States.

6.4. The recent EU enlargement has extended the inland waterways network from the North Sea to the Black Sea through the

linkage of the Rhine and Danube rivers. Europe's inland waterways offer great potential for reliable freight transport and compare favourably with other modes, often confronted with congestion and capacity problems.

6.5. It would be unrealistic to treat inland navigation like national activities that can be regulated through domestic or regional legislation. Croatian, Ukrainian, Serbian and Moldavian flag inland navigation vessels are already operating on EU rivers and canals and the liberalisation of the Russian river transport and access of EU operators to it, and vice versa, will also add an international dimension to EU inland navigation as well.

6.6. One of the most important conditions and challenges for the reliability of inland navigation is the improvement of the physical infrastructure that will remove bottlenecks and necessary maintenance. The EESC recalls its previous opinion <sup>(19)</sup> and hopes that actions under the NAIADES <sup>(20)</sup> project will revitalise inland navigation and would make it possible to fund infrastructure development projects.

6.7. In internalising external costs inland navigation as a relatively little used transport mode should not be the forerunner. Any policy to impose a carbon levy in inland navigation is bound to face legal difficulties because on the Rhine according to the Mannheim Convention (1868) no charges are applicable. In practical terms, 80 % of the current inland navigation takes place in the Rhine basin. The EESC notes that the incompatibility of legal regimes between the Rhine Treaty and the Danube Treaty creates problems in the environmental legislation of the Danube: It suggests to step up EU efforts for future uniformity of rules (environmental, social, technical) as a means of facilitating inland navigation.

Brussels, 13 May 2009.

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<sup>(16)</sup> Directive 2004/26/EC, OJ L 225 of 25.6.2004, page 3.

<sup>(17)</sup> COM (2007) 18.

<sup>(18)</sup> Directive 2008/68/EC, OJ L 260 of 30.9.2008, page 13.

<sup>(19)</sup> OJ C 318 of 23.12.2006, page 218.

<sup>(20)</sup> COM(2006) 6.