



**European Sustainable Shipping Forum
7th Plenary Meeting**

Brussels, 24 January 2017

Submission from ESSF sub-groups

1. Submission from:

ESSF sub-group on Competitiveness

2. Sub-group recommendation(s) to the Plenary

The sub-group recommends that the Plenary approves the following new work packages:

- WP1: Enhancing the competitiveness of EU short sea and deep sea shipping
- WP2: Mapping and fitness check of the applicable EU and international regulatory framework.
- WP3: Reasoned analysis of the weakened position of dry/liquid bulk cargo in short sea shipping and identification of remedial actions

3. Required action(s) to be considered by the ESSF Plenary based on sub-group recommendation(s):

Coordinators for WP1 and WP3 have prepared draft action plans, which are enclosed with this submission. The draft action plan for WP2 will follow in spring 2017.

4. Timing of required action(s) in view of upcoming deadlines and critical requirements:

Draft reports will be presented in July 2017, final reports are to be submitted by the end of 2017.

5. Summary of the issue and possible alternative solution(s)

Main objectives WP1:

- Drafting an inventory of critical competitiveness factors for European controlled short sea and deep sea shipping.

- Drafting an inventory of the most important competitiveness factors to improve and rank them using different variables.
- Identify possible remedial actions.

Main objectives WP2:

- To map out existing and upcoming EU and international regulation affecting short sea shipping.
- To assess the 'fit for purpose' of the regulatory framework.
- To identify remedial action and a communication strategy.

Main objective WP3:

- To analyse the weakened position of short sea dry and liquid bulk versus road transport and identification of remedial action.

6. Background information

Stemming from the presentation of the Implementation Report of the EU Maritime Transport Strategy at its last meeting held 12 October 2016, the sub-group identified three new Work Packages (WP) in the areas of short-sea and deep-sea shipping. For each of these possible new Work Packages a co-ordinator was appointed:

- Possible new WP1, coordinated by Martin Dorsman (KNVR) : "Drafting an inventory of critical competitiveness factors and prioritising of potential actions with a view to enhance competitiveness of EU Short Sea- and International shipping"
- Possible new WP2, coordinated by Patrick Verhoeven (ECSA) : "Mapping and fitness check of the applicable EU and International regulatory framework"
- Possible new WP3, coordinated by Haakon Elisabeth Lindstad (MARINTEK) : "Reasoned analysis of the weakened position of dry/liquid bulk cargo in Short Sea Shipping and identification of remedial actions"

As regards WP1 and WP3 discussions by correspondence amongst the members of the Subgroup started immediately after the meeting of 12/10/2016, and respective actions plans have been drafted and deliverables set. These action plans are included in annexe.

As for WP2 and due to time constraints, it was decided to postpone the submission of a related action plan and deliverables to spring 2017.

List of annexes:

Annex 1 Draft action plan WP1: *'Enhancing the competitiveness of EU Short Sea Shipping and Deep Sea shipping'*

Annex 2 Draft action plan WP3: *'Reasoned analysis of the weakened position of dry/liquid bulk cargo in Short Sea Shipping and identification of remedial actions'*

Annex 1 – WP1

Draft action plan ‘Enhancing the competitiveness of EU Short Sea Shipping and Deep Sea shipping’

1 INTRODUCTION

At its October 2016 meeting the ESSF’s sub-group on Competitiveness discussed the ‘Implementation report of the EU Maritime Transport Strategy’ and decided on a way forward.

Three possible new work packages were identified¹, one of which will deal with critical competitiveness factors and potential actions with a view to enhance **competitiveness of EU Short Sea Shipping and Deep Sea Shipping.**

This document sets out the objectives, tasks, deliverables and timetable of such a possible new work package. The ESSF Plenary will in its January 2017 meeting have to approve the work package.

1.1 Context and rationale

Shipping is a key driver of world economic growth and prosperity, by transporting 90% of goods over sea and by providing jobs for many people, direct and indirect. Europe still is a major player, controlling some 40% of the world’s shipping tonnage. However, EU based ownership is under strong pressure by countries outside the EU and OECD that offer an attractive business climate for the full range of shipping activities and related services. The relocation of ships and office jobs to outside the EU is a threat to the whole EU maritime cluster and has to be counteracted as much as possible.

Short sea shipping is the second largest mode of transport for intra-EU trade. It is a highly efficient and reliable way of transporting bulk and containerized goods and many passengers, also to remote islands. Besides its contribution to the European economy and providing jobs it has an important role for increasing and maintaining the social cohesion of Europe.

However, **this position is under severe pressure.** Shipping markets are still depressed, competition from other transport modes is very strong and the shipping sector is facing the challenge to further improve its environmental performance. Short sea shipping is confronted with a declining share in the intra EU-trade. Although also influenced by statistical factors, the decline of the share from over 40% in the 90’s of the last century to nowadays 33%, points to structural factors influencing the competitive position of European short sea shipping.

The work package 1 should build upon on the results of work already done by the sub-group on Competitiveness and Finance. Particular attention should be paid to the two other possible new work packages, as the results of those work packages might strongly influence the work on this package. Depending on the decisions of the ESSF Plenary the co-ordinators of the work packages should align work and progress on a regular basis.

¹ Possible work package 2 relates to the mapping and fitness check of the applicable EU and international regulatory framework, work package 3 to the reasoned analysis of the weakened position of dry/liquid bulk cargo versus unitized cargo in Short Sea Shipping and identification of remedial actions.

2 OBJECTIVES, TASKS, DELIVERABLES AND TIMETABLE

2.1 Objectives

The main objectives of work package 1 are as follows

- Drafting an **inventory of critical competitiveness factors** for European controlled Short Sea and Deep Sea Shipping
- Drafting an inventory of the **most important competitiveness factors to improve** and rank them using different variables
- Identify possible **remedial actions**

2.1.1 The need to prioritise

A number of reactions received on the first draft version of this proposal for a work package indicated the need to prioritise, given the challenges of the work to be done. Given the **worrying development of EU short sea shipping** and the regulatory possibilities at EU level, that can have a more direct impact on EU short sea shipping than on deep sea shipping, **it is proposed to prioritise this work package on EU short sea shipping**. Depending on the progress made during 2017, deep sea shipping will be taken on board.

2.2 Tasks

2.2.1 *Exact determination of the scope in relation to the other work packages*

The work done in this work package draws upon the operational experience of shipowners, industry stakeholders and other experts. Also recent studies will be used to identify the critical competitiveness factors. The outcome of the possible work package on 'Enhancing the competitiveness of EU Short Sea Shipping and Deep Sea shipping' might give new insights in relevant factors influencing the market performance of EU short sea shipping and should be taken into account. As already mentioned, close contact between all co-ordinators of the work packages is required.

The outcome of this work package provides valuable input for the work to be done by means of the third possible work package, the mapping and fitness check of the applicable EU and international regulatory framework. Priorities can be formulated on which regulations to deal with first, given its importance for the competitive position.

2.2.2. *Desk study of relevant studies*

Over the last years several studies were performed at national or international level on the factors influencing the competitive position of European deep sea shipping and/or short sea shipping. These studies will be summarized in a comprehensive table. Ongoing studies, such as the **Deloitte study commissioned by ECSA**, will of course also be taken into account.

An inquiry will be held to identify the studies done at national level by shipowners associations and possibly other organisations.

2.2.3 *Drafting of relevant competitiveness factors and drafting of the variables for judging the urgency of each of the factors to improve.*

The studies and expert judgment will result in a table of relevant and less relevant competitiveness factors. However, to determine which factors are relevant and which less, the variables to come to that judgment have to be formulated. Subsequently, the factors can be judged. This work method will mainly be qualitative, however based on explicit formulations of the variables to take into account. The option to have a weighted approach

shall be looked at (meaning attaching a factor to each variable that expresses the importance of that variable).

2.2.4 Ensure alignment in this stage with the results of the other work packages

As already said frequent contact between the co-ordinators of the three possible work packages is needed. At this stage a more formal exchange of findings will be undertaken, by organising a special meeting to present the draft findings and to discuss them.

2.2.5. Identify the most pressing competitiveness factors to be improved and identify possible actions

This work requires the close co-operation of the three possible work packages. The critical competitiveness factors are identified, for the Deep Sea Shipping and short sea shipping in general and possibly more detailed factors explain the developments in certain market segments of short sea shipping (dry bulk, liquid bulk). This has to be compared with the regulatory framework to identify which regulations are hampering the development of EU based shipping.

2.2.6. Prioritise the possible remedial actions by different criteria (short term, longer term, low hanging fruit, budgetary consequences and so on and so forth)

This speaks for itself. The long list of possible remedial actions has to be classified along the mentioned criteria. The exact criteria to be used will be developed as part of the work.

2.2.7. Drafting of the final report listing the most important competitiveness factors and the most urgent remedial actions in a comprehensive manner

The work package will deliver a comprehensive report with an easy to read executive summary that presents the most important findings. Annexes will contain the more in depth results of the work done.

2.3 Timetable

The co-ordinator shall report to the sub-group on Competitiveness and report about progress. A draft report should be delivered to the group end of July 2017. The final report should be delivered end of 2017. Intermediate reports might be written if the need to do so arises.

The workplan shall be executed immediately after the approval of the ESSF plenary. The progress and results shall be reported to the ESSF Plenary as appropriate.

3.2 Working method

The co-ordinator will decide on the working methods; most of the work will be done by correspondence. The Sub-group members have to deliver their expertise and also contribute in making written text suggestions, to provide for an in depth analysis of all the areas covered by this action plan.

If the ESSF plenary decides to approve this and other work packages that are relevant for this work package (see footnote 1), the co-ordinator will liaise with the other co-ordinator(s) to take care of streamlining and optimizing the different work packages.

3.3 Meetings

Most of the work will be done by correspondence. Meetings will be organised, most probably in Brussels, if need be. Sub-group meetings will be used for discussion on specific issues.

3.4 Duration

By submitting its report to the ESSF the work package will be concluded. Possible follow-up is for the sub-group on Competitiveness to decide.

Draft action plan '*Reasoned analysis of the weakened position of dry/liquid bulk cargo in Short Sea Shipping and identification of remedial actions*'

1 INTRODUCTION

At its October 2016 meeting the ESSF's sub-group on Competitiveness discussed the 'Implementation report of the EU Maritime Transport Strategy' and decided on a way forward. Three possible new work packages were identified, one of which will deal with *the weakened position of dry/liquid bulk cargo in Short Sea Shipping* with a view to enhance competitiveness of EU Short Sea Shipping and Deep Sea Shipping.

This document sets out the objectives, tasks, deliverables and timetable of such a possible new work package. The ESSF Plenary will in January 2017, approve the work package.

1.1 Context and rationale

Shipping is a key driver of world economic growth and prosperity and Europe is a major player, controlling some 40% of the world's shipping tonnage. In Europe, Short sea shipping is the second largest mode of transport for intra-EU and total European trade. The European Commission (EC) promotes Short Sea Shipping due to its high environmental performance and energy efficiency. In addition, Short Sea Shipping has the potential to solve road congestion problems affecting many parts of the European continent. Despite the political objectives of decreasing road transport and transfer cargo to rail and sea, **Short Sea Shipping is struggling**. In Europe, research projects funded, both at national and EU level have addressed these challenges and the recommendations have been to: Focus on the whole supply chain; New or improved technologies; or all of this in combination with larger vessels. In comparison, **there has been less attention on the need for improving the cost competitiveness of short sea shipping versus road transport**.

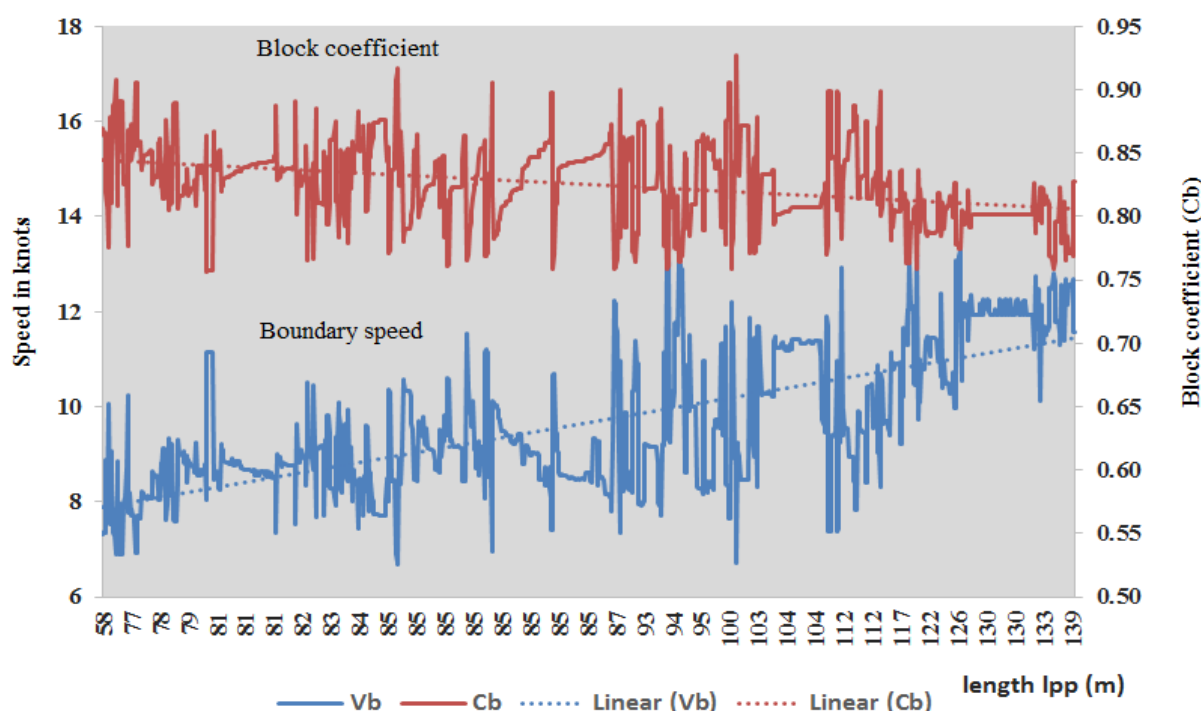
The benefit of trucks is that they transport small batch sizes, i.e. 20 – 25 tons, allowing shipments door to door at high frequencies. In scheduled maritime shipping, frequencies can be two or three times a week or at best daily. Also, while trucks are standardized and built in huge numbers, **short sea vessels are less standardized and typically built in series from a few up to one hundred**. Moreover, the main truck manufacturers have used huge resources during the last decades on reducing the trucks lightweight and improving their engines – in other ways – reducing the fuel consumption of the trucks.

Increasing vessel size or reducing operational speeds are two well-known principles for reducing the fuel consumption and cost per transported unit. First; larger ships – and shipments - tend to be more energy efficient per freight unit transported than smaller. However, in short-sea trades available cargoes and the required frequencies will often limit the opportunities for increasing the vessel size, or vessel sizes might be limited due to port restrictions.

Second, reducing operational speeds, the explanation is that the power output required for propulsion is a function of the speed to the power of three and beyond. This implies that when a ship reduces its speed, the power required and therefore the fuel consumed

per transported unit is considerably reduced. However in Short sea trades such as in Europe, vessels often compete with road transport both cost and time wise, this limits the opportunities for reducing their operational speeds.

While speed reductions and economies of scale in vessel and shipment sizes often require changes in the supply chain due to longer transport times, port requirements and storage facilities, it is possible to introduce more energy efficient designs without changes to the logistics. Traditionally, ships have typically been built to operate at their boundary speeds based on hydrodynamic considerations. For any given hull form, the boundary speed can be defined as the speed range where the resistance coefficient goes from nearly a constant to rise rapidly and make further speed increases prohibitively costly. In the figure block coefficient and boundary speed has been plotted for the North European General fleet, i.e. vessels with dwt from 1000 – 25 000 ton (Lindstad et al 2016).



Main observations are that the smallest vessels have the highest block coefficients, i.e. around 0.85. Second, when the vessel sizes increase the block coefficient is gradually reduced, i.e. to around 0.80 for the largest vessels. Low boundary speeds as such is not a problem if vessels are operated at that speed, but in reality most of the general cargo fleet are powered to operate at designs speeds 2 to 4 knots above their boundary speeds. In comparison, deep-sea bulkers and tankers are generally designed to operate at their boundary speeds, with power reserves to do no more than 0.5 – 1.5 knots higher. Historically marine fuel was cheap and even if consumption doubles compared to operating at the boundary speed, the additional fuel cost was less than the additional income due to more freight work produced. More recently, higher fuel prices due to the introduction of the 0.1% sulphur limits in the North Sea and the Baltic in combination with increased environmental concerns has challenged this practice. There is hence a need for developing designs, which use less fuel per tons of goods transported. One option to achieve this will be to investigate alternative designs with focus on varying vessel length and width, to enable more slender designs and hence lower fuel consumption and emissions per transported unit, compared to more full body conventional short sea designs operating at similar speeds.

The work package 3 will utilize state of the art knowledge within ship design & building and in addition build upon on the results of work already done by the sub-group on Competitiveness and Finance. Particular attention will be paid to the two other possible new work packages and the co-ordinators of the work packages will align work and progress on a regular basis.

2. OBJECTIVES, TASKS, TIMETABLE and ORGANIZING

2.1 Objectives

The overall objective of work package 3 are:

- To analysis the weakened position Short sea dry and liquid bulk versus road transport and identification of remedial actions

In Europe, the three main vessel types used in short sea shipping are General Cargo, Ro-Ro and Tank vessels. The focus of this study will be on Tank Vessels and General cargo vessels. The tank vessels transports Wet bulk, i.e. oil products, chemicals and other liquid products. The General Cargo vessels are generally less specialized than the tankers and transports: containers, project cargo, break bulk and pure bulk.

2.2 Tasks

1. quantify the total European production and market for dry and liquid bulk and presents the present and historic figures back to 1990.
2. market share development from 1990 to present.
3. analyse the existing fleet based on fleet data (Sea-web or similar)
4. how **examples of alternative vessel concepts which use less fuel per ton transported**
5. riefly **explore the potential cost reductions achievable through standardization**
6. ummarize the results in a report
7. resent the results

The work done in this work package draws upon the operational experience of Ship Designers, Shipbuilder, Ship-owners, Industry stakeholders and other experts. As already mentioned, close contact between all co-ordinators of the work packages is required. The outcome of this work package provides valuable input for the work to be done by means of the third possible work package, the mapping and fitness check of the applicable EU and international regulatory framework. Priorities can be formulated on which regulations to deal with first, given its importance for the competitive position.

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Most of the work will be done by correspondence. Meetings will be organised, most probably in Brussels, if need be. Sub-group meetings will be used for discussion on specific issues.

References

Lindstad, H., E., Eskeland, G., S., Sandaas, I., Steen, S. (2016) *Revitalization of short sea shipping through slender, simplified and standardized designs*. Conference proceedings SNAME 2016, 1-5 November. Seattle, USA